

ISSN 0870 - 6832

NORMA TASCA

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ENSAIOS EM HOMENAGEM A
ESSAYS IN HONOR OF
THOMAS A. SEBEOK

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FUNDAÇÃO ENG. ANTÔNIO DE ALMEIDA

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REVISTA PATROCINADA PELA FUNDAÇÃO ENG. ANTÔNIO DE ALMEIDA

CRUZEIRO SEMIÓTICO

REVISTA SEMESTRAL

N.º 22 / 25

PROPRIEDADE DA ASSOCIAÇÃO PORTUGUESA DE SEMIÓTICA

Rua Tenente Valadim, 231/343

4100 Porto

DIRECÇÃO

NORMA TASCA

ASSINATURA ANUAL (2 números):

Portugal: 3.800\$00

Estrangeiro: 5.000\$00

PREÇO DESTE NÚMERO QUÁDRUPLO:

Portugal: 8.000\$00

Estrangeiro: 11.200\$00

Todos os textos são da responsabilidade dos autores

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Fundação Eng. António de Almeida

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THOMAS A. SEBOK

ÍNDICE
TABLE OF CONTENTS

1. Nota de Abertura Foreword	13
2. Elementos de Biobibliografia Biobibliographical Data	
<i>JOHN DEELY</i> Quondam Magician, Possible Martian, Semiotician: Thomas Albert Sebeok.....	17
<i>SUSAN PETRILLI</i> For a Global Approach to Semiosis.....	27
3. Correntes Semióticas: Tendências Passadas e Actuais Semiotic Paths: Past and New Trends	
<i>UMBERTO ECO</i> Tra Semiotica e Filosofia del Linguaggio.....	39
<i>ROLAND POSNER</i> Post-Modernism, Post-Structuralism, Post-Semiotics? Sign Theory at the <i>fin de siècle</i>	51
<i>JOHN DEELY</i> Ferdinand de Saussure and Semiotics.....	75
<i>JOËLLE RÉTHORÉ</i> The Ideoscopy of Semiosis.....	87
<i>FLOYD MERRELL</i> Putting the Body Back in the Mind (Sign).....	95
<i>IRMENGARD RAUCH</i> "My Language is the Sum Total of Myself": Humboldt and Peirce.....	109
<i>DINDA L. GORLÉE</i> Contours of a Peircean Text Semiotics.....	119
<i>JOSÉ GONÇALO HERCULANO DE CARVALHO</i> Poinso's Semiotics and the Conimbricenses.....	129

4. Semiótica: Alguns Problemas Epistemológicos e Metodológicos		Semiotics: A Few Epistemological and Methodological Issues	
<i>NATHAN HOUSER</i>			
Semiotic as Cognitive Science.....	139		
<i>W. C. WATT</i>			
Towards a Semiotic Calculus.....	151		
<i>SANDOR DARANYI</i>			
Semiotics, Enantiodromia, Change and Deterministic Modelling.....	161		
<i>BEATRIZ GARZA CUARÓN</i>			
El Olvido del Contexto en el Análisis del Significado.....	173		
<i>NORMA TASCA</i>			
Discours et affect.....	181		
5. Semiótica: Domínios de Aplicação		Semiotics: Realms of Application	
<i>PIERRE PELLEGRINO</i>			
Sémiotique de l'espace; essai en l'honneur de Thomas A. Sebeok	193		
<i>JØRGEN DINES JOHANSEN</i>			
Indecent Exposure. The Actor's Body as a Sign	205		
<i>ANDRÉ HELBO</i>			
Texte filmique, scénario théâtral: un paradoxe fécond.....	219		
<i>GLORIA WITHALM</i>			
The Same Dress — Another Character. Costume as a Self-Referential Device in Movies	225		
<i>EERO TARASTI</i>			
From <i>Mastersingers</i> to Bororo Indians: on the Semiosis of Improvisation	233		
<i>JOSÉ LUIS CAIVANO</i>			
Color y Semiótica: un Camino em Dos Direcciones.....	251		
<i>CLAUDIO GUERRI</i>			
Representation and Simulation in Graphic Languages	267		
<i>MARTIN KRAMPEN</i>			
Proxemics Revisited — Look at the Body.....	279		
6. Semiótica: Processos de Comunicação Humana e Não-Humana		Semiotics: Human and Non-Human Communicative Processes	
<i>AUGUSTO PONZIO</i>			
Origen del Lenguaje, Comunicación y Escritura	291		
<i>SUSAN PETRILLI</i>			
La Iconicidad en la "Doctrina de los Signos" de Thomas A. Sebeok.....	303		
<i>LÚCIA SANTAELLA BRAGA</i>			
Technologies and the Growth of Signs	315		
<i>RICHARD L. LANIGAN</i>			
Time Binding: The Conjunction of Semiotics and Communicology.....	325		
<i>VILMOS VOIGT</i>			
Signs and Symbols in Biosphere and Sociosphere	337		
<i>WINFRIED NÓTH</i>			
Ecossemiótica	345		
<i>JEFF BERNARD</i>			
12 Socio-Semiotic Theses on <i>Umwelt</i> , Information Technomythology and the Future.....	357		
<i>JESPER HOFFMEYER</i>			
"The Semiotic Body-Mind"	367		
7. Semiótica: Análises Textuais		Semiotics: Textual Analyses	
<i>TZVETANA KRISTEVA</i>			
On Plants and Animals in Classical Japanese Literature.....	387		
<i>ADRIAN S. GIMATE-WELSH H.</i>			
A Semiotic Reading of Octavio Paz' Essays	399		
<i>DAVID K. DANOW</i>			
Space and Iconicity in <i>The General in His Labyrinth</i>	411		
<i>MAGDOLNA OROSZ</i>			
Intertextuality and Parody	423		
<i>A. PH. LAGOPOULOS</i>			
Postmodernism and Geography	437		

4. Semiótica: Alguns Problemas Epistemológicos e Metodológicos			
Semiotics: A Few Epistemological and Methodological Issues			
<i>NATHAN HOUSER</i>			
Semiotic as Cognitive Science.....	139		
<i>W. C. WATT</i>			
Towards a Semiotic Calculus.....	151		
<i>SANDOR DARANYI</i>			
Semiotics, Enantiodromia, Change and Deterministic Modelling.....	161		
<i>BEATRIZ GARZA CUARÓN</i>			
El Olvido del Contexto en el Análisis del Significado.....	173		
<i>NORMA TASCA</i>			
Discours et affect.....	181		
5. Semiótica: Domínios de Aplicação			
Semiotics: Realms of Application			
<i>PIERRE PELLEGRINO</i>			
Sémiotique de l'espace; essai en l'honneur de Thomas A. Sebeok	193		
<i>JØRGEN DINES JOHANSEN</i>			
Indecent Exposure. The Actor's Body as a Sign	205		
<i>ANDRÉ HELBO</i>			
Texte filmique, scénario théâtral: un paradoxe fécond	219		
<i>GLORIA WITHALM</i>			
The Same Dress — Another Character. Costume as a Self-Referential Device in Movies	225		
<i>EERO TARASTI</i>			
From <i>Mastersingers</i> to Bororo Indians: on the Semiosis of Improvisation	233		
<i>JOSÉ LUIS CAIVANO</i>			
Color y Semiótica: un Camino em Dos Direcciones	251		
<i>CLAUDIO GUERRI</i>			
Representation and Simulation in Graphic Languages	267		
<i>MARTIN KRAMPEN</i>			
Proxemics Revisited — Look at the Body.....	279		
6. Semiótica: Processos de Comunicação Humana e Não-Humana			
Semiotics: Human and Non-Human Communicative Processes			
<i>AUGUSTO PONZIO</i>			
Origen del Lenguaje, Comunicación y Escritura	291		
<i>SUSAN PETRILLI</i>			
La Iconicidad en la "Doctrina de los Signos" de Thomas A. Sebeok	303		
<i>LÚCIA SANTAELLA BRAGA</i>			
Technologies and the Growth of Signs	315		
<i>RICHARD L. LANIGAN</i>			
Time Binding: The Conjunction of Semiotics and Communicology.....	325		
<i>VILMOS VOIGT</i>			
Signs and Symbols in Biosphere and Sociosphere	337		
<i>WINFRIED NÖTH</i>			
Ecossemiótica	345		
<i>JEFF BERNARD</i>			
12 Socio-Semiotic Theses on <i>Umwelt</i> , Information Technomythology and the Future.....	357		
<i>JESPER HOFFMEYER</i>			
"The Semiotic Body-Mind"	367		
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Semiotics: Textual Analyses			
<i>TZVETANA KRISTEVA</i>			
On Plants and Animals in Classical Japanese Literature.....	387		
<i>ADRIAN S. GIMATE-WELSH H.</i>			
A Semiotic Reading of Octavio Paz' Essays	399		
<i>DAVID K. DANOW</i>			
Space and Iconicity in <i>The General in His Labyrinth</i>	411		
<i>MAGDOLNA OROSZ</i>			
Intertextuality and Parody	423		
<i>A. PH. LAGOPOULOS</i>			
Postmodernism and Geography	437		

8. Semiótica: Sentido e Significação	
Semiotics: Meaning and Significance	
<i>SVEND ERIK LARSEN</i>	
Code and Structure: From Difference to Meaning.....	455
<i>SANDA GOLOPENTIA</i>	
I Think I Am a Verb.....	475
<i>MARCEL DANESI</i>	
Deitic Verbal Constructions in English and Language as a Secondary Modeling System.....	485
<i>CLAUDE GANDELMAN</i>	
Signes "métastables".....	497
<i>LISA BLOCK DE BEHAR</i>	
Mais Anotações sobre Travessias e Cruzeiros.....	511
9. Semiótica: Uma Perspectiva Diacrônica	
Semiotics: A Diachronic Approach	
<i>WALTER A. KOCH</i>	
Kuna, a Word for "Woman" — 30,000 Years Old? On the Ding Dong Scheme in the Evolution of Language.....	523

NOTA DE ABERTURA FOREWORD

Este volume em honra de Thomas A. Sebeok visa reconstituir, sob a forma de uma homenagem que lhe é prestada pela comunidade científica ligada à semiótica, o percurso de uma das personalidades que melhor encarna o espírito de cooperação internacional neste campo do saber, ao qual deu um contributo inestimável ao longo da sua vida de universitário e de investigador.

A diversidade de semioticistas aqui presentes, oriundos dos mais diversos países, é o testemunho de uma errância fecunda pelos quatro cantos do mundo, que Thomas A. Sebeok percorreu tecendo laços intelectuais indelévels, de que fica nestas páginas o rasto.

Não surpreende, pois, a gama de tendências teóricas e metodológicas que se entrecruzam neste volume: faces várias de um mesmo discurso que desvendam as incertezas de que se nutre ainda a semiótica quanto ao seu estatuto epistemológico. O que não impede que a disciplina invista múltiplas áreas, conforme as opções feitas aqui por cada autor. E é precisamente esta abertura que confere ao volume a sua poligrafia.

Além dos elementos biobibliográficos sobre Thomas A. Sebeok, elaborados por dois estudiosos da sua obra, os textos que compõem o conjunto são apresentados sem uma preocupação sistemática, reflectindo a diversidade e a universalidade da produção semiótica.

A Associação Portuguesa de Semiótica, que muito deve ao apoio constante de Thomas A. Sebeok, bem como a revista Cruzeiro Semiótico, que contou sempre com a sua colaboração, agradece a todos os colaboradores a sua participação nesta homenagem. Os nossos agradecimentos vão também para a Fundação Eng. António de Almeida, que possibilitou a publicação deste volume.

ELEMENTOS DE BIOBIBLIOGRAFIA

BIOBIBLIOGRAPHICAL DATA

JOHN DEELY

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**QUONDAM MAGICIAN, POSSIBLE MARTIAN,
SEMIOTICIAN: THOMAS ALBERT SEBEOK**

Of the three most important living contributors to the current intellectual formation of the semiotic community, by far the influence most formative of semiotics as a transnational intellectual movement has been the work of Thomas A. Sebeok. Like Napoleon, Sebeok has aimed at the creation of a socio/cultural structure "open to talent"; but Sebeok's means, of course, have not been military but intellectual. His means have been above all implementations through many channels of the power of the idea of the sign as inherited from the Latin Age of Augustine and Peirce but assimilated now to the framework suggested first by Locke and more recently (with considerably more sociological success) by Peirce: the idea of the sign as a universal means of communication transcending the divide between nature and culture and weaving the two together in the tapestry of feelings and apprehensions we call "experience".

The trajectory of Sebeok's publications begins, coincidentally, in the same year the present writer was born, with an "Analysis of the Vocalic System of a Given Language Illustrated by Hungarian". This essay appeared in the *Quarterly Journal of Speech* 28 (1942), 449-452. From that time to the present, with the sole lacuna of 1957, when perhaps Sebeok rested, well over 500 articles and books have appeared through his authorship and under his editorship. In his "Bibliography", just published as Fasciculus 15 of the *Arcadia Bibliographica Virorum Eruditorum*, in which it was my privilege to collaborate with Gyula Décsy to prepare (Deely 1995), the listing of his editorial work alone covers thirty pages, following more than sixty pages of his publications proper.

The topic of Sebeok's first paper might seem unusual for an American youth of twenty-two, but in fact the American youth in question was not yet a citizen (that would happen two years later), possibly, as I will shortly explain, not even human, having been born in Hungary, in Budapest. For here, to avoid any self-referential inconsistency, we must apply to Sebeok himself his note (1976: 293) on his assertion (1976: 231) that John Lotz "was quintessentially a Hungarian". Citing the following passage from McPhee (1973), Sebeok, on reaching the conclusion "Hungarians all", says: "and so was Lotz":

"The Martians left their own planet several aeons ago and came to Earth; they landed in what is now Hungary; the tribes of Europe were so primitive and barbarian that it was necessary for the Martians to conceal their evolutionary difference or be hacked to pieces. Through the years the concealment had on the whole been successful, but the Martians had three characteristics too strong to hide: their wanderlust ...; their language ...; and their unearthly intelligence. One had only to look around to see the evidence: Teller, Wigner, Szilard, von Neumann — Hungarians all."

Therefore, notes Sebeok (*loc. cit.*), "in conformity with a proposal prevalent in the Theoretical Division of Los Alamos, he was quintessentially a Martian, since the people of Hungary, according to this untested theory, are Martians". And Sebeok is Hungarian. Ergo. (In view of the inductively unverified status of the theory warranting this conclusion, however, it seemed best, in titling the present essay, to substitute "possible" for "quintessential").

Sebeok *père* was involved in the international affairs of Hungary and, foreseeing the outbreak of the Second World War, took refuge in the United States (at the time of his death, he was one of the principal economic advisers to the American Senator Hubert Humphrey). He advised his son — our Sebeok — then beginning his higher education in England, to follow suit. This Sebeok *filis* did in 1937. Once in the United States, his entry into university was delayed for a year by his failure to pass the American history part of exams to which he was subjected. After months spent boning up on that subject, Sebeok advanced rapidly, receiving his B.A. from the University of Chicago in 1941, then, from Princeton, his M.A. in 1943 and Ph.D. in 1945.

During his years of graduate work in the United States, Sebeok's intellectual hero was Roman Jakobson. He went to New York on learning Jakobson was there, and he paid regular visits to him thereafter, in a friendship which continued till Jakobson's death many decades later. Earlier, as an undergraduate at the University of Chicago, he had taken classes from and become a close friend of Charles Morris. Perhaps it was Morris who awakened Sebeok's interest in the secrets of magicians and tricksters; certainly it was from Morris that he first heard of semiotic (cf. Morris 1938). The Morrisian version of semiotics, however, hardly enchanted Sebeok, despite his admiration for Morris himself. Not for another quarter of a century or so would Sebeok have his *prise* of semiotic consciousness. He began his intellectual career, as his first publication attests, in traditional scientific linguistics.

Sebeok's first job, academically speaking, was also his last one: from 1943 to his passage to Emeritus status in 1991, he was a faculty member at the Bloomington campus of the Indiana University, wearing, however, many hats: linguist, folklorist, anthropologist, Uralic and Altaic studies, Air Force language training (the list is not exhaustive) and, in the end, above all, semiotician. And

to this first and last faculty status there is a colorful backdrop, about which Sebeok still considers himself bound by secrecy to refuse to discuss in any depth: during the Second World War, he was involved with the OSS in the training of linguists for penetration behind the Nazi lines, under General Marshall's plan to utilize the universities of the United States as the *locus* for militarily oriented language programs. Mayhap this affiliation occasioned Sebeok's faculty affiliation, and it was as an offshoot of this activity that the Bloomington campus of the Indiana University came to have its fine holdings in Eastern European writings and a large program of Uralic and Altaic studies.

In the climate of the postwar period, it would have been most natural for Sebeok as a linguist to move not in the direction of what we now call semiotics, but rather in the direction of what was then called "semiology". This was the term coined for the general study of signs by the Swiss linguist, Ferdinand de Saussure, as early as November of 1894, that had become commonplace through the influence of his famous study, the *Cours de Linguistique Générale* developed between 1906 and 1911 and published in 1916 (as I discuss in a separate article later in this issue). For indeed, in the postwar period, linguistics was regarded as *le patron général* for any general study of signs. Luckily for contemporary semiotics, this then-culturally natural (but philosophically contrary) route to the study of signs was not the route Sebeok followed. Without exaggeration, the gradual shift in common academic usage whereby the term "semiotics" has come to displace the formerly fashionable "semiology" as the preferred term for the study of signs (or, as Sebeok, following Peirce, Locke, and Peirce, prefers to call it, the "doctrine of signs") even in Continental, British, and American circles may largely be ascribed to a function of Sebeok's career and influence in shaping the contemporary semiotic consciousness. Such a shaping was effected both through his writings and through the enormously effective use he made of the once-fabled Research Center for Language and Semiotic Studies which he chaired from 1956 to 1991 (and which was called for a long time only the "Research Center for Language Studies"!).

The decisive dawning for Sebeok of his specifically semiotic consciousness must be assigned to the 1960-1961 academic year, when he spent the first of his more than two years at the Stanford Center for Advanced Study in the Behavioral Sciences. In terms of his publications, the turning-point essay was his review article of books concerning "Communication among Social Bees; Porpoises and Sonar; Man and Dolphin", which appeared in *Language* 39 (1963), pp. 448-466. At the Stanford Center, Sebeok had turned back to earlier interests he had entertained in biology. He stepped back, as it were, from his training in the study of specifically human languages to consider more generically the problems of animal communication, in which perspective linguistic communication becomes a mere species, albeit, as Sebeok would eventually come supremely to show, a species-specific variety of animal communication

wholly unique, on this planet, to *homo sapiens sapiens*. Viewed in this broader perspective, the discontinuity between the various channels of animal communication and the species-specifically human one thematized in linguistics struck Sebeok with such force that he took up with his singular energy the general questions raised by the action of signs in diverse species. This interest resulted eventually in a series of landmark publications (notably Sebeok and Umiker-Sebeok, Eds. 1980; Sebeok and Umiker-Sebeok 1981; Sebeok and Rosenthal, Eds. 1981) that definitively exposed as science-fiction projects (long funded as science) of investigating the "linguistic" abilities of apes, chimpanzees, dolphins, and other mammalian species outside the genetic pool of *homo sapiens sapiens*. As Sebeok came to put it, *language* is quite a distinct matter from *communication*, so much so that the use of language to communicate is already an exaptation, not an adaptation (see Sebeok 1987, 1987a; Deely 1994). The story of this particularly fascinating and important phase of Sebeok's vast contribution to semiotic consciousness came to a dramatic pass in a meeting of the New York Academy of Sciences. This meeting proved so lively and unnerving to the protagonists of "animal language" (several of whom, notably the Rumbachs, were present as participants) that, besides eventuating in the customary learned volume of proceedings, it also made its way into the "Talk of the Town" column of *The New Yorker* magazine for that week (perhaps Sebeok's closest brush with fame as a pop-culture icon). One can read of the event there as well as in Volume 364 of the *Annals of the New York Academy of Sciences*.

Never one to leave long intervals between insight and implementation, Sebeok originally launched his program for the semiotic reorganization of academe — or, perhaps better, for the permeation of contemporary intellectual culture with the enhancement of a semiotic consciousness — by the clever expedient of a conference organized for May 17-19, 1962, at Indiana University's Bloomington campus, ostensibly aimed to discuss the twin topics of paralinguistics and kinesics. In the actual conference sessions — and hardly to Sebeok's surprise — discussion quickly widened to cover other areas of nonverbal communication in relation to language, and culminated in Margaret Mead's famous suggestion at the close that "semiotics" seemed to be "the one word" used by people "on opposite sides of the fence" and "arguing from quite different positions" that seemed to designate "patterned communications in all modalities". What began as a conference on special topics in linguistics, thus, ended rather as the first conference on semiotics held in the United States. Proceedings of this conference appeared in 1964 under the title *Approaches to Semiotics: Cultural Anthropology, Education, Linguistics, Psychiatry, Psychology* (Sebeok, Hayes, and Bateson, Eds.). This conference may be said to have launched the term "semiotics" on the trajectory by which it has recently overtaken and eclipsed "semiology" (cf. *ibid.*: 275; Sebeok 1971: 51-52; Deely, Williams, and Kruse 1986: viii-xvii).

Hence, in a bibliography of some 760 entries between 1942 and 1995, Sebeok's first actual publication in semiotics was his above-mentioned 1963 article, which happens to introduce the term "zoösemiotics" (without the umlaut: see Sebeok 1986) for the general study of animal communication in contrast to "anthroposemiotics", which studies species-specifically human communicative modalities (cf. Deely 1990: 50-82, and 1994). In sharp contrast with the latent idealism of semiology, which limits its methods to the sphere of human consciousness and culture, Sebeok's semiotics begins in the penumbra where nature and culture penetrate and suppose one another, and moves from there in both directions to encompass the universe as a whole "perfused with signs", to designate the situation by one of Sebeok's favorite expressions from Peirce. Sebeok's work accomplishes in this grand fashion what Eugen Baer (1981: 206) described as "a transition of semiotics from a one-sided subjection to the linguistic model" and "points the way toward the semiotic analysis of that which lacks speech but which seems, nonetheless, to contain the true richness and the true enigma of semiotics".

The coinage of this term "zoösemiotics" at the outset of his semiotic odyssey, thus, proved to be emblematic for Sebeok's eventual influence on the entire field of sign studies. He succeeded in a determined drive to displace the linguistic paradigm of semiology, which he polemically dubbed (1989: pp. 63ff.) "the minor tradition", in favor of "the major tradition" (represented today especially by Charles Peirce, and historically by the programmatic 1690 statement of John Locke viewed against the earlier Latin semiotics developed between Augustine of Hippo and John Poinset). In the perspective of what Sebeok calls "major tradition semiotics", the sign appears again, as it did in the Latin writings after Augustine, as an intersection of nature and culture, but with the added filip (no mere filip, to be sure: cf. Deely 1990: 22-31) of maintaining this intersection and interweave through an activity — semiosis — which is confined to neither side of the divide. One of the most important manifestations of Sebeok's influence in this regard appeared in Umberto Eco's discussion of the boundaries of semiotics in his 1976 work, *A Theory of Semiotics*. It can perhaps be said that this discussion marked Eco's own transition from minor tradition semiotics, as in *La struttura assente. Introduzione alla ricerca semiologica* (1968), to something clearly falling within Sebeok's major tradition view. This constant theme of Sebeok on the inclusiveness within semiotics of those aspects of the universe that had been ruled out since Kant as incompatible with the epistemological paradigms constitutive of modernity in its break with the Latin Age was eventually embodied in the 1986 anthology bearing a dedication to his work, *Frontiers in Semiotics*, published by the Indiana University Press (see esp. the discussion of "Pars Pro Toto", the Editors' Preface, pp. viii-xvii).

In 1976, with his volume titled *Contributions to the Doctrine of Signs* (reprinted 1985 with a substantive Preface by Brooke Williams, surveying major

reviews of the book), Sebeok launched the publication of what he then projected to be his trilogy in general semiotics. The second volume in the trilogy was his 1979 collection, *The Sign & Its Masters* (reprinted with additional material in 1989). The third, supposedly final volume was *The Play of Musement* in 1981. However, a fourth volume in general semiotics, *I Think I Am a Verb. More Contributions to the Doctrine of Signs*, appeared in 1986, which at first seemed to wreck the trilogy. Sebeok resolved this problem *ad hoc* by re-numbering the original *Contributions* volume from "1" to "0". However, when the fifth and sixth volumes of essays on general semiotics, *A Sign is Just a Sign* and *American Signatures: Semiotic Inquiry and Method*, appeared in 1990 (from Indiana University Press and the University of Oklahoma Press, respectively), along with a 1991 monograph (also from Indiana) *Semiotics in the United States* (ambiguously proclaiming in its manuscript subtitle "the view from the centre"), it became clear that the original trilogy idea was definitively *dépassé*. Indeed, when the last-mentioned title appeared, the publication became the occasion for a seminar sponsored by the Centro Internazionale di Semiotica e Linguistica at the Università di Urbino the week of July 6-10, 1992, results of which constituted a Special Issue of *Semiotica* (Deely and Petrilli, eds., 1993).

I mentioned above Sebeok's crucial chairing, until his retirement in 1991, of the celebrated Research Center for Language and Semiotic Studies at the Bloomington campus of Indiana University. What made the Center so celebrated under Sebeok's tenure was his use of the facility over the years to bring together countless scholars, both on the Indiana campus and through his far-flung enterprises of editing and learned conferences. By his numerous and huge enterprises Sebeok has been able to shape the field through publication of the works of hundreds of other scholars. His long editorship of the official journal of the International Association for Semiotic Studies, *Semiotica*, together with his *Approaches to Semiotics* series for Mouton and *Advances in Semiotics* Series for Indiana University Press, bear special noting in this regard, as does his founding role in establishing the Semiotic Society of America (the world's largest single such association) with its *American Journal of Semiotics* and project of Annual Proceedings volumes (experimentally in 1980, regularly since 1981). The formal organizational groundwork for establishing the Semiotic Society of America was laid at "what explicitly was planned and veridically became the First North American Semiotics Colloquium" (Sebeok 1977: x; in contrast to the 1962 conference, which was not *explicitly* planned as, though it veridically became, a semiotics conference). This conference was held on the University of South Florida campus in Tampa, July 28-30, 1975, with its Proceedings, *A Perfusion of Signs*, published in 1977 under Sebeok's editorship. In short, as indicated in my opening sentence of this essay, and as even the brief, selective paragraphs to this point serve to indicate, from the standpoint of

the sociology of knowledge, Sebeok has been for the later 20th century the single most important living figure in the development of semiotics.

His premiere status within the international semiotic community can perhaps be conveyed through a vignette that concerns the title of the Festschrift assembled for his 65th birthday, *Iconicity: Essays on the Nature of Culture* (Bouissac, Herzfeld, and Posner 1986). Some years previously, the Johns-Hopkins University, notorious for a tradition of semiotic faux pas, initiated with the firing of Charles Sanders Peirce, had invited Sebeok to speak at a conference to be held there on semiotics, and to choose his own topic. Sebeok chose iconicity. Some weeks later a Dean from the Johns Hopkins connected with the conference called Sebeok and apologetically explained that they had made a similar offer to Umberto Eco who had also chosen iconicity, and would Professor Sebeok be so kind as to help them out of an embarrassing situation by choosing another topic. Instead, Sebeok pointed out to the Dean the obvious and only correct solution to his dilemma: since the topic of iconicity had already been spoken for, the Dean would have to contact Professor Eco and ask him to choose another topic.

When, from September 30-October 4 of 1989, scholars from around the world convened in Budapest and Vienna for an International Semioticians' Conference in honor of Sebeok's seventieth birthday, the results were published in a separate volume (Bernard, Deely, Voigt, and Withalm, eds., 1993) bound jointly with the *Semiotics 1990* Proceedings volume of the Semiotic Society of America (Haworth, Deely, and Prewitt, eds., 1993). In that Budapest-Vienna proceedings, a toast that had also been prepared for the occasion was included as the volume's epigram, which may be worth reproducing in full here:

Dr. Sebeok is a man of extraordinary talents, we all know,
 That, in itself, is not extraordinary.
 What is extraordinary is what is beneath the talents, namely,
 the way they are orchestrated.
 And how is that?
 Dr. Sebeok somehow so directs the play of his talents that the talents
 of all who associate with him are also brought into play.
 He has managed, in this way, to bring a thousand and more than
 a thousand individuals who would otherwise have never known one
 another into a kind of intellectual orchestra, whose works collectively
 express — through his direction — most of what is best
 in that movement we call today "semiotics".
 We toast, then, today, what is extraordinary in Dr. Sebeok,
 what the ancient Greeks and Latins would call his "psyche" or "soul":
 May it live forever!

In the history of Western thought, the figure that perhaps most readily comes to mind as comparable to Sebeok is that of Marin Mersenne (born 1588-died 1648). See how well Popkin's description of Mersenne (in Edward's *Encyclopedia of Philosophy*, Vol. 5, p. 282) readily transfers to Sebeok in our time: "a significant figure in his own right and also, through his immense correspondence, publications, and personal acquaintances, a key figure in coordinating and advancing the work of the new philosophers and scientists" — that is to say, in the present case, the semioticians. Of course, every analogy limps. In the present case, I think Sebeok is considerably more of a figure in his own right, whose works will better wear the burden of time, than was true for the 17th century Mersenne. The point, however, on which the analogy, as Geach would say, "goes on all fours", is that in the seventeenth century Mersenne midwifed the birthing of modern science and philosophy as Sebeok has midwifed the birthing of contemporary semiotics in the full amplitude of its possibilities, as presaged by Augustine and Poinsot in the Latin Age, outlined by Locke at the dawn of modernity, and undertaken in detail by Peirce "our lodestar" (Sebeok 1984: 126) in modernity's twilight.

Sebeok does not like the expression "postmodern", because of its initial association with a cabal of French semiologists whose contributions, while often enough real, are yet more typically sophistic than substantive; but it remains that his work belongs definitively to the dawning postmodern era of intellectual culture and philosophy for which semiotics has so far contributed the most positive content. Sebeok's literary corpus already stands as a hallmark of that "new beginning" (cfr. Deely 1994a) wherein the unity of intellectual life in its mainstream philosophical traditions, lost since the time of Descartes, has the possibility of being at once restored and advanced. Sebeok intimated as much in his *New York Times* review (1986b) of Poinsot's *Tractatus de Signis* of 1632. He titled this review "a signifying man". Well, among men, Thomas Sebeok is as signifying as they come, irredeemably postmodern, and quintessentially Hungarian.

NOTE

¹ Writing this essay in México under circumstances of relative academic isolation, I do not have access to materials that would enable me to date the insertion of "and Semiotic" into the title of the research center, which seems to me occurred in the late '70s; however, what I want to mention is the only half-joking comment by an oversight committee member, concerning the proposed addition, "Why not call it the Research Center for Language and Sebeok Studies?".

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FOR A GLOBAL APPROACH TO SEMIOSIS

Thomas A. Sebeok may be counted among the figures who have contributed most to the establishment of semiotics, and in particular to its configuration as an interdisciplinary perspective. His work is largely inspired by Charles Sanders Peirce, but as he declares in an interview released to me in 1987 (now in Sebeok 1991b:95-105), his *maitres à penser* also include such figures as Charles Morris and Roman Jakobson, of whose work he may be considered a student and continuator. Sebeok's variegated research interests cover a broad range of territories, from the natural sciences to the human sciences. He is concerned with theoretical issues and their applications viewed from as many angles as the disciplines that come into play in his research: for example, linguistics, cultural anthropology, psychology, artificial intelligence, zoology, ethology, biology, medicine, genetics, robotics, mathematics, philosophy, literature, and narratology. The fact that Sebeok experiments varying perspectives, embarks upon widely diversified research itineraries, and connects up disciplinary fields which would have seemed to be distant from each other finds an explanation in a fundamental conviction subtending his general research method: the entire universe is perfused with signs, indeed, as Peirce hazards, is perhaps composed exclusively of signs. In what may be defined as a "global" or "holistic" approach to sign studies, Sebeok stretches his gaze over the whole universe insofar as it teams with information, messages, meaning production processes; a universe which is characterized, as Sebeok never tires of repeating, as a fact of signification long before becoming a fact of communication (for one of his most recent statements in this sense, cf. Sebeok 1994).

Sebeok's research into the "life of signs" may be immediately associated with his concern for the "signs of life". Indeed, a fundamental conviction supporting his research runs as follows: given that semiosis or sign behavior involves the whole living universe, a full understanding of the dynamics of semiosis may in the last analysis lead to a definition of life itself. In Sebeok's view semiosis and life coincide. Semiosis originates with the first stirrings of

life on the planet, which leads to the formulation of an axiom he believes cardinal to semiotics: "semiosis is the criterial attribute of life" (Sebeok 1991b: 124), that is, "the criterial mark of all life is semiosis", which is accompanied by his second axiom, that is, "semiosis presupposes life" (Sebeok 1994, cit.). No wonder all the life sciences find a place in Sebeok's intellectual horizon, estimated in their importance for a full understanding of signs and their workings in the terrestrial "biosphere" (cf. Vernadsky 1926).

In Sebeok's view then, the universe is perfused with signs all interconnected and interdependent in a huge semiotic "network" or "web" — as expressed with an image launched in 1975 —, with the sign science or semiotics representing the point of confluence and of observation for studies on the life of signs and on the signs of life. His abductive approach to the analysis of the signifying material that the biosphere is leads him to contemplate the whole universe *à la Peirce* as a sign in its global complexity. Indeed he recalls that for Peirce, the whole universe was itself a comprehensive global sign, "a vast representamen, a great symbol... an argument... necessarily a great work of art, a great poem... a symphony... a painting" (CP 5.119). Sebeok's studies are turned toward signs commonly covered by specialists from a great variety of different fields, viewed at one and the same time both in their specificity and interrelation: signs appertaining to "nature" and to "culture" ranging from human signs to animal signs, from verbal signs to nonverbal signs, from natural languages to artificial languages, from signs at a high level of plurivocality and dialogicality to univocal and monological signs, or better signals, signs in their varying degrees of indexicality, symbolicity and iconicity, signs of conscious life and of the unconscious. As a student of signifying processes, then, Sebeok's attention is turned toward the whole universe which does not imply a claim to intellectual omnipotence, as some have intimated, but simply because he is aware that signs are interdependent and relational, so that an understanding of any one particular type of sign — such as the verbal — is only possible in the light of its relation with the other signs in the semiotic processes forming the great sign network, in which the signs of nature and of culture in Sebeok's ecumenical perspective no longer appear as divided and separate but as interpretants of each other. As regards this last point, Sebeok explicitly states, polemicalizing with major exponents of contemporary currents in semiotics today, that "to me, however, the imperium of Nature, or *Weltbuch*, over Culture, or *Bücherwelt*, has always been unmistakable. Only a patent theoretical basis was veiled to resolve what Blumenberg (1981:17) has called an 'alte Feindschaft' between these two semiotic systems, the latter obviously immersed in the former. This is why my 'rediscovery' of the *Umweltlehre* came as such a personal revelation" (Sebeok 1994).

Sebeok's global approach to sign life presupposes his critique of semiotic theory and practice of an anthroposemiotic mark, which instead he opens to zoosemiotics or even more broadly to biosemiotics, on the one hand, and to endosemiotics, on the other, in his exploration of the boundaries and margins of this science or, "doctrine" of signs, as he prefers to call it, at one and the same time recent for what concerns the determination of its status and awareness of its possibilities of extension, but ancient if we trace its roots, as does Sebeok, back to the theory and practice of Hippocrates and Galen (see Sebeok 1979). The "semiotic doctrine", as conceived by Sebeok, is characterized with respect to other sign theories by a maximum broadening of competencies (it is interesting that with respect to his book of 1976, however, after almost twenty years, he no longer considers the debate as to whether semiotics is a "science", a "theory", or a "doctrine" of much consequence, as he states in his paper of 1994, cit.). The sign science, as Sebeok conceives it, includes not only the "science qui étudie la vie des signes au sein de la vie sociale" (Saussure), that is, the study of communication in culture, but also, as mentioned, the study of communicative behavior of a biosemiotic order, considered as the wider context, given that "biological foundations lie at the very epicenter of the study of both communication and signification in the human animal" (Sebeok 1976:x), and certainly not as a sphere separate from semiotics reductively identified with anthroposemiotics or semiotics of culture. The orientation of Sebeok's overall semiotic discourse is subtended by his promotion of the critique of anthropocentrism and therefore of glottocentrism, extensible to those trends in semiotics which look to linguistics for their sign model. Indeed, Sebeok's interest in cultural processes at the intersection between nature and culture induces him to take into consideration the research of such scholars as Konrad Lorenz and Jacob von Uexküll.

To free oneself from the anthroposemiotic perspective as it has generally characterized semiotics, implies taking into account other sign systems beyond those specific to mankind. Such systems are not alien to the human world even though they are not specific to it, and concern the encounter between human communication and the communicative behavior of nonhuman communities within the species and with the environment, in addition to the dominion of endosemiotics, that is, the study of cybernetic systems inside the body both on a ontogenetic and phylogenetic level. Sebeok's position succeeds in avoiding both the biologism involved in reducing human culture to communication systems traceable in other species as well as viceversa the anthropomorphic reduction of nonhuman animal communication to characteristic features and models specific to mankind. Consequently, Sebeok's doctrine of signs insists particularly on the

autonomy of nonverbal sign systems with respect to the verbal, and such autonomy is demonstrated through the study of human sign systems which depend on the verbal only in part, given the predominance of verbal language in the sphere of anthroposemiotics.

Sebeok's opening remarks to his book of 1979, *The Sign & Its Masters*, which he defines as "transitional" may well be extended to characterize the whole of his research, if we consider it in the light of the present situation in philosophical-linguistic and semiotic debate characterized as it is by the transition from "code semiotics", that is, semiotics centered on linguistics, to "interpretation semiotics", which differently from the former accounts for the autonomy and arbitrariness of nonverbal signs whether "cultural" or "natural". Through his panorama of problems and masters of signs, Sebeok evidences those aspects that differentiate these two different modalities of practising semiotics, which may be expressed, to simplify, with two names — Ferdinand de Saussure and Charles S. Peirce: the study of signs is in "transit" from the first to the second of these two positions as represented by these two emblematic figures, and indeed may now be said to have largely shifted toward Peirce.

Sebeok's previous book of 1976, *Contributions to the Doctrine of Signs*, is strongly theoretical in character and clearly expresses his stance in favor of the semiotics of interpretation, while *The Play of Musement*, a collection of papers published in 1981, explores the efficacy of semiotics as a methodological tool and extensibility in more discursive and applicative terms. In both cases, Sebeok sets his interpreters before a position that is consolidated and rooted in his theoretical formation, while *The Sign & Its Masters* proposes all the diverse possibilities ensuing from one or the other of these two semiotic alternatives. In fact, in addition to being a compact theoretical book, *The Sign & Its Masters* also has the merit of offering a survey of the various alternatives, positions and phases historically incarnated in important scholars directly or indirectly dealing with the problem of signs. Sebeok's research transforms us into the direct witnesses and interpretants of the (abductive) passages of a discourse that considers, expounds, tests and evaluates different possibilities not only in the choice of an appropriate method for semiotic research but also in identifying one's own object of analysis and specific disciplinary field. In this sense, this particular book, but in reality the overall orientation of Sebeok's research, is transitional given that it significantly contributes to the shift toward interpretation semiotics definitively freed from its subordination to (Saussurean) linguistics¹.

I Think I Am a Verb of 1986 is a book which Sebeok describes as the fourth of a tetralogy, the other three being the above mentioned *Contributions to the Doctrine of Signs*, *The Sign & Its Masters*, and *The Play of Musement*. Ever

since other important volumes have followed in rapid succession (but let us not forget that Sebeok has been publishing since 1942) and include *Essays in Zoosemiotics*, 1990, *A Sign is Just a Sign*, 1991, *American Signatures*, 1991, *Semiotics in the United States*, 1991 (not to forget such important preceding volumes such as *Perspectives in Zoosemiotics*, of 1972, and many others still under his editorship including *Animal Communication*, of 1968, *Sight, Sound, and Sense*, 1978, and *How Animals Communicate*, 1979). Without continuing this list of publications, it will suffice to remember that Sebeok has been publishing since 1942, so that his most recent production may be viewed as the expression of his ongoing research and reflection as conducted over more than half a century, as the interpreter of a semiotic universe whose variegated and multifaceted consistency he has substantially contributed to manifesting. Furthermore, a part from the fact that almost all Sebeok's books are presently available in Italian translation², I also wish to underline that beyond English and Italian Sebeok may also be read in an astounding range of other languages including German, French, Spanish, Portuguese, Hungarian, Polish, Romanian, Serbo-Croatian, Norwegian, Hebrew as well as the Asian languages including Japanese, Chinese and Vietnamese.

Given its variety and breadth of interest, *I Think I Am a Verb* may be considered as the continuation and development, at least in the sense of furnishing ulterior information and documentation, of Sebeok's research as so far conducted and expressed in his former writings. Indeed, this book presents itself as the point of confluence and launching pad for new research itineraries in the vast region of semiotics. The title of this particular volume reevokes the dying words of the 18th President of the United States, Ulysses Grant, made to ring with Peircean overtones. In fact, in Peirce's view man is a sign, and Sebeok's choice of a verb instead of a noun to characterize this sign (which not only each one of us is, but the whole universe in its globality) serves to underline the dynamic, processual character of semiosis.

A fundamental point in Sebeok's doctrine of signs is that living is sign behavior and, therefore, both that to maintain and reproduce life as well as to interpret it at a scientific level necessarily involve the use of signs. This position in itself reveals the intimate connection, as conceived by Sebeok, between the biological and the semiotic and, therefore, between biology and semiotics. The whole of Sebeok's research itinerary would seem to be the development of Peirce's conviction that man is a sign: and it would seem that Sebeok is adding that this sign is a verb: to interpret. And in Sebeok's particular conception of reality, to interpret coincides with to live, and in his conception of his own work, with his own life. If I am a sign, as Sebeok would seem to be saying through his whole life as a researcher, then nothing that is a sign is alien to me — *nihil signi mihi alienum puto*; and if the sign, situated as it is in the intermi-

nable chain of other signs, cannot avoid being an interpretant, then "to interpret" is the verb that can best help me know who I am.

Sebeok is clearly very distant from the narrow spaces to which Saussure wished to confine the sign science by limiting his attention to the signs of human culture and still more reductively to signs produced intentionally for communication. It is clear that Sebeok does not wish to leave aside any aspect of sign life, just as he is never content with limits of any sort on semiotics, whether contingent or deriving from epistemological conviction. At the same time, contrary to what could be a first impression, Sebeok's attitude discourages any eventual claim on the part of semiotics to the status of scientific or philosophical omniscience, of exhaustive knowledge with a capacity for solving all problems. My personal conviction is that Sebeok's very awareness of the vastness of the territories to be explored and of the variety and complexity of the questions to be analysed, confers a sense of prudence, of extreme problematicity and also of humility upon all interpretations advanced not only in the treacherous territory of signs, but above all in the still more deceptive sphere of the signs of signs in which semiotic work is immersed.

Long before Umberto Eco defined semiotics as the discipline that studies all that may be used for lying, in Italy Giovanni Vailati had well understood that signs may be used for deviating and deceiving and in fact entitled his review of Prezzolini's *L'arte di persuadere* with the expression "Un manuale per bugiardi"³. Sebeok is aware of the nonisomorphic character of signs with respect to reality, of the fact that signs may be used for fraud, illusion and deception: he is aware of their capacity for masking and pretence, which represents yet another of the main *leitmotifs* in his research. Deception and lying are forms of behavior which a semiotician like Sebeok interested as he is in signs wherever they appear must particularly, indeed I would say obsessively attend to. One of Sebeok's "obsessions" are forms of behavior and situations of the Clever Hans type, the horse which presumably knew how to read and write, being the result, however, of signals communicated to it by its trainer either inadvertently or as an attempt at fraud.

There are two main reasons for Sebeok's focus on the capacity for lying in the animal world. The first concerns his intention of unmasking pretence, in certain cases, or of undermining illusions, in others, relatively to the possibility of making animals "talk" in the literal sense, that is, in the sense of extending to animals a characteristic that is species-specific to mankind. Sebeok has often intervened in semiotic debate with discussions, documentation and even parody (cf. "Averse Stance," in Sebeok 1986) to demonstrate the impossibility of homologizing human verbal language and animal language. The second reason arises from the fact that if signs do not belong exclusively to the human world,

but as evidenced by studies in zoosemiotics to nonhuman animals as well and given that to use signs also means to be able to lie, then the fascinating problem of whether animals also know how to lie must necessarily be dealt with.

However, the world of signs is not only the world of deception, but also of such practices doubtlessly connected with the former as playing, using symbols and making gifts. The fact that animals too, other than humans, also use signs implies that all such practices, most often considered as the prerogative of "culture", may on the contrary also be traced in the world of animal nature.

On considering sign mechanisms, scholars often insist too strongly or too exclusively on their functions. On the contrary, Sebeok highlights the importance of the functioning of sign systems as an end in itself, a sort of idle turning of semiotic mechanisms. This aspect of Sebeok's research is not limited to ritual behavior, which in both animals and humans is most often exuberant with respect to possible function and presumed aims. Verbal language as well, frequently interpreted in the light of its communicative function, is in fact better understood if viewed as a kind of game enabling human beings to accomplish such operations as fantasizing and daydreaming (previously examined by Morris, for example, in "Mysticism and Its Language", 1957)(4) and, therefore, such operations as pushing ahead in the future, or going back to the past deconstructing and reconstructing reality and inventing new utopic worlds or interpretative models. It should be remembered that one of Sebeok's books bears the happy expression, "The play of musement" in its very title. On the other hand, the nucleus of the inferential mechanism allowing for the qualitative development of knowledge, what Peirce indicated with the term "abduction", is not alien to play and fantasy, to the practices of simulation. To the end of underlying how the unconscious aspect of sign behavior exceeds the intentional symbolic order oriented toward a precise function, Sebeok also refers to the problem of dreaming, to what Freud called "oniric work". And let us recall Sebeok's words when in one of his numerous descriptions of the vastness of the semiotic reach, he states that,

"the central preoccupation of semiotics is an illimitable array of concordant illusions; its main mission to mediate between reality and illusion — to reveal the substratal illusion underlying reality and to search for the reality that may, after all, lurk behind that illusion. This abductive assignment becomes, henceforth, the privilege of future generations to pursue, insofar as young people can be induced to heed the advice of their elected *medecine men*" (Sebeok 1986:77-78).

The lack of functionality, forms of unproductive consumption, of dissipation are identified by Sebeok as entropic phases necessary to the development of life on earth: it is as though life is in continual need of — indeed is founded

in — death in order to reproduce and maintain itself. The implications of such a statement in the different approaches to the philosophy of history are obviously numerous; for what concerns sign theory, the consequence is that the semiotic chain is subject to loss, to gaps, to the annulment of sense which means that a sort of anti-material must also be necessarily postulated in relation to sign material.

The "play of musement" activating Sebeok's research is so free, unprejudiced and ready to call into question all previous assumptions that Sebeok even goes as far as repropounding the question as to whether life and semiosis coincide; and risks the hypothesis that the end of life does not necessarily imply the end of semiosis: with some probability sign processes fabricating unlimited interpretants might continue in machines independently of humans. This Orwellian conclusion, clearly formulated by Sebeok in a paper entitled "Semiosis and Semiotics: What Lies in their Future?", originally written at the invitation of Norma Tasca, of the Associação Portuguesa de Semiótica for the Portuguese magazine *Cultura e Arte*, and now available in *A Sign is Just a Sign* (1991), which muses over the hypothesis of the machine as the unique place for the workings of the "life of signs", however we wish to play on the word "life" and on the word "signs", proposes no doubt a sort of negative utopia which from one point of view, however partial and limited as is the human, is surely a form of nonlife and, therefore, absence of signs. Perhaps we could advance an autobiographical interpretation of this message interpreting it as the expression of the professional desires of the "semiotician" with respect to the man, who hopes that semiotics may continue after Sebeok — and after the end of life generally.

NOTES

¹ In Italy, for a sign theory wholly oriented in the direction of "interpretation semiotics" and completely free from false dichotomies, such as communication semiotics vs signification semiotics, referential semantics vs nonreferential semantics, cf. Bonfantini 1981; Ponzio 1985a.

² On Sebeok's work and on his influence in Italy, see Petrilli 1985, 1987, 1988 *passim*, 1991, 1993, 1995 *passim*; Ponzio 1985b, 1992b, 1993b *passim*, 1993c, 1994.

³ This aspect of Vailati's studies has been put into evidence by Augusto Ponzio in a paragraph entitled "Plurivocità, omologia, menzogna" (Plurivocality, homology, lying), of a chapter in his book *Rossi-Landi e la filosofia del linguaggio*, of 1988, centered on the relationship between Giovanni Vailati and Ferruccio Rossi-Landi. Cf. also Vailati 1987. Sebeok himself also refers to Vailati in relation to Peirce in a paper entitled "Peirce in Italia" of 1982.

⁴ This paper by Morris, which is rather unusual for those who identify him with his books of 1938 and 1946, has been included by myself in a collection of writings by Morris translated into Italian in the volume *Segni e valori*, of 1988.

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CORRENTES SEMIÓTICAS: TENDÊNCIAS PASSADAS E ACTUAIS

SEMIOTIC PATHS: PAST AND NEW TRENDS

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TRA SEMIOTICA E FILOSOFIA DEL LINGUAGGIO

Se si rileggono gli atti del primo congresso internazionale di semiotica (Milano 1974) si vede che sono suddivisi in 13 sezioni. Dopo una sezione generale, aperta dall'ormai famoso "Coup d'œil sur le développement de la sémiotique" di Roman Jakobson, c'erano una sezione di tono filosofico, dedicata ai Fondamenti, e una sui rapporti tra Linguistica e Semiotica. Quindi seguivano sezioni sui Linguaggi Formalizzati e Scientifici, Semantica e Pragmatica, Semiotica della letteratura, delle arti visive, del cinema, televisione e teatro, architettura, musica; Semiotica delle Culture, comportamento non verbale, psicopatologia.

Era molto, e già il programma del convegno mostrava quanti temi possono essere affrontati da un punto di vista semiotico. Ma era poco, se si considera il programma del quinto congresso internazionale di semiotica, che si è svolto nel giugno 1994 a Berkeley. La lista delle sezioni e delle tavole rotonde comprende (oltre a temi simili a quelli del primo congresso), Metateoria, Bio-semiotica, Intelligenza Artificiale, Science Cognitive, Analisi del discorso politico, Temporality, Japanese Pragmatics, Semiotica del Silenzio, Semiotica della Morte, Cyberspace, Legal Semiotics, Media, Body, Religion, la Simmetria in Cristallografia, Marketing, Scrittura e Calligrafia, Humor, Didattica, Sign Processes in Human-Computer Interaction, Post Modern, Library and Information Science, Other Sexuality, Analysis of the Cold War, Medical Semiotics, eccetera...

È giunto dunque il momento di chiedersi se la semiotica sia una scienza, una disciplina particolare col proprio metodo, o una confederazione di ricerche con poca connessione tra loro.

Certamente io sarei d'accordo nel definire la semiotica lo studio della semiosi in tutte le sue forme, e la semiosi è un processo che si trova a molti e diversi livelli, ogni qual volta qualcosa sta al posto di qualcos'altro sotto qualche rispetto o capacità, e si stabilisce un rapporto tra un segno, il proprio oggetto e il proprio interpretante — come avrebbe detto Peirce. Ma basta questa definizione, in sé assai vasta, a circoscrivere i limiti e il campo di una disciplina?

1. La semiotica generale

Nel mio *Semiotica e filosofia del linguaggio* asserivo che la semiotica in quanto disciplina pone il proprio oggetto, anziché trovarlo come dato: e vedremo più avanti che, a certe condizioni, non intendo discostarmi da tale assunzione. Alla stesso titolo la fisica pone i concetti di atomo, forza, inerzia o tempo, e la zoologia non potrebbe decidere se un organismo è o no di sua competenza senza porre un concetto di organismo animale. Ma questo gesto di posizione può avvenire perché lo studioso è pur sempre determinato da una serie di accadimenti empirici che sarebbero riconosciuti come tali anche se non esistesse una scienza che li studia.

È facile asserire che esiste una storia della letteratura di lingua spagnola. Si può trattare questa letteratura con metodi diversi, far la biografia degli autori, la ricostruzione filologica dei testi, l'analisi postmoderna o deostruzionista di un'opera; si può usare un metodo strutturalista, marxista, sociologico... Ma siamo sempre di fronte al fatto empiricamente verificabile che esistono dei testi scritti in castigliano, siano essi un brano di Alfonso el Sabio, una pagina di Cervantes, di Gracian, di Marcelino Menéndez y Pelayo o di Gabriel Garcia Marquez. Del pari la zoologia può provare imbarazzo a classificare l'ornitorinco, ma esiste una capacità intuitiva da parte di ogni essere umano di riconoscere un essere vivente, e al massimo si possono discutere alcune situazioni di frontiera in cui la scienza zoologica deve decidere se certi microrganismi siano animali o piante.

Pensate invece all'imbarazzo di una disciplina come l'estetica. Al di là del settore tutto sommato impreciso (attraverso il tempo e lo spazio geografico) di quelle che gli uomini presentano come opere d'arte, pare che gli esseri umani denunciino esperienze estetiche nei casi più disparati, di fronte a un tramonto, a una rana, a un cibo, a un altro essere umano, e si dicono belli dei sentimenti, dei ragionamenti matematici, o l'esperienza del divino. L'unica decisione empiricamente giustificabile sarebbe accettare come oggetto di una teoria estetica tutte le esperienze rispetto alle quali gli esseri umani pronunciano la parola "bello" ammesso e non concesso che i suoi equivalenti in ogni lingua siano sinonimicamente tali: ma accade che gli esseri umani non pronunciano questa parola di fronte a esperienze che molti definirebbero come estetiche, o la pronunciano in situazioni che nessuna teoria estetica esistente troverebbe adeguate.

Ed ora veniamo alla semiotica. Per il laico può apparire sovente incongruo che si trovino riuniti sotto la stessa egida studiosi che parlano delle strutture sintattiche dello Swahili e altri che analizzano la direzione di uno sguardo in un quadro del Rinascimento, per non dire di altri ancora che si interrogano sui meccanismi inferenziali che guidano il medico nel diagnosticare una pol-

monite o sul problema se esista un sistema di comunicazione tra linfociti. E non solo il laico ma anche il chierico talora si chiede se la semiotica debba occuparsi, oltre che dei processi comunicativi intenzionali, anche di quelli nel corso dei quali si tratta un sintomo naturale come se fosse stato intenzionalmente emesso a fini comunicativi.

Di solito noi ci sentiamo molto sicuri di noi stessi quando rispondiamo al laico che è solo dovuto alla sua pochezza il fatto che non veda una relazione tra la parola fumo e un fil di fumo, tra la lingua tedesca e il sistema di segnalazione semaforica, tra l'emissione di un atto linguistico e l'ustentazione di un paio di scarpe grunge. Non pensiamo più, da qualche decennio, che tutti questi fenomeni debbano essere investigati con gli strumenti della linguistica; non pensiamo più che la semiotica debba solo occuparsi dei sistemi di segni o dei segni organizzati in sistema, perché sappiamo di dover splare anche i momenti in cui si comunica senza, al di fuori, prima, contro il sistema; sappiamo che si può far semiotica sia studiando le regole che i processi, compresi i processi sregolati. E tuttavia potremmo ancora enunciare alcuni principi, ci provengano essi da Saussure, da Hjelmslev, da Peirce o da altri. Questi principi permettono a chi si dice semiotico di asserire che esso vede un fenomeno empiricamente verificabile comune a molti fenomeni, al di là di molte evidentissime differenze: il semiologo è colui che si lascia incuriosire dal fatto che perlomeno gli esseri umani usano fonazioni, gesti, oggetti naturali o artificiali per riferirsi ad altri fenomeni (oggetti, classi di oggetti o stati di fatto) che non sono percepibili durante quella interazione specifica, che spesso non esistono, o che hanno una forma di esistenza diversa da quella fisica. La prova che gli umani siano capaci di far questo è che se mangiano un pezzo di carne anche il loro gatto se ne accorge, e reclama la sua parte, mentre se emettono la fonazione *Lisbona è a sud di Buenos Aires*, il loro gatto rimane inerte mentre il loro eventuale interlocutore umano reagisce in modo che altri interlocutori umani interpreterebbero come manifestazione di dissenso. Il semiologo chiama questo fenomeno semiosi. Forse è più facile riconoscere l'esistenza empirica di testi scritti in castigliano o di esseri animali che non quella dei processi di semiosi, e per questo la semiotica fa più fatica a farsi riconoscere che non la storia della letteratura o la zoologia, ma è costato altrettanto sforzo far riconoscere l'esistenza empirica dei batteri, e l'esistenza degli atomi, benché nessuno ardisca metterla oggi in dubbio, non è certo materia di evidenza empirica, almeno a livello di percezione quotidiana.

Pertanto, anche se una frase è diversa da un poema epico, e se il modo in cui percepiamo i segnali del Morse è diverso da quello con cui percepiamo la forma e le sfumature cromatiche di una nuvola, sosteniamo, esplicitamente o implicitamente, che in tutti i casi deve agire un meccanismo comune, per quanto disparati appaiano i suoi esiti superficiali: se è lo stesso apparato fisio-

psicologico che ci mette in grado di capire la frase *domani pioverà* e la nuvola che annuncia una pioggia non ancora esperita, allora deve esserci qualcosa che permette di unificare questi due processi di apprendimento, elaborazione, previsione e dominio intorno a qualcosa che la semiosi non ci mette davanti agli occhi.

Ed ecco dunque che il chierico non si stupisce se allo stesso congresso qualcuno parla del rapporto tra un pronome e il sostantivo che esso anaforizza, un altro del modo in cui un racconto annuncia le proprie fasi successive, e un altro ancora delle convenzioni per cui, basandoci su previe e naturali esperienze, una manica a vento induce a prevedere le sequenze future del viaggio che stiamo per affrontare.

Se così stessero le cose, non potrei che ripetere che esiste una semiótica generale che non può e non intende investigare i meccanismi di funzionamento di specifici processi di semiosi e che si preoccupa di *porre* (a livello filosofico) alcune categorie fondamentali, quali quella di semiosi, di segno, di rapporto di significazione, e così via. Questa semiótica generale ha per scopo di mostrare la fondamentale unità di esperienze per altri versi assai divise, per quanto generalissimo sia il suo punto di vista, e lontano l'obbiettivo con cui mette a fuoco i dati molteplici delle nostre varie esperienze. Questa semiótica generale è una branca della filosofia, o meglio è la filosofia intera in quanto impegnata a riflettere sul problema della semiosi.

Rispetto alla semiótica generale, esistono le semiótiche specifiche, che sono lo studio di un determinato sistema di segni e dei processi che esso può consentire: Esempio principe di semiótica specifica è la linguistica. Ma è semiótica specifica anche lo studio della segnaletica stradale, e buono per il secondo che i suoi cultori abbiano ad affannarsi meno dei cultori della prima, così come oggi un rilevamento costiero è più semplice dell'indagine sulle origini e composizione di una galassia. Ed è semiótica specifica anche lo studio di processi i cui pare agire il motore della semiosi, e che tuttavia non sono ancora o non possono essere riconducibili a sistemi soggiacenti stabili, e rispetto ai quali si è ancora fermi alla ricerca sul campo, alla raccolta paziente dei dati, al tentativo di dirimere contraddizioni teoriche.

Ma in definitiva molte semiótiche specifiche possono raggiungere lo status di una scienza umana e come tali delineare dei sistemi di regole, dei criteri di interpretazione, nonché elaborare previsioni almeno statisticamente attendibili, nel senso che si può prevedere che per esprimere l'azione di un agente su un paziente gli utenti di una certa lingua si atterranno mediamente ad alcune strutture sintattiche definite, e che in un corpus di racconti popolari al compiacersi della peripezia dovrebbero mediamente sopraggiungere alcune formule standardizzate di scioglimento.

2. La filosofia del linguaggio

Il problema è piuttosto che se si accetta la mia definizione di semiótica generale come riflessione filosofica sul fenomeno della semiosi ci si può legittimamente chiedere in che cosa una semiótica generale differisca da una filosofia del linguaggio.

Esistono delle scienze specifiche del linguaggio come la linguistica o la *glottologia* o — in altri sistemi semiótici — l'iconografia o la musicologia. Chiameremo questi studi, con espressione tecnica, *grammatiche*, nel senso che tendono a individuare le regole di funzionamento di un certo sistema di segni. In tal senso credo si possa dire che le semiótiche specifiche meglio organizzate sono in effetti delle grammatiche di un dato sistema di segni. È una grammatica la linguistica dell'italiano come lo studio dei linguaggi tambureggiati e fischianti presso una tribù primitiva, o lo studio dei diversi tipi di segnaletica fatto da Prieto. Qualsiasi teoria generale dei sistemi di segni che si potesse come grammatica generale o universale, sarebbe una grammatica nella misura in cui, pur riducendo le proprie categorie ad alcune ascisse generali che si presumono presenti in ogni sistema di segni, tentasse di articolare queste categorie in un sovra-sistema che voglia rendere ragione del perché i vari sistemi di segni funzionano in un certo modo.

In tal senso la filosofia del linguaggio assumerebbe come dare le ricerche delle grammatiche; darebbe per definite le grammatiche e rifletterebe piuttosto sull'uomo in quanto usa, costruisce o trasforma le grammatiche onde parlare dell'universo (nel senso massimale del termine, che può comprendere anche entità metafisiche che Carnap avrebbe espunto dal regno delle proposizioni dotate di senso). Problemi come quelli dell'origine del linguaggio (perché è una filosofia del linguaggio anche quella di Vico), o della valutazione del loro uso in termini vero-funzionali, sfuggirebbero alla presa delle grammatiche, e cadrebbero sotto l'egida di una filosofia del linguaggio.

Se quella di Heidegger è una filosofia del linguaggio (e non si può negare che sia una riflessione filosofica sul linguaggio), essa costituisce l'esempio principe di una filosofia del linguaggio che ignora ogni problema grammaticale, e quando lo sfiora, almeno a livello etimologico, si permette licenze che avrebbero scandalizzato Isidoro di Siviglia.

Per ragioni storiche la semiótica contemporanea sarebbe nata invece anzitutto come grammatica, vuoi come grammatica universale, vuoi come confederazione di grammatiche specifiche. È indubbio che così sia avvenuto con la semiótica strutturale, lungo la linea che da Saussure e Hjelmslev va sino a Barthes — e quindi persino a una grammatica della moda o della cucina giapponese. Quella di Lévi-Strauss è una grammatica dei rapporti parentali, e per

questo ha avuto tanta influenza sullo sviluppo della semiotica strutturale: Greimas nasce come lessicografo e fonda una grammatica persino troppo rigorosa della generazione di discorsi narrativi.

Ma al di fuori del filone strutturalista, anche Peirce — se pure fonda sin dagli inizi la sua semiotica come discorso prettamente filosofico (elaborando la sua nuova lista di categorie, la critica del cartesianesimo e un abbozzo di teoria dell'inferenza), mette contemporaneamente in opera la costituzione di una grammatica di tutti i tipi di segni, almeno nella forma della sua classificazione tricotomica, ponendosi espressamente il problema di una grammatica e di una retorica speculativa.

Peirce è tuttavia l'esempio di come la distinzione tra indagine filosofica e indagine grammaticale non sia così netta. Se si ricostruisce una storia della semiotica, come storia delle varie dottrine dei vari tipi di segni, è possibile separare un momento grammaticale da un momento filosofico in Aristotele o negli Stoici? Forse che gli *Analitici primi* sono una grammatica logica e gli *Analitici secondi* una riflessione filosofica sui modi della conoscenza? La grammatica universale dei modisti appartiene al momento dell'analisi grammaticale o alla riflessione filosofica sul ruolo ed essenza del linguaggio? Locke dà l'impressione di far della filosofia del linguaggio, ma Port Royal fa solo della grammatica? Chomsky fa evidentemente della grammatica ma la filosofia del linguaggio — cartesiana — che ne traiamo non è solo implicita, come sarebbe implicita una metafisica influente in una teoria dell'indagine scientifica, e costituisce il nucleo espresso e imprescindibile di tutta la sua impresa. Deve porremo la grammatica formale di Montague? Le massime pragmatiche di Grice e la sistematica degli atti linguistici da Austin a Searle sono filosofia del linguaggio o grammatica — nel senso esteso del termine, per cui vanno investigate, descritte, e regolate anche le modalità di uso di un linguaggio naturale?

Tuttavia credo che si possa individuare due tratti che distinguono l'impresa semiotica da quella di altre filosofie del linguaggio. Essi sono (i) la decisione di generalizzare le proprie categorie in modo da portarle e definire non solo le lingue naturali o i linguaggi formalizzati, ma ogni forma espressiva, anche le meno grammaticalizzabili, anche le operazioni di sgrammaticalizzazione di un linguaggio dato, anche i fenomeni che non appaiono intenzionalmente prodotti a fini espressivi ma che si pongono all'origine di una inferenza interpretativa; (ii) l'esigenza, la vocazione costante di trarre le proprie generalizzazioni dall'esperienza delle grammatiche, al punto tale che la riflessione filosofica s'intreccia strettamente con la descrizione grammaticale.

3. La semiotica come dipartimento

In questa impresa la semiotica corre ovviamente dei rischi. Nella voce "Semiologia" stesa negli anni settanta per l'Enciclopedia Europea di Garzanti, Raffaele Simone, dopo aver correttamente ricostruito la storia e i problemi della disciplina, citava lo sterminato allargamento del campo semiotico da Saussure ai giorni nostri, dalla letteratura e la logica alla comunicazione animale e alla psicologia, "fino a proporsi come scienza generale della cultura" e commentava: "In questo spropositato ampliarsi del suo orizzonte stanno le ragioni della sua diffusione ma anche i germi del suo scacco: se tutta la cultura è segno, una scienza unica che studi (con gli stessi concetti e gli stessi metodi) tutto, è forse troppo e troppo poco: più conveniente sarà allora tornare a una varietà di discipline a sé stanti, ciascuna per un ambito di indagine, anche se arricchite dalla consapevolezza del carattere semiotico del loro oggetto."

Ci sono in questo passaggio molte cose su cui riflettere. Eliminerai, per nostra comune tranquillità, la parola 'scacco', sostituendola con 'crisi' (e le crisi possono essere anche di crescita) e di questa crisi vorrei riflettere sui 'germi'.

Nel delineare questi germi, Simone è stato ottimista. Lo è stato sin riducendo l'elenco dei campi che la semiotica ha invaso, sia accusando la semiotica di proporsi come scienza generale della cultura. In effetti, e basta consultare le bibliografie, la semiotica sta da tempo presentandosi anche come scienza generale della natura. Essa non ha potuto evitare il passaggio, esplicito in Peirce, da una teoria del segno a una teoria generale dell'inferenza, e da questa a uno studio non solo dei processi di significazione e comunicazione ma anche dei processi percettivi. La semiotica oggi tende a fare della percezione un aspetto (fondante) della semiosi. D'altro canto, se dobbiamo prendere come esempio di ricerca semiotica tutti gli studi che portano la parola *semiologica* nel titolo o appaiono su riviste intitolate alla semiotica, la ricerca si è estesa al mondo naturale, dalla zoosemiotica (ed è il caso qui citare il contributo fondamentale di Thomas A. Sebeok) allo sviluppo di una *fitosemiotica* all'interesse degli immunologi per la semiosi cellulare, allo stretto intrico tra scienze del cervello, intelligenza artificiale e semiotica. Venti anni fa, nel *Trattato di semiologia generale*, io ponevo tutti questi aspetti oltre una soglia tabù che denominavo "soglia inferiore della semiotica". Ma potrei aver fatto questo per viltà, o incapacità: si può decidere di non occuparsi ex professo di una serie di problemi, senza dire per questo che i problemi non esistono.

Simone suggeriva che sarebbe stato più conveniente allora "tornare a una varietà di discipline a sé stanti, ciascuna per un ambito di indagine, anche se

arricchite dalla consapevolezza del carattere semiotico del loro oggetto". Debo dire che mi sento abbastanza incline a sottoscrivere questa prospettiva. Sono convinto che la semiotica non esista come disciplina scientifica. Esistono tante semiotiche specifiche, e spesso lo stesso oggetto specifico dà origine a teorizzazioni e a grammatiche diverse. D'accordo, per parlare in termini accademici, la semiotica non è il nome di una disciplina ma il nome di un dipartimento, o di una facoltà. Così come non esiste una disciplina, ma una facoltà intitolata alla medicina. La medicina era una disciplina unitaria quando era o galenica o paracelsiana, e quindi quando era infantile e selvaggia. Oggi l'oggetto comune delle scienze mediche è il corpo umano, e i metodi e gli approcci — così come le specializzazioni — sono in perpetuo divenire.

Se si visita una delle librerie scientificamente meglio attrezzate intorno alla Harvard University, lo Harvard Bookstore, si vede che da tempo ha ristrutturato i propri scaffali. In molte librerie americane le opere di semiotica vanno di solito negli scaffali più curiosi. Raramente con la linguistica, spesso con la critica letteraria, talora in un settore che prima si chiamava "structuralism" e oggi, come da Barnes and Noble a New York, "post structuralism". Ma a Harvard c'è un unico settore, molto ampio, che comprende Intelligenza Artificiale, scienze del cervello, logica e filosofia analitica, psicologia della percezione, linguistica e semiotica, e si intitola alle scienze cognitive.

Nessuno ha mai asserito, negli Stati Uniti, che le scienze cognitive siano una scienza o una disciplina e tutti concordano nel ritenerlo una sorta di aggregazione interdisciplinare con un nucleo comune. Non mi dispiace che la semiotica sia stata posta in quella confederazione, anche se c'è chi (come Sebeok) discute se la semiotica sia una scienza cognitiva o le scienze cognitive siano una branca della semiotica. Si potrebbe persino affermare che la semiosi diventa un concetto centrale del paradigma scientifico contemporaneo, come poteva esserlo per altri paradigmi il concetto di natura o la diade *res extensa-res cogitans*, e allora certamente ogni disciplina sarà ispirata a concetti semiotici, senza per questo essere una semiotica.

Ma perché si possa dire questo occorre pur sempre che vi sia un discorso, che io continuo a chiamare di semiotica generale, che discuta sino a qual punto vi sia un oggetto (sia pure esso un *genus generalissimum*) comune a tutte queste discipline, e quali siano le condizioni della sua costruzione teorica. Deve esserci una semiotica generale proprio perché non c'è una semiotica come scienza unificata.

Ma se questa è la situazione, possiamo dire che la filosofia del linguaggio sfugge allo scacco o alla crisi che Simone riconosceva nell'impresa semiotica?

4. Riflessioni critiche

La semiotica di derivazione linguistica strutturale ha sofferto a lungo di due restrizioni. La prima è stata la stretta dipendenza da una grammatica specifica, quella linguistica. La seconda è l'attenzione alle "lingue" (fossero esse verbali o no) come sistemi. Certamente questo è stato anche un punto di forza, a cui potrebbero rifarsi utilmente anche studiosi di diversa provenienza. Ritengo che spesso la filosofia del linguaggio di origine analitica, nell'esercitarsi su enunciati e sulle loro condizioni di verità, o di uso, perda di vista il fatto che a legittimare questi enunciati c'è un sistema. Talora la filosofia analitica dà questo sistema come presupposto (ma in fondo questo vizio potrebbe essere rimproverato anche alla semiotica peirciana), e talora (si pensi a Davidson) tende a metterne in dubbio l'esistenza o la necessità.

Tuttavia l'attenzione esasperata al momento del sistema poteva distogliere dai fenomeni di processo. Non è vero del tutto, perché anche i filosofi analitici potrebbero leggersi o rileggersi con gran profitto gli scritti di un linguista come Benveniste sui processi di enunciazione. Tuttavia, a voler generalizzare, le semiotiche di origine strutturalista analizzavano di preferenza (anche a livello semantico) sistemi di termini, mentre i filosofi del linguaggio di derivazione analitica analizzavano enunciati. Da un lato c'è una tradizione che si chiede se faccia parte del termine "cane" il tratto animale, e dall'altro quella per cui il problema è se sia vero che i cani sono animali. Credo sia venuto il momento di superare questa apparente differenza d'approccio, ma non mi limito a invitare gli analitici a fare un esame di coscienza e lo estendo anche ai lessicografi di origine strutturalista.

Sono convinto che la semiotica strutturale abbia ceduto alla fascinazione (giusta) della pragmatica solo perché essa si era introdotta attraverso la tematica degli atti linguistici nel dominio della filosofia del linguaggio di origine analitica. Non possiamo negare a Morris la paternità di tale termine, e con Morris siamo piuttosto sul versante Peirce+Enciclopedia della Scienza Unificata, che su quello strutturalista. Ma debbo dire che è merito dei semiotici aver tentato subito di fare i conti con la pragmatica, mostrando molta ricettività ai problemi inizialmente *extra moenia*.

Non so più se attribuire alla parte dei filosofi del linguaggio o a quella dei grammatici, e quindi dei primi semiotici, l'attenzione alle grammatiche casuali, ma è certo che la decisione di risolvere il compositivismo in una *case grammar* ha le sue origini (dico in termini cronologici e di diritto, se non in termini di influenza diretta) nella linguistica di Tesnière, nella critica letteraria di Kenneth Burke, e nella semantica attanziale, nella linguistica testuale, nella narratologia. Se si debbono criticare i semiologi che costruiscono opposizioni sia di sistema che di processo, ignorando la vicenda degli enunciati nel

flusso concreto del parlare quotidiano, bisognerà rimproverare ad altri di continuare a considerare enunciati del parlare comune delle finzioni di laboratorio (innumeri catene di re di Francia scapoli e di stelle della sera calve), non arrivando mai a provarsi sulle complessità dei testi — non foss'altro, per iniziare, che testi espressi in linguaggi naturali verbali.

Il campo semiotico è pieno di avventurieri della formula, che chiamano formalizzazione la decisione di usare sigle invece che parole, per comodità schematica, e senza alcuna regola di calcolo; ma molti filosofi del linguaggio per amore di formalizzazione restano sempre al di qua della reale esperienza discorsiva.

È da lamentare che Greimas abbia costruito una intera teoria delle modalità ignorando l'intera logica modale nel suo complesso, ma è egualmente lamentabile che molti teorici insulari degli atti linguistici ignorino Bühler o le funzioni del linguaggio di Jakobson.

Molta semiotica, per reagire a certi eccessi vero-funzionalistici, ha iniziato espungendo dal proprio ambito il problema del riferimento. È stata forse l'insistenza quasi esclusiva di molta filosofia del linguaggio a richiamare anche la semiotica all'esigenza di esprimere una propria teoria del riferimento, specie quando si è accorti che, espungendo il problema banale del riferimento, si sono incoraggiate derive decostruzionistiche che ormai inducono a credere che il linguaggio parli sempre e solo esclusivamente delle proprie impossibilità — identificando questa castrazione con la sua forza. Credo che sia giusto, anche per chi fa grammatica formale, soggiacere ogni tanto all'angoscia dell'essere che si dilegua, o al dubbio che non esista significato trascendentale; purché gli altri si accorgano che molte volte, sulla verità e la verificabilità dell'asserto *Oggi fa tempesta*, si può giocare la nostra vita, almeno se siamo su un aereo che decolla.

C'è un libro che sin dalla sua prima apparizione mi è sembrato colmare un primo iato tra tematiche della filosofia del linguaggio e tematiche semiotiche, e mi riferisco al *Languages of art* di Nelson Goodman. Il merito del libro non è solo quello, più evidente, di aver impiegato l'esperienza di un filosofo del linguaggio, da sempre inteso ad analizzare enunciati verbali, per cercare di legittimare l'esistenza di linguaggi visivi. È piuttosto il tentativo di costruire categorie semiotiche adeguate là dove le categorie logiche e linguistiche non davano ragione di alcune differenze fondamentali. E penso alle pagine sui campioni e le esemplificazioni, o sulla differenza tra arti autografiche ed arti allografiche, eccetera. Goodman sta per costruire una semiotica del visivo.

Eppure tutto il libro è attraversato da un impaccio costante quando si interroga sul carattere rappresentazionale delle immagini perché non riesce a liberarsi da una tematica della denotazione e ad interrogarsi sui *clusters* di significati che un'opera visiva può comunicarci al di là del fatto che denoti o meno qualcosa.

Quando Goodman si domanda se un quadro di tonalità grigia che rappresenta un paesaggio, e che certamente denota un paesaggio, denoti la proprietà della grigezza o sia denotato dal predicato "grigio" non dice nulla sul significato che il colore grigio di quel quadro può assumere per chi lo guarda; cerca soltanto di rendere un fenomeno di comunicazione visiva catturabile in termini linguistici, e quindi rinuncia a fare una semiotica del visivo. Quando si domanda se un oggetto rosso esemplifichi la proprietà della roschezza (nel qual caso sorgono imbarazzanti questioni se esso esemplifichi anche altre proprietà coestensive alla prima, come trilateralità e triangolarità) o esemplifichi il predicato "rosso" (nel qual caso sorge il problema se esemplifichi il predicato "rouge" per un francese), o se esemplifichi il denotato di quello stesso predicato — non ci dice nulla sulla funzione significante che (poniamo) nel corso di un film un oggetto rosso acquista per chi ha assistito qualche istante prima in una scena sanguinosa; e chiedersi che cosa il rosso di una paramento sacerdotale esemplifichi, non ha nulla a che vedere con il significato emblematico — non del tutto o non sempre verbalizzabile — che questo colore assume nel sistema semiotico della liturgia.

In uno dei capitoli certamente più interessanti, quello sulla denotazione delle immagini, Goodman conduce sottili distinzioni tra una *man-picture* e la *picture of a man*, e si pone molteplici problemi circa le modalità denotative di un quadro che rappresenti insieme il Duca e la Duchessa di Wellington. Esso allo stesso tempo denoterebbe la coppia, parzialmente denoterebbe il duca, sarebbe nel suo insieme una *two-person-picture* e in parte una *man-picture*, ma non rappresenterebbe il Duca come due persone, e così via. Curiosa e anche divertente serie di questioni che sorge solo se si intende il quadro come l'equivalente di una serie di enunciati, e cioè si rende il visivo parassita del verbale. La verità è che chi guarda il ritratto non pensa quasi mai a questi problemi (se non nel caso estremo in cui il quadro venga usato o a fini segnaletici, come la foto di un passaporto, o a fini storico-documentari) e tuttavia, o più sovente, ne trae dei significati.

Sono andato a cercare quasi a caso tra alcuni studi semiotici sul ritratto, e ho trovato (cito dal saggio di Omar Calabrese, "La sintassi della vertigine. Sguardi, specchi e ritratti", *VS* 29, 1981) che le categorie messe in gioco, al di là della problematica della rassomiglianza, sono per esempio opposizioni concernenti il taglio dell'inquadratura, la posizione delle mani, rapporto tra figura e spazio-sfondo, direzione dello sguardo, e di conseguenza il rapporto tra un ritratto che mostra di saper di essere guardato dallo spettatore e un altro in cui il personaggio guarda qualcosa ma non guarda lo spettatore, e così via.

Se dovessimo trovare una analogia con problemi linguistici dovremmo rifarci al problema dell'aspettualità. Nessuno negherebbe che *Giovanni esce di casa*, *Giovanni usciva di casa*, *Giovanni uscì di casa*, *Giovanni stava uscendo*

di casa, certamente esprimono o significano cose diverse e non sono certamente enunciati diversi riconducibili alla stessa proposizione, a meno che la nostra semiotica non privilegi una mera nomenclatura negando che le forme verbali contribuiscano alla costruzione del significato di un enunciato. Per ritrovare fenomeni analoghi in un'opera visiva, ma non trattabili allo stesso modo di un enunciato verbale, occorre elaborare categorie proprie a quella modalità di rappresentazione senza compiere il corto circuito della verbalizzazione del soggetto del quadro. Sia chiaro che non sto delineando una differenza tra funzione semantica e funzione estetica del quadro: sto dicendo che o si colgono le modalità semantiche dell'enunciato visivo, o ci si riduce a negare al visivo in quanto tale la capacità di comunicare significati — e che esistano significati non immediatamente interpretabili in termini linguistici.

Ripeto: il libro di Goodman rappresenta uno degli sforzi più interessanti per gettare un ponte tra teoria del riferimento e teoria della rappresentazione visiva. Ma soffre della eccessiva consuetudine della filosofia del linguaggio e con le lingue naturali e con un approccio verifunzionale. Con pari severità sono disposto a criticare tutti quegli approcci semiotici che tendono a dimenticare che, se non altro in termini sociologici, un ritratto viene dipinto *anche* per parlare di qualche aspetto del mondo.

Questo significa che nel mio ideale dipartimento o facoltà delle discipline dei linguaggi, molti contatti e nuovi flussi di comunicazione sono ancora da stabilire. La divisione accademica (divisione di fatto, intermini di dipartimenti) tra semiotica e filosofia del linguaggio, è un incidente di cui ci si deve altamente rammaricare.

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POST-MODERNISM, POST-STRUCTURALISM, POST-SEMIOTICS? SIGN THEORY AT THE *FIN DE SIÈCLE*

"Everyone has his disciples, but it is always Judas who writes his biography."

(English proverb)

"The father of deconstruction postcoers the statement 'Deconstruction is dead' and finds it lacking."

(*New York Times*, January 23, 1994)

It seems the time has come to bury yet another intellectual fashion, as throughout the western world cries ring forth from the cultural press that "Post-structuralism is dead" (Stephens 1994:22f). Not that all post-structuralists are dead — some are livelier than ever — nor can it be said that their appeal has waned, for no other intellectual movement unleashed more controversies in universities during the course of the 1980's than post-structuralism.

Nevertheless, in the last few years the claim that structuralism has come to an end tended to be generalized so as to include the end of post-structuralism. This raises the question about the fate of semiotics. If it requires either a structuralist or a post-structuralist method, then does the demise of post-structuralism not imply the end of semiotics as well?

This is a disturbing question for semioticians, and I will respond to it by analyzing the way in which structuralism and post-structuralism are historically embedded in modernism and post-modernism, proceed from this by formulating a number of theses on the mutual relations of structuralist and post-structuralist semiotics, and conclude with some prospects for the future of semiotic research.

1. Modernism and post-modernism

The cultural history of the western world presents itself as a sequence of approaches to the arts and sciences, where each approach called itself 'modern' at the time. Carolingian illustrated script, Gothic architecture, Renaissance

painting, classical French literature, German music of the Romantic period, as well as such movements as Realism, Naturalism and Impressionism — all considered themselves 'modern' (cf. Zacharias 1984:11–15).

However, today we seem to agree that only one period of history deserves to be called 'modern' (cf. Giddens 1990). The onset of the Modern Age in this sense is usually posited toward the end of the nineteenth century (cf. Alistair 1982), while its full expression is said to have been reached in Bauhaus architecture, twelve-tone music, and in the literature of Proust and Gide, Kafka and Musil, Joyce and Eliot (cf. Lethen 1970, Calinescu 1987, Fokkema and Ibsch 1987, as well as Kondylis 1991)¹. As far as the sciences are concerned, the Modern Age is characterized by the extension of their field of investigation into all areas of life, the rationalization of methods, the specialization of researchers, the autonomy sought by the various disciplines, and project-oriented interdisciplinary cooperation in large-scale research programs (cf. Knorr-Cetina 1981 and 1991). Concomitantly, the economy of the Modern Age developed an increasingly radical division of labor and, whenever possible, mass production carried out on conveyor belts (cf. Low and van Reijen 1992).

General characteristics of the Modern Age include:

- the rejection of traditional ideas;
- the belief that all areas of life can be completely reordered on the basis of a few fundamental insights;
- the willingness to accept any temporary hardships involved in dismantling the established order with the view to a better future once the program has been completed.

When this last movement of renewal claimed the title of 'modern' for itself and announced a future of permanent progress, it staked all hopes of renewal on a single card. It insisted that the chain of epochs, one following the other, had come to an end, thus taking the risk that its failure could render the very thought of continuous renewal absurd (cf. Niethammer 1989). Such a scenario, unthinkable for the proponents of modernism, occurred in the second half of the twentieth century (cf. Lyotard 1979). The ambitious ideas of the modernizers could not be upheld in the arts, nor in the sciences or in the business world (cf. Forster 1985). We find ourselves surrounded by the ruins of unfinished, grandiose experiments (cf. Kamper and van Reijen 1987) and consider it a challenge merely to come to terms with the myriad of half-completed modernist projects (cf. Gumbrecht and Weimann 1991, as well as Guggenberger et al. 1992). In this situation, we no longer take the pathos of radical renewal in any field seriously (cf. Hassan 1987a). No present European

society could be persuaded to renounce its achievements upon the simple promise that something better will take their place at some point in the future (cf. Koslowski 1987). Instead, we are satisfied with working on details, aiming at modest improvements and avoiding catastrophes (cf. Lütfeler 1991)².

After the hybrid and failure of modernism, it seems only logical to call this latter attitude 'post-modern' (cf. Köhler 1987). Post-modernism takes up those achievements of earlier epochs which were not fully destroyed by modernism and attempts to combine them with the ruins of the Modern Age (cf. Jencks 1984, Klotz 1984 and Hassan 1987b). With the failure of a permanently modern age comes the discrediting of the idea that the chain of epochs has come to an end. There will be further historical epochs even after post-modernism, but they are unlikely to be considered more 'modern' than their predecessors. Other comparatives will be drawn upon to fit their claims.

2. Structuralism

In the humanities and in the sciences of Europe in the Modern Age, structuralism was without doubt the leading theoretical approach (cf. Albrecht 1988). Whether in the form of Ehrenfels' *Gestalt* psychology, Husserl's phenomenology, de Saussure's system linguistics, Mathesius' functionalism, the young Jakobson's formalism, Cassirer's philosophy of symbolic forms, von Uexküll's *Umwelt* biology, Bühler's sematology, Mannoni's signifiés, Carnap's logical empiricism or Hjelmslev's glossematics³, structuralist theories were characterized by:

- the rejection of traditional modes of thought in the various academic disciplines;
- the belief that academic disciplines could be fully reconstructed on the basis of a few fundamental principles; and
- the willingness to do without established terminologies and axioms until they have been thus reconstructed.

For the first time since the philologist manifestos of the nineteenth century (cf. Stierle 1979), structuralism created a common research horizon in all humanities and social sciences (cf. Frühwald et al. 1991:47ff). In the period between the two World Wars, it gained ground simultaneously in linguistics, psychology, sociology, anthropology and history, as well as in the study and practice of the fine arts, literature and music. Structuralism culminated in the idea that all these disciplines are components of an all-encompassing sign-based science of culture, namely semiotics (cf. Posner 1988 and 1989).

However, after World War II, and parallel with the historical experience that global designs and attempts at radical reconstruction are doomed to failure, skepticism also grew within the humanities and social sciences as to the strength of structuralist principles (cf. Todorov and Ducrot 1972:435-453; Culler 1982:17-30; Süss 1986:146-160). This skepticism also had consequences for the project of a semiotic science of culture.

In light of the fact that opponents of modernism have grouped themselves under the term 'post-modern', it seems logical to label the opponents of structuralism 'post-structuralists' (cf. Schiwy 1985:16-34 and Tepe 1990). If, in addition, we accept that post-modernism links the ruins of modernism with the remaining achievements of earlier epochs, the question arises whether post-structuralism is able to mutually relate and integrate the incomplete results of structuralist science with results from other approaches (cf. Latier 1990 and Keupp 1993). This question is also relevant concerning the perspectives of a semiotic science of culture. It can be answered by tracing the academic origins of the structuralist movement and following its development in post-structuralism.

2.1. Starting points

To understand the basic concepts and principles of European structuralism, we need to recall what scientific practices structuralists like Ehrenfels, de Saussure, Mathesius and Hjelmslev were attacking (cf. Coverlin 1981: chap. 2 and 3). Research in the humanities and social sciences at the beginning of the 20th century was characterized by:

- (a) materialism, i.e., an exclusive interest in perceptible and measurable entities, joined with the belief that inductive methods, if applied to such facts, would impart relevant knowledge;
- (b) atomism, i.e., the gathering and describing of facts without consideration for the contexts in which they arise;
- (c) historicism, i.e., the idea that one fact gives rise to another as a result of chronological developments;
- (d) naturalism, i.e., the treatment of all objects under investigation as natural objects, independent of their cultural significance.

Concerning (a): Structuralists opposed materialism with the concepts of *Gestalt* (Ehrenfels), function (Mathesius) or form (Saussure, Bühler, Hjelmslev): "[...] language is a form and not a substance" (Saussure 1916 = 1950:122). To the perceptible and measurable signals they ascribed a

signifier (Saussure) or an expression-form (Hjelmslev), which they understood as an image (mental impression) of a signal (Saussure 1916 = 1950:122f) or as a set of signals (Prieto 1966:38ff). To the message content actualized in the interpreter of the signals they assigned a *signified* (Saussure) or a content-form (Hjelmslev), which they understood as an image of a message (Saussure 1916 = 1950:66f) or as a set of such messages (Prieto 1966:37ff). They replaced the naïve concept of the sign with the idea of an expression-content pair (Hjelmslev 1943 = 1963:47-60), or a two-sided entity consisting of signifier and signified (Saussure 1916 = 1950:123).

Concerning (b): Structuralists opposed the atomist view of signs with the concepts of syntagmatic and associative relations (Saussure 1916 = 1950:122-127) or chains and paradigms (Hjelmslev 1943 = 1963:29 and 39ff). In this way they distinguished between configurations of realized signs (syntagms) and configurations of virtual signs (paradigms) as two separate forms of sign structures⁴.

Concerning (c): Saussure (1916 = 1950:89ff) opposed historicism through the paired concepts of *synchrony* versus *diachrony*, which allowed an initially separate investigation of the interdependence of signs within syntagms and paradigms, followed by the comparative study of their occurrence at different points in history.

Concerning (d): Saussure (1916 = 1950:101-139) opposed naturalism with the paired concepts of *langue* (sign system, code) and *parole* (realization, text, discourse). This made it possible to consider each occurrence of a sign (i.e., every signal) to embody an abstract, culturally specific structure (of a code).

The Saussurean dichotomies of:

- (a) signifier versus signified,
- (b) syntagm versus paradigm,
- (c) synchrony versus diachrony,
- (d) langue versus parole

formed the core of structuralist sign theory as is pointed out in synthesizing presentations, such as R. Barthes' *Elements of Semiology* from 1964 (English translation: 1968).

2.2. Problems

Fruitful as they proved to be in the humanities and social sciences, Saussure's dichotomies gave rise to a growing number of problems:

- (1) What level of *existence* does a *langue* have if it is a system of virtual signs or expression-content pairs (a code)? Does the code exist physiologically

in the brain of every member of the code-community, or does it have a social existence as, say, an objective spirit, a set of common beliefs, or a system of conventions in that community?

(2) What is the *object of research* in semiotics? Is it the code, the sign, or just perceptible signals? Saussure writes (1916 = 1950:9 and 16f) that the *langue* and not the *parole* is the true object of linguistic research. However, if the phenomena of the *parole* are observable, and the *langue* can only be inferred from these, does that not lead to the paradox of semiotics having a theoretical construct as its empirical object?

(3) The coherence of the code lies in the fact that its signs determine each other on the level of both signifier and signified. Each code is a system of oppositions (differences). Thus the *method of investigation* for the relevant characteristics of a sign consists in the commutation of that sign with others from the same code (cf. Saussure 1916 = 1950:42ff; Hjelmslev 1943 = 1963:73-75 and 1947 = 1973:143ff, as well as Prieto 1966:41f and 62f). This approach limits the statements which can be made about a sign in the code in which it belongs. However, can the semiosphere of a culture (cf. Lotman 1990) really be divided into such neatly separable sign systems? Is there no interaction and mutual influence of signs from different codes and different cultures?

(4) Structuralism's methods of investigation involve abstracting from the variations found in the different occurrences of the signs concerned (cf. Hjelmslev 1943 = 1963:60-74). However, such abstraction dissolves the connection between synchronic variation and diachronic change, and blocks the path towards an explanation of *code change*. As Albrecht (1988:34) puts it, "the *parole* has no history, despite the fact that changes in the *langue* are first manifested within the *parole*". How, then, is a structuralist view of history possible?

(5) For Saussure, the production and reception of signs involves the utilization of a given code. The code serves as a ready-made instrument, while the sender and recipient only act as its users (cf. Saussure 1916 = 1950:71ff). But are the interpreters of signs really bound to their codes in this way? Are they incapable of structuring the world without participating in a code? Does the *subject* not enjoy a certain scope for perceiving the world and being creative outside of the code?

(6) To abstract from the material qualities of a signal by assigning it to a signifier destroys the relationship between the signal and the semantic characteristics of the signified. Saussure's thesis of the arbitrariness of the sign (1916 = 1950:67ff) thus appears to be an artifact of his method. For does the variation of the signal's *material qualities* not expressly serve as a way for the sender to modulate his message?

(7) According to Saussure, a sign's signified depends exclusively upon its opposition to other signs in the same code. Outside of the code concerned, the sign would be void of content. The range of content would thus appear to be freely structurable by each code (see Saussure 1916 = 1950:120: "[...] in language there are only differences without positive terms"; cf. Hjelmslev 1943 = 1963:45f). Yet a comparison of appropriately chosen natural languages shows that, say, the color words of different languages may organize the spectrum of colors in various ways, but that this variation is limited: in no language are the central parts of the spectral areas of red, green, yellow and blue subject to division through the signifieds of elementary color words (cf. Berlin and Kay 1969). Is such *material determination* of the signifieds not to be found elsewhere? Does the object of our communication (i.e., the referent) have no influence on the code used to formulate it?

(8) For Saussure (1916 = 1950:122-125) and Hjelmslev (1943 = 1963:25ff), the syntagmatic relations between signifiers in sign complexes appear to be combinations of ready-made building blocks (cf. Happ 1985, Harland 1993 and Köster 1994). But does the co-text really have no influence on a sign's message? Is the co-text not specifically used in art, music and literature in order to create new messages?

(9) For Saussure and Hjelmslev, the signifieds of a text remain fixed even when the situational *context* in which it is reproduced changes (cf. Prieto 1966:46f). But have we not all experienced the fact that changing contexts can change the sense of a text?

(10) For Saussure, the interpretation of signs consists in the assignment of signifieds to signifiers according to a code. *Interpretation* is thereby reduced to a process of decoding which does not go beyond looking for the signs in that text. By means of his dyadic conception of the sign, Saussure projects the interpretation relation into the sign, and gives it the status of a sign property. Can we not interpret anything outside of given signs (cf. Ogden and Richards 1923:5, note 2, as well as Sless 1986:137)? Do we not all witness signs being emptied of meaning (cf. Even-Zohar 1983) and filled with new messages?

These doubts, among others, impaired the application of structuralist ideas in the twentieth century. The problems of (1) ontology and (2) epistemology, (3) the restrictedness of the methods, (4) the general exclusion of history and (5) of the subject, (6) the neglect of the sign's material side and (7) of the referent, the underestimation of the influence of both (8) the co-text and (9) the context on sign interpretation, plus (10) the denial of any interpretative freedom through the narrowness of Saussure's concept of the sign, all gave structuralists reason to think again. Many anthropologists and linguists (cf. Sperber and Wilson 1986:7ff), as well as psychologists (cf.

Hörmann 1976 and Rommetveit 1974 and 1984) began to reject structuralism and promote the creation of a pragmatic approach to sign interpretation in the sense proposed by Peirce and Morris (cf. Posner 1991 and Mey 1993). Others (cf. Eco 1967 and 1976) continued to adhere to Saussure's theoretical categories, but tried to open them up for new areas of application. They largely retained his terminology and believed the problems encountered could be solved by reinterpreting this terminology. Not least because of this maintained link to structuralism, it seems justified to label the proponents of this approach 'post-structuralists' (cf. Young 1981:1).

3. Post-structuralism

The transition from structuralist to post-structuralist thinking was first achieved by a small number of influential authors in Paris during the 60's. Those scholars of the humanities and social sciences who extended the domain of structuralist research beyond linguistics can be considered the forerunners of this development. To these belong Lévi-Strauss with his writings on anthropology and ethnology (1958 and 1962), Foucault with his investigations into Europe's cultural history (1961, 1966 and 1969), Althusser with his publications on political economy (1966a and b), as well as Lacan with his seminars on psychoanalysis (cf. Lacan 1966). The actual theoretical debate, however, took place among the contributors to the literary theory magazine *Tel Quel*, which was founded by a group of young authors in the circle around Philippe Sollers (cf. Barthes 1979) at the height of the Algerian war in 1960. Their aim was to show the world 'as it is', free of ideological distortion. (For the historical references to Nietzsche and Valéry bound up in the phrase 'as it is' or *tel quel*, cf. Kauppi 1994:27.) Favorite topics were the exposure of ideological fictions and the analysis of their function in society. From the mid-60's, the contributors to *Tel Quel* became more widely known through independent book publications. Among these were Derrida with *L'écriture et la différence* (1967a), *De la grammatologie* (1967b) and *La voix et le phénomène* (1967c); also Julia Kristeva with *Semiotikè: Recherches pour une sémiologie* (1969a) and *Le texte du roman* (1970). To these can be added Deleuze and Guattari (1972 and 1976), who were closely linked to Foucault's work, Pêcheux (1975) and Baudrillard (1968, 1972, 1973 and 1976), who continued Althusser's work, as well as Luce Irigaray (1974), who, like Kristeva, took Lacan's theories as her starting point.

The reinterpretation of Saussure's categories is most obvious in the work of Roland Barthes, who had published two well-received introductions to structuralism in the magazine *Communications* in 1964 and 1966, but then

produced such books as *S/Z* (1970b) and *Le plaisir du texte* (1973a), which contrasted with the earlier introductions (cf. also Barthes 1973b). In 1971, Barthes gave an interview where he himself commented on this change of ideas (cf. Heath et al. 1971:44; see also Young 1981:7):

"In the former text [of 1966] I appealed to a general structure from which would then be derived analyses of contingent texts [...]. I postulated the profit there would be in reconstructing a sort of grammar of narrative, or a logic of narrative (and at that period, I believed in the possibility of such a grammar — I do not wish to deny it). [...] in *S/Z*, I reversed this perspective: there I refused the idea of a model transcendent to several texts (and thus, all the more so, of a model transcendent to every text) in order to postulate [...] that each text is in some sort its own model, that each text, in other words, must be treated in its difference, difference being understood precisely in a Nietzschean or a Derridean sense."

As a structuralist, Barthes had (ontologically) believed in the existence of underlying structures (codes), and had considered them (epistemologically) necessary for the explanation of sign processes: anyone not mastering the code cannot formulate a message, nor understand its signals; he lacks signifier and signified as mediators in the sign process (cf. Prieto 1966). But now Barthes did away with such idealistic fictions; he rejected the ontological thesis of a pre-existing sign system and regarded the sign complex of the text concerned as the decisive instance. He also dispensed with the epistemological theory that a given sign is understood through a virtual sign system; Barthes allowed at most further discourses to count as aids to comprehension. Discourse itself became the final source of meaning, and codes were only involved when they too existed in the form of texts (as grammatical works, catechisms, fashion advertising, ordinances and rulebooks in general).

According to Barthes, we do not have to learn rules in order to use texts, instead we practice the production of meaning directly by using existing signal complexes. Reading and writing are thus no longer understood as the encoding and decoding of meaning, but as interaction with a signal complex whose differences from other signal complexes 'make sense'. The idea of internalized signifieds is thus replaced by that of externally given sense³.

To show that this is possible, Barthes required Derrida's concept of writing (cf. Derrida 1967a). Writing is constantly accessible. Unlike the voice, which fades away and can only be remembered, writing is no virtual sign, but manifest, and can therefore be taken as a basis for comparison in any discourse.

All the authors named above underwent a similar change of perspective in the late 1960's⁶. This had a number of significant consequences.

(i) The code

If, in order to explain sign processes (see above, dichotomy (d), problems 1 and 2), it is no longer possible to fall back on the code, then the sign processes as such move into the foreground, and the practice of signifying in discourse (*"pratique signifiante"*, Kristeva 1969a and 1975; cf. Todorov and Ducrot 1972:443 and Barthes 1973b) becomes the object of semiotic analysis.

At the same time, deidealized code-like concepts were taking on a more central role in the analysis of different areas of culture. Foucault (1966 and 1969) reconstructed the set of common beliefs in a society as an *episteme*; Althusser (1970) tried to locate the ideology within the 'power structures' of a state; Baudrillard (1968, 1972 and 1976) considered schemata of political behavior as complexes of simulacra; Lyotard (1979) conceived of the universal designs of theorists as 'grand narratives'. Even if the ontological and epistemological preconditions of code theory were no longer taken seriously, it was felt that code-like constellations were all around us, and the manipulation connected with them was to be fought against politically. One example is Baudrillard's (1973) claims about late capitalist society: More and more areas of life are measured in terms of money. Profit-related codification not only structures the world of work, but has also infiltrated leisure time, and determines the life of children and the retired as well as relations between the sexes. Not only the exchange of material goods, but also that of knowledge is increasingly schematized and automatized, i.e., encoded with respect to maximizing profits. The most effective instruments of this process are the mass media. Individuals in developed capitalist societies are controlled much more effectively by this semiotic spoon-feeding than by economic exploitation in the style of the 19th century.

What is important here is the revolution which Barthes' change of perspective allows in the semiotic analysis of these developments. For whoever analyzed the spoon-feeding practices as such and presented them as codes in the established manner was, like it or not, making such practices all the more accessible to the manipulators and becoming himself an accomplice to this manipulation (cf. Schiwy 1985:19f). As against this, the post-structuralists want scholars to do everything to prevent the grasping of power by means of codification processes. The new semiotics thus has the task of shattering the code-fictions of the ruling elite. It can do this all the more effectively in the belief that sign processes are possible without codes.

(ii) The signifier

All classical definitions of signs relied on the balancing of its two sides (see above, dichotomy (a), problem 3). Following the deideologization of the signified, however, the scales now tip in favor of the signifier, which is seen as the ontological and epistemological basis of everything else (cf. Todorov and Ducrot 1972:438).

(iii) The signified

The close relationship of signifier and signified postulated by Saussure and Hjelmslev (see above, dichotomy (a), problems 3, 9 and 10) is dissolved. The signified is no longer envisioned as an entity in its own right, located somewhere in the brain or mind. Instead it is assimilated to the signifier following the theories of Peirce (cf. Lacan 1966; see also Todorov and Ducrot 1972:439-442). Just as Peirce believed each sign process to be characterized by the fact that its interpretant may emerge as the representamen of a new sign process, so too does Lacan consider each signifier to be a potential trigger for the production of a further signifier⁷. Instead of a signified, Lacan and the other post-structuralists assume an endless chain of signifiers.

(iv) The signal

If the code as a pre-existing virtual sign system is discredited, then likewise the signifier of a sign cannot precede the discourse as a virtual unit. It is rather the result of a comparison with other signifiers (cf. dichotomy (d), problems 4 and 6). The difference between the semiotically relevant characteristics of a signal and its further material properties is not established in advance. This widens the interpreter's view to the unlimited number of properties the signal may have, each one a potential trace of a signified. The material nature of a sign again becomes the focus of interest (cf. Gumbrecht 1988:913 and Schlieben-Lange 1993). It becomes the starting point of the practice of signifying (*"pratique signifiante"*). As the latter is a creative process rather than a blind course of events, there is no reason to confuse the concentration on the material nature of a sign with the mechanistic materialism of the 19th century (cf. Todorov and Ducrot 1972:431).

(v) The discourse

With the help of commutation tests, Saussure and Hjelmslev extracted the code from discourse in the form of a system of oppositions (differences)

between virtual signs (dichotomy (d), problem 3). If, suspecting false ideology, one dispenses with the concept of codes altogether, then the understanding of discourse needs to be analyzed as the direct result of processes of differentiation. This not only involves differences between the signifiers linked in a syntagm, but also — unlike Saussure's version — differences between signifier and signified, where the latter is conceived as a chain of further potential signifiers (see point (iii) above). A static system of differences between virtual signs in a code is thus replaced by a dynamic interplay of differences within discourse. Foucault (1969) goes so far as to consider discourse no longer a sign complex, but a set of practices which pattern the object of that discourse.

(vi) The context

If the interplay of differences is to be sought directly within discourse, then we need not limit ourselves to differences between syntagmatically linked signifiers, nor between signifiers and signifieds (i.e., signifiers of other discourses; cf. dichotomy (b), problems 7 and 8). The difference between that discourse's signifiers and further situational circumstances may also be drawn upon. After all, this is what makes the signs in a discourse recognizable as such and gives them meaning. If the sign is not ephemeral, as in acoustic communication, but enjoys permanent presence, like writing, then even the context may become subject to change. This allows for the emergence of new differences and is a basis for the further generation of sense (cf. de Man 1979).

(vii) The reading process

Instead of assuming a discourse to contain a fixed content even before its reception (in the form of a complex signified which merely requires decoding; cf. dichotomies (b) and (d), problems 3 and 5), post-structuralist semiotics focusses on the interplay of differences between signifiers, as well as between the discourse and its changing contexts. The reading process thus consists in taking up these differences and in making sense through the production of additional differences. Put simply, the purpose is no longer the search for a prefabricated message, but the creation of sense. In an extreme case, the discourse may consist in an utterance void of content, which the recipient reorganizes in line with new contexts. Moreover, every discourse may be subjected to numerous readings. 'Its meaning' (if such a term is to be allowed at all) no longer consists in what the sender intends (which is a result of only one out of many readings) but in the results of all possible readings; this, however, can never be specified since further readings will always be possible.

On the social level (see point (i) above), the reading process does not attempt decoding, but rather the interpreter's emancipation from code-fictions, that is, 'de-codification'.

(viii) The intertext

One particular type of context which may influence the reading of a discourse consists in previous discourses. By comparing text fragments from other discourses (cf. dichotomies (b) and (c), problems 4 and 8), we may perceive specific differences which help to identify the historical position of the present discourse: "We call 'intertextuality' that interaction between texts which occurs within a single text. For the expert, intertextuality is a notion which indicates the way a text reads history and inserts itself in history" (Kristeva 1969b:443). Even for the tracing of intertextual references it is of secondary importance whether the sender had these other texts in mind when producing the discourse. Furthermore, the reading of a discourse with a view to its intertextual references turns the text as a tool of the sender into one with which the recipient can create meaning. The intertextual references in particular serve to divide the given discourse into components and to create a network of links between them which are subject to hierarchies of attention that change according to the part of the text being read at the time. In terms of textual theory, this network of relations replaces the chain of signs mentioned by Saussure and Hjelmslev (see problem 8 above); the latter appears at most to be one specific reading with extremely limited differentiation. In this way, every discourse — and therefore every *parole* in Saussure's sense — reveals itself to be a whole conglomerate of texts.

(ix) The subject

To Saussure and Hjelmslev, senders and recipients of a discourse (i.e., the sign-interpreters or subjects of semiosis) were only of interest insofar as they utilized codes and could turn them into discourse (see Jakobson 1960). This led to the perception beyond codes and the creativity of the subject being neglected and even denied (see dichotomy (d), problem 5 above). The subject appeared to be reduced to its function as the point where codes intersect. While Foucault and Baudrillard campaign against the submission of people to these codes by repudiating the code as fiction, Lacan (1966) takes the reduction of the subject even further. He tries to extinguish any remnants of a subject by claiming that we speak of a subject only at those points where we would otherwise encounter a gap in the chain of signifiers: the concept of the subject serves merely as a gap-filler and should be bypassed via a more

thorough analysis of the chain of signifiers. Kristeva, too, intends to 'pulverize' this kind of subject (cf. Todorov and Ducrot 1972:448). To this end she attempts a change of ontological categories, and speaks of the subject merely as a meaning process (cf. Harland 1987:168). According to Derrida (1972) and de Man (1979), the subject is embodied in the multiplicity of his/her readings of a discourse, hence these authors' decision to focus on this aspect. Barthes considers the subject to be tangible whenever the recipient surrenders him/herself to the images his/her own body generates while reading. This constitutes the "pleasure of the text" (Barthes 1973a).

(x) Semiotics

By reinterpreting the basic structuralist categories, post-structuralism also changed ideas on what the tasks of semiotics should be. To Saussure and Hjelmslev, semiotics was the science of sign systems (cf. dichotomy (a), problems 1-3), whereas for post-structuralism it becomes the art of revealing or creating meaning in discourse. Semiotics becomes 'semanalysis' (Kristeva 1969a) or the 'deconstruction' of discourse (Derrida 1967a and de Man 1979 and 1993; cf. Culler 1982). An essential aid for the exercising of semiotics as an art is the ability to differentiate. This is a situation-dependent activity which can be practiced only when the material bases of semiosis are taken seriously. Post-structuralist semiotics in this sense is rightly considered "materialist genealogy" (cf. Todorov and Ducrot 1972:452).

4. Theses on the relations between structuralism and post-structuralism

Attempting to summarize the essential points in the development of structuralism into post-structuralism, one arrives at the following theses:

Thesis 1: Post-structuralism did not in fact take over from structuralism, rather it is part of its development and was put forward at the same time.

The structuralists Greimas (1966), Prieto (1966 and 1976), and Mounin (1968 and 1970) published their most important works at the same time as Foucault, Althusser, Lacan, Derrida, Kristeva and Baudrillard.

Thesis 2: Post-structuralism does not overcome the paradoxes of structuralism, rather it displays them to their full extent and constantly plays one category off against the other.

"[Post-structuralism] builds on top of the super-structuralist position more superstructurally than ever; it carries the same logic even further in the same direction. With post-structuralism, the old paradoxes are not dismantled but redoubled" (Harland 1987:124)

Thesis 3: Post-structuralism does not provide a new semiotic theory, rather it changes the focus of attention within the structuralist categories and relativizes certain concepts involved in Saussure's dichotomies.

The main interest in semiotic studies is no longer the sign (the relation of signifier to signified) but semiosis (the process of creating meaning); it is no longer the paradigm (the relations between virtual signs) but the syntagm (the differences between signs in discourse); it is no longer the synchrony of a system of virtual signs (nor their diachrony), but intertextuality; it is no longer the code, but discourse.

Thesis 4: This re-evaluation undermines the structuralist categories.

Post-structuralists believe it possible to speak of signifiers without specifying signifieds, and to investigate signs without establishing a code. They reject basic theoretical distinctions and contaminate signifieds with signifiers, signifiers with signifieds, and signifieds with messages and referents.

Thesis 5: While analytic philosophy in the wake of Peirce and Morris established a pragmatics investigating principles and maxims which determine the interpretation of the sign in addition to code rules (cf. Posner 1991b), the post-structuralists tend to mix these two areas, using pragmatic principles and maxims to discredit code rules and vice versa.

Thesis 6: Post-structuralism also rejects the distinction between the investigation and its object, between the processes of discourse analysis and the discourse being analyzed, between metatext and text. In post-structuralist discourse analysis, scientific reflection and everyday behaviour are deliberately mixed, with the aim of freeing the latter of fictions and thus leading to change.

Thesis 7: Post-structuralist discourse analysis is by its very nature not a science, but an art.

Only the future will show whether post-structuralism can achieve its aims with the tools at its disposal. It is worth mentioning, however, that the practice of post-structuralist discourse analysis well suits post-modern thinking, for

several reasons. It subverts grand fictions and shatters their monopoly on reasoning. It integrates the remains of competing conceptions of humanity left after the failure of modernism such as psychoanalysis and political economy. Rather than making everyone wait for politicians and scientists to create a better future, as was often the case in modernism, post-structuralism encourages every individual to test the possibilities for improving his or her own state.

It must be noted that post-modern mediation between distinct discourses has been applied in post-structuralism more to the various discourses of everyday life than to those of the arts and sciences. For semiotics one can diagnose a rapprochement of post-structuralism with Peircean pragmatism (cf. note 6), both trying to demonstrate how it is possible to get along without code-fictions. However, other traditions, more closely geared towards the social sciences, have continued to develop more or less independently of post-structuralist thinking, such as:

— biosemiotics, which now links genetic code theory to ethology and ecology (cf. Sebeok and Umiker-Sebeok 1992);

— computer semiotics, which connects the theory of sign processes in machines with various approaches to Artificial Intelligence research (cf. Andersen 1990 and Jorna et al. 1993); and

— semiotics of traffic systems, mass media and communication networks (cf. Sless 1978, Rogers and Kinraid 1981, Bijker et al. 1987, Hawkins 1988 as well as Posner 1986 and 1995).

Therefore, there clearly is a future for semiotics after post-structuralism. It comes as no surprise that many post-structuralists reject this type of semiotics as irrelevant. Roland Barthes, for example, wrote in the introduction to the English version of *Elements of Semiology* (1968:9f):

"[...] it is far from certain that in the social life of today there are to be found any extensive systems of signs outside human language. Semiology has so far concerned itself with codes of no more than slight interest, such as the Highway Code; the moment we go on to systems where the sociological significance is more than superficial, we are at once confronted with language."

It seems an irony of fate that Barthes eventually died in a traffic accident (see Henschen 1988). David Sless (198:148) comments this tragic event by asking: "Was his death the result of semiotic transgression? Was he cut down because of an infringement of a code of slight interest with only superficial sociological relevance?"

¹ Controversies regarding the beginnings of the Modern Age, some of which reach back to the Enlightenment or Renaissance, cannot be investigated here (but cf. Welsch 1988 and 1991, Habermas 1990 and Kordylis 1991).

² "Post-modern theorists, from Calinescu via Hobsbawm to Welsch, always stress that no clear line can be drawn between the Modern and Post-modern ages. It can nevertheless be said that post-modern literature is less tense and ambitious, less totalitarian and myth-oriented, less utopian and manifesto-like, less ideological and decisive, less hermetic and dark, less referential and representative, less stylistically pure and based in high culture than the literature of the Modern age. Instead we find playfulness, parodies (which are often thought to criticize the canon), intertextual collage and quotations, genre metamorphosis, mixtures of everyday and high culture, multiple coding on the semantic and sociological levels (in the sense of Gadamer and Jönckes), the autobiographical, the historical, the local and regional, the will to make discoveries, a tendency to be multicultural as well as open, insecure and unclassifiable when it comes to a world view, finally we note a wide variety of styles and opinions" (Lützel 1991:12f).

³ For a list of these authors' major works and their place in history, see Posner 1988.

⁴ For a definition of 'structure', cf. Wunderlich 1971, Poenik 1985:1945ff and Albrecht 1988:192-200.

⁵ This calls to mind a poem by Charles Morris, published around the same time, called 'Scientia', where such things are said not about texts, but about science: "Science deepens all our surfaces / Yet it is but one surface of our depths" (cf. Posner 1981:84).

⁶ A corresponding change of perspective had taken place in other countries by the mid-70's. This is particularly true of Italy, where Eco, in the years between *Open works* (1967) and *The Open Work* (1976), attempted to strike a balance between Saussure's categories and Peirce's semiotic approach (cf. especially *La struttura assente* ['The Absent Structure'] from 1968). It is true too of the former Soviet Union, where Lotman and the Tartu-Moscow School extended their text semiotics (based on a combination of Saussurian semiology and information theory) to include Bakhtin's ideas for a dialogue-oriented semiotics of culture (cf. Bakhtin 1929, 1963 and 1981, as well as Todorov 1981; see also Eisenmann and Grzybek 1994). Instead of proving the unity of literary systems characteristic of different epochs and cultures, and trying to see texts as homogeneous manifestations of a single language, there was an increasing tendency to investigate the multilingualism of culture, and to see each text as a heterogeneous and polystructural instrument for creating meaning (cf. Lotman 1977, 1981 and 1992; see also Fedorov 1993). In the U.S.A., the shift away from code theory and towards the critical analysis of texts took place under the label of 'Critical Theory' (cf. Culler 1981 and 1982). Leaders of the change in thinking include literary theorists such as Riffaterre (1978), Geoffrey Hartman (1980) and Paul de Man (1979 and 1993), as well as philosophers such as Ricoeur (1976 and 1979) and Rorty (1979).

⁷ Cf. the oft-cited assertion by Peirce (1931-36: 2.300): "[A sign is] anything which determines something else (its interpretant) to refer to an object to which itself refers (its object) in the same way, this interpretant becoming in turn a sign, and so on ad infinitum." See Eco's commentary on similar thoughts as expressed by Derrida (1967a) in Eco 1990:34-43.

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FERDINAND DE SAUSSURE AND SEMIOTICS

"The chronology of semiotic inquiry so far, viewed panoramically, exhibits a fluctuation between two seemingly antithetical tendencies: in the major tradition, semiotics takes its place as a normal occurrence inherent in reason, of which, to be sure, language and culture form important components; the minor tradition is disposed explicitly or at least implicitly to focus on *homo sapiens* alone, in consequence of which his semiotic process is seen as directly tied to 'the most diagnostic single trait of man': his language. Let me adduce two sets of contemporary exemplars illustrating these opposite persuasions."

THOMAS A. SHANKS 1979: 8

The father of scientific linguistics was also the author of one of the two programmatic statements proposing a general study of signs. The name proposed for this new field of inquiry in Saussure's statement was "semiology". The first such statement, apparently unknown to and certainly unmentioned by Saussure, John Locke authored in 1690 as the conclusion to his *Essay concerning Humane Understanding*. Locke had proposed "semiotic" as the name for the general study. Both of these proposals are of a very few pages, Saussure's (1916: 33-36) being about three pages in length and Locke's (1690: 361-362) being less than two pages¹.

The authorship of Saussure's statement is somewhat more ambiguous than was Locke's, in that it appeared in print only posthumously, and on the basis of class notes taken between 1906 and 1911 and edited by Charles Bally and Albert Sechehaye with the collaboration of Albert Riedlinger for publication in 1916 as *Cours de Linguistique Générale*. Saussure's proposed name for the general study, "semiology", however, has been traced back to November of 1894 in a note by Saussure himself (Godel 1957: 275), and Naville (1901: 104) reports an earlier version essentially similar to what will appear in the *Cours* in 1916. The full proposal as we find it in the *Cours* is only slightly longer than Locke's earlier proposal, and this is increased slightly again with the added paragraph (1916: 102-103) on how natural signs are to be treated within semiology, namely, through an assimilation to the model of signs as conventional.

Much of the history of the development of contemporary semiotics has taken the form of a contest between these two original designations, "semiotics" as derived from Locke's late 17th century proposal and "semiology" as derived from Saussure's independent turn of the 20th century proposal. Thomas A. Sebeok has the distinction, among many other distinctions, of having been the first to recognize clearly both the fact and the importance of this cleavage for an integral understanding of semiotics and an assessment of its proper possibilities. For despite their common etymological root in the Greek word *σημαῖον* ("semaion") for "sign" (or, more precisely, for "natural sign", since the Greeks had no term for a notion of sign generic to the cultural, especially linguistic, phenomena and the phenomena of nature), and notwithstanding their common recognition that a general study of signs would be a new departure in the organization of human knowledge, the two programmatic statements are radically different.

In Locke's proposal, no definition of sign is given beyond its identification with the means whereby knowledge of whatever sort is acquired, developed, and communicated. Locke frankly admits that, so far as he was aware, ideas along with words had never yet been considered in such a perspective; and he prophetically surmised that, were they to be so considered, we would arrive at "a different sort of Logick and Critick". Despite his use of the pregnant Latin expression "doctrine of signs" as a synonym for semiotic in his proposal, Locke appears to have been mainly ignorant of the principal medieval Latin development of semiotic in the Hispanic world as it had taken place even in his life time (see Deely 1982: Part I, esp. 23-82; 1994a: 53-143).

In Saussure's proposal, by contrast, everything is made to turn on the specifically linguistic sign as the paradigm case for semiological analysis. "When semiology becomes organized as a science, the question will arise whether or not it properly includes modes of expression based on completely natural signs", he says (p. 102). By way of answer, he asserts that, even if the new science welcomes natural signs, "its main concern will still be the whole group of systems grounded on the arbitrariness of the sign" because "signs that are wholly arbitrary realize better than the others the ideal of the semiological process" (p. 103). For this reason, language, "the most complex and universal of all systems of expression, is also the most characteristic"; and linguistics, which takes language for its object, "can become the master-pattern for all branches of semiology". Thus was born Saussure's idea of linguistics and the linguistic sign as *le patron générale* for any general study of signs.

To the linguistic sign, the paradigm for semiological study, Saussure assigns a very precise understanding. It is the arbitrary linkage — that is to say, a linkage unmotivated by any natural connection — of a concept with an acoustical image. Saussure is quite explicit on the point (p. 101): "I propose to

retain the word *sign* to designate the whole and to replace concept and sound-image respectively by *signifié* and *signifiant*." But he is also careful to warn that "If I state simply that a word signifies something when I have in mind the association of a sound-image with a concept," I am making a statement that by no means expresses the linguistic fact in its essence and fullness (p. 169). The signifiant is not a mere sound but rather "the phonic differences that make it possible to distinguish this word from all others, for differences carry signification" (*ibid.*).

This point opens up the true vista of semiological analysis. What is central to the progress of semiology, it turns out, is not the linguistic sign as a positive fact, as if it were an entity in its own right, but, on the contrary, the fact that this sign is held together from without by the oppositions between words — i.e., between linguistic signs. "The entire mechanism of language", Saussure says (1916: 174), "is based on oppositions of this kind and on the phonic and conceptual differences that they imply" (emphasis added). Linguistic value is not the property of a (linguistic) sign (a word) standing for an idea (a *signifié*), it is the system of similarities and differences among signifiants and signifiés which keep the two in linkage despite the absence of any internal motivation for the linkage so maintained.

Here is what is crucial to the linguistic sign: that (p. 172) "in language there are only differences", differences "*without positive terms*" (emphasis added). The linguistic sign, the pairing of signifiant and *signifié*, is indeed something "positive in its own class" (p. 173). But the pairing is maintained by *nothing internal* either to the signifiant or the *signifié*. The pairing is what constitutes the elements of the linguistic (or any semiological) system as such, but the relations among the elements alone hold each element together as a positive unity. The content of the linguistic sign — its signification — "is really fixed only by the concurrence of everything that exists outside it" in the system of oppositions through which the differences — both phonic (*signifiant*) and psychological (*signifié*) — carry the signification.

The logic of similarities and differences thus opened up, applicable to all unities insofar as they consist of an intelligible content mind-dependently linked in social conventions to a sensible expression through a system of values obtaining among the elements so constituted is what proves to be the heart of the idea of semiology. The linguistic sign is the key, but the system of values, and analysis in terms of them as a play of differences, is the vista this key opens.

Despite Saussure's insistence on the primacy not just of language but of language as spoken, further reflections revealed that the acoustic image is by no means the only way a semiological unit can be embodied. As the work of Derrida would later best show, it is possible to substitute for the acoustic

image any similarly mental image, visual or tactile. Nor is the concept the only psychological content that can be paired with a material image as embodiment. It is possible to substitute for the concept an imagination or a feeling. The scope of semiological analysis knows only one constraint: that the elements of the system it analyzes be constituted from without according to a mind-independent relation determined by a community, that is to say, one which knows no intrinsic motivation either on the side of the signifiant or on the side of the signifié. Any sign "linguistic" in this sense will serve as the vehicle for semiology. Thus we can have a semiological analysis of art, architecture, music, and indeed of any cultural phenomenon.

In this way, it is possible to see in Saussure's original proposal two distinct possibilities for semiology, one broad, the other narrow. The broad view is implied in the following text (1916: 33-36, emphasis supplied):

"All our proposals derive their rationale from this basic fact. If one wishes to discover the true nature of language systems, one must first consider what they have in common with all other systems of the same kind. Linguistic factors which at first seem central — must be relegated to a place of secondary importance if it is found that they merely differentiate language from other such systems. In this way, light will be thrown not only upon the linguistic problem. By considering rites, customs, etc. as signs, it will be possible, we believe, to see them in a new perspective. The need will be felt to consider them as semiological phenomena and to explain them in terms of the laws of semiology."

One could argue from this that distinctive linguistic features, instead of providing the paradigm for semiology, merely serve to distinguish language as one among the many other semiological systems.

In the narrow view, however, which Saussure himself more unmistakably championed, "linguistics serves as a model for the whole of semiology, even though languages represent only one type of semiological system" (103). For linguistic signs are of all the phenomena of culture the most arbitrary, i.e., the least intrinsically motivated in terms of the unity of their elements; and the more arbitrary the sign the better the system to which it belongs illustrates "the ideal of the semiological process" (103).

Both the broad and the narrow view enabled by Saussure's proposal for semiology have found protagonists who have carried the possibilities to their utmost extreme. Representing the narrow view has been Roland Barthes. For Barthes (1964: 11), "the world of signifieds is none other than the world of language". Though allowing that language as the linguist conceives of it may perhaps have to be broadened through the perspective of semiology, Barthes

proposes that we must "face the possibility of inverting Saussure's declaration: linguistics is not a part of the general science of signs, even a privileged part, it is semiology which is part of linguistics" (11).

Representing the broader view has been Jacques Derrida with his notion of *Grammatology* (1967) and *différance*, arrived at by destroying Saussure's insistence on the primacy of spoken language in the paradigm for semiology. However, Derrida's central notions are neither as recondite nor as profound as he would try to present them.

Crucial to keep in mind here is the technical terminology of semiology taken over from Saussure by Derrida: *concept* means always *signifié*; *word* means always an arbitrary *sign*, a sign which lacks any internal reason for the connection between a signifié and the signifiant with which it is nonetheless correlatively linked.

Thus, when Derrida says (1968: 11) that "every concept is inscribed in a chain or in a system within which it refers to the other, [i.e.] to other concepts, by means of the systematic play of differences", and that such a play is "*différance*", despite the new word and change in emphasis it signals, we have advanced not a step beyond Saussure. Saussure has already told us (B 117) that the concept semiologically conceived "is only a value determined by its relations with other similar values", and so also for the signifié.

But when Derrida repeatedly tells us that *différance*, the play of semiological differences constituting and carrying the arbitrary significations, is "neither a concept nor a word among others" (11), like the attempted suicide who seems to be seeking death but in reality is crying out for assistance, Derrida seems to be saying something new and profound but in reality is crying out the inadequacy of the Saussurean notion of sign for the general problematic of semiotic. For in saying that *différance* is neither a word nor a concept, Derrida is saying only that it is neither a *sign* nor a *signifié*, which is hardly an exclusive or an exhaustive enumeration of possible subject matters. In fact, it is the notion of "subject matter itself of discourse" that Derrida fails to properly take into account.

If we bear in mind that the *signifié* is only the conceptual part of the sign as a totality whose "other half" is the signifiant, a material image (whether acoustical, as for Saussure, or of some other kind, as the broad view of semiology allows), and if we introduce the point learned from Peirce and Poincaré that the sign as a whole is constituted as such only by a reference beyond itself in either of its foundational parts, then this triadic element — this Third — is what *différance* becomes as a subject discoursed about, that is to say, an object on a footing with all objects in their difference in principle from "things" constituting the physical environment². But to see this is to pass at once beyond the dyadic notion of signification which is the heart of semiology as such, narrow or broad.

Whence again, in saying (1968: 11) "that the signified concept is never present in and of itself in a sufficient presence that would refer only to itself", Derrida is telling us no more that the concept, unlike the word within which it lives, exists so as to make of the word a sign whether or not it — the concept as part of that sign — is also itself objectified; and that the concept, as the foundationally formal part of the word as sign, even objectified remains in its own being a sign outside of and apart from that objectification (is what the late medievals called a "formal sign", i.e., a representation which cannot exist without giving rise to a relation which, over and above the concept as foundation, finds its terminus in an object other than itself).

Tuning from these Saussurean developments, if we compare the history of Locke's proposal for semiotics with that of Saussure's, we have to note right off that Locke's suggestion fell comparatively still born from the press (Deely 1993). Unlike Saussure, who proposed that the general study of signs would be a discipline or science subalternate to social psychology (1916: 34), Locke proposed the general study of signs as an independent science in its own right, co-ordinate with the sciences of nature on the one hand and the sciences of culture on the other hand, as investigating the means whereby knowledge in whatever area is acquired, developed, and communicated. And instead of tying his proposal to one fully determinate and specific type of sign, he made it clear that he conceived that the general notion of sign would have to cover equally internal and external expressions of knowledge, "words and ideas", as he quaintly and synecdochically put the matter (Deely 1994a: 116-123).

Until Charles Peirce read Locke's proposal in the late 1860s, no one had taken it at face value, perhaps not even Locke himself. But Peirce read Locke's outline in the context of his own knowledge of medieval semiotics as it had been developed in the years just prior to Locke's own work. Peirce assigned to the notion of sign right from the outset the notion of a triadic relation in which there are three terms: what we ordinarily call the "sign" but which in reality is but the sign-vehicle and may be a psychological reality as well as an outwardly sensible, material structure; the object signified, which may but need not be also a material reality existing within the physical environment; and an interpretant on the basis of which the sign-vehicle represents its significate to some mind, actually or only virtually.

If we compare this triadic notion of sign to the dyadic semiological notion, we find that precisely what is missing from the semiological model of semiosis is the significate, or object signified — quite another matter than the Saussurean *signifié*, despite the inevitable equivocal translation of Saussure's term (a verbal equivocation which, once thematized, leaves little of distinctive enduring value in the work of Derrida). This semiotic notion of objectivity,

it is true, has yet to be fully developed (Deely 1994: Gloss 2, p. 136). Nonetheless, by opting for an irreducibly triadic model, Peirce picks up the ancient and medieval notion of a "semiotic triangle" which was common to ancient Greek and medieval Latin analyses, despite their many other differences (including the ancient restriction of signs to natural phenomena). In Peircean terms, the Saussurean or, more generally, semiological notion of sign is hopelessly deficient on several counts for developing any general science of signs. To begin with, the signifiant corresponds more or less to the sign-vehicle, but the *signifié* corresponds only partially to the notion of interpretant, and the notion of object signified is entirely wanting in the scheme.

In fact, the Saussurean terminology on this point has led to no end of confusion and analyses at cross-purpose. For the only plausible translation for *signifié*, Saussure's technical term for the concept, is significate or signified, whereas a concept is not what is meant in principle in any of the major semiotic writings by the term *signatum*. The signified or significate has always been the *object* of some signification, be it the signification of a concept or the thence derived signification of a linguistic expression (written, spoken, or gestured). Derrida's *différance* may well be and indeed is no word or concept on Saussure's terms, but it is indeed an object in the semiotic sense, as is anything signified, whether through language or through any other manifestation of semiosis; for an object is what anything, physical or psychical, becomes when and insofar as it is discoursed about or apprehended in any way.

Similarly, the semiological insistence on systems of signification held together without any internal motivation binding their elementary units, while claiming an etymological derivation from the Greek notion of sign, in fact is the polar opposite of the ancient notion of *σημαίον*. For while the ancient notion did not extend to cultural expression, so, inversely, the semiological notion precludes natural signs in the intrinsic motivation which constitutes them properly as such. From this point of view, semiology is less a genuine move in the direction of a general doctrine of signs than it is an importing of the perspective of modern philosophy into the field of semiotics. Semiology in this regard is what semiotics would be if it were reduced to a consideration of signs compatible with the idealist epistemologies of classical modern philosophy, according to which knowledge of nature in its proper being is precluded. Semiology, in short, in spite of the rhetoric and pretensions of its main contemporary practitioners, is not at all postmodern but rather a last frontier of modernity; but semiotics is determinately postmodern, and may be said to provide the positive content for the notion of postmodernity (cf. Santaella-Braga 1994) as adversative to the modern epistemologies still essentially at play from Saussure to Derrida.

For semiotics, in Locke's programmatic statement and in its medieval emanation from Augustine no less than in Peirce's contemporary proposals, precisely began from a general notion of sign respecting which natural and cultural signs, including language, are but species. In medieval terms, Augustine's original definition of sign as necessarily accessible to outward sense was criticized as too narrow, for excluding the "passions of the soul" which also serve to perform the essential sign-function of making present objectively that which they themselves are not. Semiotics in its major developments criticizes Saussure's definition of sign as similarly too narrow by excluding in natural signs that which is proper to them, namely, a mind-independent, or intrinsically motivated, relation to the object signified. For semiotics, in short, whether we consider the irretrievably dyadic character of the semiological sign or whether we consider the need for a general notion of sign to be superior to the division of being into natural and cultural, the semiological perspective simply will not do. It fails (at worst) as hopelessly inadequate to the problematic which semiotics sets itself or (at best) as irredeemably restricted to one part of the semiotic field, namely, the part occupied by phenomena of culture considered in contrast to nature. Semiotics, by contrast, insists on seeing nature and culture as compenetrative. Whether semiology be broadly or narrowly conceived, it transforms the project of a general theory of doctrine of signs by inappropriately anthropomorphizing the problematic. If the original Latin notion of sign as taken up again by Peirce (see Beuchot and Deely 1995) is anywhere near right, then semiology is less a proposal for a general study of signs than it is a Procrustean Bed for such a study.

Peirce, we think⁵, latched on to the idea of semiotic through his reading of Locke's original proposal, and he fleshed it out with all the knowledge at his disposal in accord with an "Ethics of Terminology" which he was the first to thematically formulate⁶. Saussure arrived at his proposal for semiology independently, and he bound it fast to his conception of the linguistic sign or, more broadly, the sign as *arbitrary* in contrast to any Greek *σημαίον*. Still, it is not without interest that these two thinkers so disparate took up at almost the same time the idea for a general science of sign, even though their conception of the project was so incommensurable. Saussure's proposal was an immediate success, and swept Europe. Paris lent its prestige to the notion, and the English literary outlets followed suit. Peirce's attempt to implement Locke's proposal met with no such immediate success. Yet the last twenty-five or so years have seen a gradual reversal in the dominance of the two terms "semiotics" and "semiology" (see Sebeok 1971, and "Pars Pro Toto" in Deely, Williams, and Kruse 1986: vii-xvii).

In the popular consciousness of many, as even among some researchers today, the two terms "semiotics" and "semiology" are deemed rough synonyms; but, as we have seen, this is anything but the case. Indeed, Sebeok's harsh denunciation of Hawkes' attempt (1977: 124) to equate semiotics with structuralism applies no less to every assumption of a synonymy of terms between "semiotics" and "semiology" (Sebeok 1984: 1): "Nothing could be a more deluded misconstrual of the facts of the matter." Saussure's programmatic statement laid out too narrow a foundation for the project it proposed. Saussure's proposal belonged definitively to the twilight of the epistemological paradigm of classical modern philosophy.

By contrast, by effectively resuming at a new level the work of the Latins synthesized in Poincaré's epochal *Tractatus de Signis* which anticipated Locke's envisioned transcendence through a *doctrina signorum* of the opposition between natural and cultural being (between *Natur- und Geisteswissenschaften*; or between "realism" and "idealism" in philosophy), Peirce's implementation of Locke's proposal transcended the divide between modern and medieval, even as the sign itself transcends the divide between nature and culture⁷. Semiotics does not fit the modern paradigm. It rejects that paradigm in its initial insight into the being proper to signs, at the same time that it captures again the heritage which was definitively rejected by modern philosophy as claiming the impossible, namely, the possibility of a knowledge of natural phenomena in their proper being from within human experience. Semiology is ultramodern, but semiotics is postmodern from the start.

Yet if we look on Saussure's idea for semiology not as a project rival to semiotics but, more modestly, as a partial contribution from within the limits of a modern epistemology to a broader project which, precisely, transcends those specific limits, then it may be said that Saussure contributes to semiotics a deepened understanding of the species-specifically human linguistic system (the foundational species-specific component of anthroposemiosis), even though he fails to bring this understanding under the rubric of a general theory of signs as he hoped might be possible. For achievement of the hoped-for possibility, it turns out, a larger and deeper understanding of the sign proves necessary than semiology can allow while remaining itself. Saussure's proved an abortive proposal, yet it helped create the climate and interest in which the deeper and fuller problematic of semiotic could take hold in the contemporary intellectual consciousness. How linguistics as Saussure conceived it will finally be assimilated to that problematic remains to be seen, but it will certainly not be in the way that Saussure or any of the principal semiological authors so far have envisioned. As Sebeok best forewarned (*loc. cit.*), "the speciousness of this and associated historical deformations are due to our own inertia in having hitherto neglected the serious exploration of our true lineage."

¹ The text of Locke's original programmatic statement has been recently reproduced photographically from the first edition of his *Essay* in: Deely *et al.* 1986: 3-4; Deely 1993; and Deely 1994a: 112.

² As Peirce pointedly summarized (1632, 270/59-271/7): "differences of things as things are quite other than the differences of things as objects and in the being of an object, and things that differ in kind or more than in kind in the one line, can differ in the other line not at all or not in the same way... And so, seeing that the rationale of a sign pertains to the rationale of the knowable [the line of thing as object], because it substitutes for the object it will well be the case that in the rationale of object a mind-independent natural sign and a stipulated mind-dependent sign are univocal signs, just as a mind-independent being and a mind-dependent being assume one rationale in their being as object, since indeed they terminate the same power, namely, the power of understanding, and can be attained by the same habit..."

³ It is actually difficult or impossible to actually prove this, as I discovered in doing the research for my new book, *Why Semiotics?*

⁴ I have reproduced Peirce's "Ethics of Terminology" as an Appendix in Deely 1994: (73-174).

⁵ From 1632: "What a relation is according to the way being must be expressed in discourse and according to the way it has being, what a transcendental relation is and what a categorial relation is, has been explained in Articles 1 and 2 of our Second Preamble concerning Relation. And we speak here of ontological relation — of relation according to the way it has being — not of categorial relation, because we are discussing the sign in general, as it includes equally the natural and the social sign, in which general discussion even the signs which are essential artifacts — namely, stipulated signs as such — are involved. And for this reason, the rationale common to signs cannot be that of a categorial being, nor a categorial relation, although it could be an ontological relation, according to the point made by St. Thomas in the *Summa Theologiae*, I, q. 28, art. 1, and explained in our Preamble on Relation — in wit, that only in the case of these things which exist toward another is found some mind-independent relation and some mind-dependent relation... which latter relation plainly is not categorial, but is called a relation according to the way relation has being (an ontological relation), because it is purely a relation and does not import anything absolute." See the extended discussions at 141/12-142/13. And for a general gloss of the main point (that the sign transcends any division of being into *esse reale* and *esse rationis*), see Deely 1977.

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THE IDEOSCOPY OF SEMIOSIS

It is clear today that Peircean studies have greatly expanded in the past twenty years or so, and it is no less obvious that one of the most eager and earliest path-breakers of semiotics, Tom Sebeok, has had something to do with this phenomenon. However, such success entails that it has become increasingly difficult to keep track of the arguments justifying one's use of the whole theory as well as of some of its fundamental concepts. I would like to focus this paper on the notion of interpretant, which is to be distinguished from that of the interpreter and of the process of interpretation itself, with a view to showing what I consider to be their correct application in semiotic analysis. Sign analysis will here be claimed to be best approached from the viewpoint of phaneroscopy — knowing that the phaneron is general, being what is present at any time to any mind (an obscure notion, to say the least, though most interesting) — because this appears to be the context closest to the observation of (the life of) signs, not so much in their individual, *ad hoc*, psychological appearance, but as culture-determined vehicles of significance, capable of representing their own purpose and ultimately truth, a truth that can only be approached by stages, by deductively and inductively cross-checking its ulterior interpretations within the scientific community. The logical, inward nature of the phaneron will be examined in contrast with the psychical, outward nature of the percept, both being postulated as conditions of possibility of the occurrence of a sign (which I find useful to normally differentiate from the *representamen*, even though it is true that Peirce rejected the latter by the end of his life, around 1908, for supposedly aesthetic reasons).

At this stage of development of Peircean theory, it appears to me that one should insist again on the validity of Peirce's classification of the constituents of semiosis and of the sign, according to the ten viewpoints enumerated in one of his letters to Lady Welby.

The principal references to Peirce's works will here be made up of his third and last paper of the pragmaticist series, published in *The Monist* in 1906 (vol. 16, pp. 492-546), and entitled "Prolegomena to an Apology for

Pragmaticism" (see, also, *Collected Papers*, 4.530-572); some letters to William James (in particular 8.314, March 1909) and to Lady Welby (published in the 8th volume of the *Collected Papers*: 8. 254-7; 8.261; 8. 265; 8. 281-4; 8. 303-4; 8. 313-4; 8. 327-34); 8. 342-379).

Preamble

Semiosis is not simply a general phenomenological process of determination of a sign by its dynamical object that triggers off an interpretant sign of their relation. It is not simply a logical process that leads an interpreter from his/her perception of a sign to an interpretant that reveals the link between that sign and what the interpreter assumes is its object. Though semiosis, yes indeed is such a process, it also happens to take place in a particular context which makes it necessarily singular, unique, somebody's semiosis, not semiosis in general, and even less a phaneron.

Peirce defines the *phaneron* as the sum total of what is present to my mind, to yours, to everybody's, not only at this particular time but at all times. It thus must be understood as being general, so very general that it is incompatible with the slightest touch of humour. In my usage of the word, it is analogous with the reality that underlies the norm, ensuring its continuous presence across time and space, somehow akin to man's certainty that somewhere there exists some truth or some real cognition, that justifies our efforts to communicate in spite of our regular failure to capture what others want or have to say, or, worse, want to tell us in particular, making the failure even more difficult to bear. The phaneron is that presence of our mind to the world which makes us participate in the game of communication on a general level. It is the certainty that somehow something general resists, in spite of our ordinary pessimistic observation of myriads of gaps in the communication chain.

With the result that the sign is thus — thankfully — not doomed to be so personal that it could neither be mentally shared nor transacted, as most signs have enough generality in them to be considered as goods, sellables, in spite of the fact that their value is, strictly speaking, impossible to assess. I shall take one instance of a very trivial sign whose commercial value is obviously null. It concerns a visual perception I had from my arm-chair as I was thinking about this paper. I could see the top of some fairly distant block of flats. At some point, I started realizing that this was giving me a sense of comfort, because these flats were far enough not to disturb my privacy, but close enough to look protective (which constitutes a rather paradoxical situation). The significance of what I sensed to be a sign was, that particular day, the very value of that sign. It was both part of whatever certainly depends on laws and habits that

characterize me as a singular individual, and also totally unique in having occurred at such time and place for me only (nobody could see this exactly as I was seeing it from where I sat), as an element of my own experience, that palpable chain of events in which we play a part (maybe two parts, as both agent and patient) and which anchors our interpretations in the real.

Now being conscious of looking for what to say, and how to say it, was making me critical and analytical. With the result that this trivial event became the very target of my inquiry. From that moment onward, the whole set-up was modified, self-control and my intention to explain why my attention had been caught by my environment triggered a systematic probe into not so much the immediate context of the sign (I should say the *had been*-sign, the past sign), but rather into my personal story and universe of discourse, something which would probably not have happened had I not been looking for some easy illustration of the concept of sign. From that time anyway, that sign had to bear a real transformation into a *representamen* endowed with the function of representing something other than itself, namely its object.

This simple situation is familiar to the language teacher, who is required to initiate his students to accepting the double aspect of language: both as saying something (what the utterance means), thus representing something else, its object, and behaving like a sign; but also as presenting some patterns (whether phonological, or syntactic, or semantic) of interest to linguistic theory, and in that sense being one of the representaments of the language. This ambiguity is constantly plaguing the language class, as a great number of the students are only attracted to the former aspect.

The production of a sign: a phenomenon

In Peirce's presentation of his system of Existential Graphs, (4.430-1), there is the idea that the diagram that will be drawn on the sheet appropriated to a particular purpose will be meant to express an *assertion*, in other words a *proposition* "which the act of writing is to assert" (4.430).

Knowing that Peirce claims to be a realist, it is at first view perhaps a little strange of him to state that our assertions are about an "arbitrarily hypothetical universe, a creation of the mind" because our only concern, as researchers and scientists, should be "necessary reasoning". So, in order to go beyond this first impression, it may be useful to examine more closely what he meant by this. Necessary reasoning consists in the fact that the conclusion will be true, so long as the premisses are true, "howsoever the universe may subsequently turn out to be determined." (4.431). If only what actually exists is entirely determinate, logical necessity "consists of something being determinately true of a universe not entirely determinate as to what is true, and thus not existent." (*Ibid.*).

This conception, according to me, is a regular goldmine for the linguist or the philosopher of language who might be interested in solving problems of enunciation, and it may happen to be one of the deepest thoughts we can find in the whole of Peirce's writings. It finds its best formulation in the following passage (*Ibid.*):

"(...) we may imagine that there are two persons, one of whom, called the graphicus, creates the universe by the continuous development of his idea of it, every interval of time during the process adding some fact to the universe, that is, affording justification for some assertion, although, the process being continuous, these facts are not distinct from one another in their mode of being, as the propositions, which state some of them, are. As fast as this process in the mind of the graphicus takes place, that which is thought acquires being, that is, perfect definiteness, in the sense that the effect of what is thought at any lapse of time, however short, is definitive and irrevocable; but it is not until the whole operation of creation is complete that the universe acquires existence, that is, entire determinateness, in the sense that nothing remains undecided. The other of the two persons concerned, called the graphist, is occupied during the process of creation in making successive modifications (i.e. not by a continuous process, since each modification, unless it be final, has another that follows next after it) of the entire graph." There must also be an interpreter, "since the graph, like every sign founded on convention, only has the sort of being that it has if it is interpreted; for a conventional sign is neither a mass of ink on a piece of paper or any other individual existence, nor is it an image present to consciousness, but is a special habit or rule of interpretation and consists precisely in the fact that certain sorts of ink spots — which I call its replicas — will have certain effects on the conduct, mental and bodily, of the interpreter." (*Ibid.*)

We see that such a theory goes far beyond the dualistic and semiotically static approaches of *théories de l'énonciation*, which only find room for an utterer and a co-utterer, each being an image of its own enunciative role (not one of the actual persons involved in the communication process). Instead of a mere abstract dual *unity* (which may occur in the same person), we now have a *graphicus* who is said to be active, in the sense that he creates the universe rather than he lets himself be determined by it, and he does so in that frame of mind that Peirce proposed to be called *musement*, (see "A Neglected Argument for the Reality of God, 6.452-465), which consists in not breaking the continuous flow of our thoughts (as long as these thoughts are a-critical). Musing is a play between observation and "the give and take of communion between self and self" (6.459):

"Enter your skiff of Musement, push off into the lake of thought, and leave the breath of heaven to swell your sail. With your eyes open, awake to what is about or within you, and open conversation with yourself..." (6.461)

This lyrical piece may not be awfully good literature, but it is an excellent introduction to a theory of *énonciation*! Thus the musing play of the graphicus's mind is arrested into a line of discontinuous signs by the graphist (his other self), who already exerts some influence on the course of events (the sign that now seems to be launched into life to be caught by some passing mind, that of the interpreter, who may also happen to be the same person). By catching the facts that spun the fabric of the continuous development of the Graphicus's ideas, the Graphist necessarily modifies, transforms them into discontinuous data, which are the constituents of the assertion.

The concept of interpretant

The triadic and trichotomic divisions of this part of our access to the universe of thirdnesses (laws, thought, mediation, interpretation) are puzzling to many, peircean and non peircean. It seems that they remained a challenge to Peirce himself till the last years of his life, at least for one of them (but I am not sure whether this is such a reassuring piece of information):

"I confess that my own conception of this third interpretant [here Peirce is referring to the Final Interpretant] is not quite free of mist." (4.536, 1906).

In order to deal with actual semiotic data, one must take into account the human aspect of semiosis: after all, something becomes a sign only because somebody's mind was agreeable to it. Otherwise, all that remains is the uncertain promise of a perceptual judgement which, properly solicited, eventually develops into an abductive inference. Lo, thus would begin another series... It is then imperative, I think, to recall, at least in the form of a methodological premiss, the fact that if a sign can be classified, labelled, identified, it is mostly because it has been an actual sign for an interpreter. In that case, the description is triadic, which means that one of the ten classes of signs should be appealed to by the analyst. Now does this imply that the procedure should necessarily be empirical, *ad hoc*, based on observation and generalization in the laboratory? Not at all: this is much too inconvenient in the human sciences, and the expression of a law can never be the result of observing any number of cases, be there-

very many. The best way of identifying general types of cognitive behaviour is by inductive reasoning: however the law will remain to be tested in secondness, i.e. checked on actual subjects. But it will not be declared valid until both stages are properly gone through.

My reason for saying this is that I now explicitly reject a certain kind of analysis I have seen conducted since the seventies, which consists in using the table showing the nine types of possible signs (giving birth to the ten classes of signs) and assiduously filling each slot (qualisign, sinsign, legisign; icon, index, symbol; rheme, dicisign, argument) with content data issuing from a given text (prose, poetry, film for instance). I can understand part of the point when the table has some heuristic value, for instance in the classroom, by synthesizing elements of the discussion about a text into a table that gives an economical view of it and of its categorial variety. But this is far from providing an approach of actual semiotic activity: it can only serve *a posteriori*, once all the arguments have been developed by teacher and students, as a summary of such activity.

I think the best approach has been delineated by Peirce himself in some of his letters (or drafts of letters) to Lady Welby: I mean the ten respects which determine the chief divisions of signs (8.344). The method is clear: if one wants to give a full coverage of one's object of study, it is best to systematically explore these ten viewpoints, each in turn yielding a trichotomy of descriptive concepts. Once the analysis is over, some of the results generally appear more adequate and satisfactory relative to the objective pursued, more forceful, more interesting than others, but at least one can then be convinced that all possible side aspects have been duly examined before any conclusion is proffered.

The ten viewpoints of interpretation

1. Considering a sign can be present in the mind in several different ways, the interpreter will see it (not in the perceptual sense of the verb!) as an appearance, or an individual, or a law. The semiotic concepts used in order to describe the phenomenon will be that it is a tone, or a token, or a type. Of course, lots of other words can be used, but I have a preference for those suggested by Peirce himself when dealing with linguistic data.

2. The immediate object of the sign is also presented to the mind in different guises: as a mere idea, or as brutally requiring attention, or as addressing our intelligence (8.349). These modes will owe the signs involved to be called descriptive, or denominative (or designative) / and distributive (or copulant).

3. The mode of being of the dynamical object of the sign can be a possibility, an occurrence, or a collection. In each case the analytical description of the sign will see it as abstractive, or concreative, or collective (8.366).

4. The examination of the dyad formed by the sign with its dynamical object will lead the analyst to see the sign as an icon, or an index, or a symbol.

So far, I have chosen to deal with one dimension at a time, and two in the fourth viewpoint. We now come to what is specific of semiotics, as opposed to semiology, and that is the taking into account, in analysis, of the third dimension, that of the interpretant. Such data appear only in semiosis, when an actual subject ends the process launched by the *graphemata* and partially seized by the *graphist*, i.e. when a subject actually interprets the would-be of the sign.

5. The most basic interpretant is the immediate interpretant. Such interpretant is presented in the sign in a certain way: it is either hypothetical, or categorial, or relative (or significative) (8.344).

6. The second type of interpretant is actual and thence called dynamic: its mode of being may be expressive of sympathy, shock or habit. The sign is correspondingly either congruent, or percussive, or usual.

7. The sign itself is pragmatically related to its dynamic interpretant and can appeal to it in three different ways: by being suggestive, imperative, or indicative (performative).

8. Depending on what purpose is pursued by the final interpretant, the sign can be gratific, or it can be made to produce action, or it is viewed as a rule of production of self-control.

(I tend to think that such tables as I was referring to earlier are of this type).

9. That viewpoint is dual: either the sign is simply *perceived*, or it is properly *interpreted*, the interpreter being conscious of *doing* something, in a more or less controlled way, but at least is he alerted to exerting some critical part in the play.

— If the sign is merely caught in relation to a normal interpretant: it will either be a seme, or a rheme, or a delome.

— if the sign is interpreted by the interpreter as bringing him information, depending on what the sign has to offer, it will be considered as a rheme, or a dicisign, or an argument.

10. The last viewpoint reveals that the reasoning has been led systematically from the sign to its object with the help of the interpretant. Whatever the outcome of semiosis, it will either have been approached through the

assurance of instinct, or of experience, or of form (8:374). Leading the process to its end enables the analyst to classify it into one of ten classes (to take just that one relation between the sign, its dynamical object and its final interpretant: (S-Od) 1f).

It should be quite clear that these ten viewpoints are never co-occurring with actual semiosis: they all are abstract and general standpoints useful to the semiotician who wants to check the workings of such or such item on some audience or another.

Conclusion

My contention is that semiotic analysis should be founded on phenomenology, as indeed Peirce insisted that it should, knowing that a percept is the immediate object of a thought, itself a sign, provided it be interpreted into a perceptual judgement, itself the first premiss of an abductive inference, the latter being one of the lowest but essential forms of reasoning in the scientific and artistic processes of discovery.

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PUTTING THE BODY BACK IN THE MIND (SIGN)

This paper attempts to illustrate that the Peircean *self* (or mind) is an embodied *self* and that the sign is no sign at all — in the human sense, that is — without the *self*.

I. Our vain individualism

I begin with a Peircean triad, *feeling-volition: cognition*. Feeling is Firstness, quality. Volition is dual: force and resistance, agent and patient, *self* and *other*. It is the result of interaction between the *self* and the "real," which gives rise to dyadic consciousness of ego and a non-ego (CP:1.334-35). Cognition, Thirdness, is the process of mediating between feelings and volitions. This involves enacting a *conjunctio oppositorum*, so to speak, uniting signs and that to which they relate, *self* and *other*, intuitive assumptions and appearances, ideas and their negations.

As Peirce metaphorically puts it: "Position is first, velocity or the relation of two successive positions is second, acceleration or the relation of three successive positions third" (CP:1.337). The analogy is apropos. Position implies that which is as it is, without any necessary relation to anything else. Velocity is continuous change, but there is merely change of position. In contrast, acceleration is continuous change of change; both position and velocity undergo successive and continuous alteration. Feeling, volition, and cognition as First, Second, and Third correspond to Peirce's tripartite sign. The representamen (what in semiological or Saussurean parlance goes as the sign) is immediate. That for which it stands, the object, is other than the semiotic *self* and subject to volition. And the idea to which the representamen gives rise is its interpretant (roughly, its meaning), which entails cognitive activity.

Since the object of the sign is not a "real" but a "semiotically 'real' object," it can be none other than the object of another relation of which the first relation becomes the sign's interpretant, and that interpretant becomes another sign related to its object, which is now something other than what it

was. In this manner, an endless train of relations can be conceived to have some "absolutely real" object behind it as a limit, though it can at best be no more than approximated. In other words, the sign — as position, as First (feeling) — relates to the "semiotically 'real' object", which is pushed along the rail of Secondness (volition) by the incessant transmutation of interpretants into other signs. And the interpretant as mover (Thirdness, cognition) accelerates, like the expanding universe bringing about the "red shift" phenomenon, toward an ideal limit.

In another way of stating the relationship, feeling, possibility, a *might be*, is not adverse to *vagueness* and *inconsistency*. With regards to language (symbolic signs), the Firstness of possibility is most adequately exemplified by a predicate (icon) — qualifying term or word as attribute, property, characteristic — whose self-sufficiency and self-containment leaves it wrapped up in its own self-referential and self-contradictory "egocentricity", so to speak. Volition, the *is-ness* of things, is the action-reaction give-and-take of the *self* in incessant dialogue with its own inner *other*, its social *other*, and its *other* of its physical world. Volition is incorporated in the subject (index) — term or word as name or sign that indicates (indexes) something or someone in the "semiotically real." Cognition, probability, a necessary *would be* or *should be*, is, as *generality*, invariably *incomplete*: it never ceases to exercise an obstinate push toward the Cartesian ideal of objectivity and Truth, though it stands nary a chance of actually getting there. Yet this push is what makes us most human, for cognition is properly embodied in propositions, sentences, or utterances, whose task is that of offering themselves up to arguments, texts, narratives ultimately yielding *intertextuality*, that web of signs that puts us most closely in tune with the very process of *semiosis*. In short, from "position" to "velocity" to "acceleration", signs cannot help but reach out to other signs, interrelate with other signs, become translated into other signs, within the ongoing flow of *semiosis*.

The point I must emphasize is that, within this *semiotic* flow, the semiotic *other* is created by the passing of sign into interpretant, interpretant into sign, and the *self* of one moment into the *self* of another. The radical absence of the *self* from its *other self*, its "internal" *other* — semiotically evidenced by "shifters" — creates not stable but restless signs incessantly sliding along the slope of signification. This apparently renders any timeless identity of the *self* impossible. For the *self* cannot be itself, but only what it was *not* during the moment past, and what it *not yet is*, what it *will have been* in the future moment. So how is it possible to identify that "internal" *other*, which is at the same time "outside," absent, alien?

Pierce observed that, regarding volition, there is a difference between intentionally willing, say, a muscle to contract, and the passive and uninten-

tional volition that produces a shock of surprise as a result of an unsatisfied expectation, which results in a sense of externality, of the "real" of Secondness, of the *other* (CP:1.334). This *other* is aggravatingly elusive, however. Regarding the sign triad, the interpretant is acknowledgment of the *other* by way of mediation between representamen and object. But since it becomes another representamen whose interpretant becomes yet another one, *ad infinitum*, its self-identity incessantly conceals itself, and, as Derrida (1974:49) says of the signified, it is always on the move from one moment to the "deferred" next moment, and from one manifestation to another, "different" manifestation. The *other* to which consciousness points via the interpretant is never fully present, though its presence is always felt since the "real" presented by signs in terms of some "semiotically real" world or other remains as fugitive alterity and absence. The "real" conceived as *other* is in this manner resistance, surprise, a subversion of exteriority against the self-conscious *self*.

But this sense of exteriority, of the presence of a non-ego, is not merely a sense of the world "out there." It is the product of the dialogic "I-me," the "me" resting tenuously between the "I" and the "it," that is, the "real." When the relatively mature *self* is thinking, the "I" uses signs by means of which to persuade the "me" that something or other is the case. In this activity:

"a person is not absolutely an individual. His thoughts are what he is "saying to himself," that is, saying to that other self that is just coming into life in the flow of time. When one reasons, it is that critical self that one is trying to persuade, and all thought whatsoever is a sign, and is mostly of the nature of language. The second thing to remember is that the man's circle of society (however widely or narrowly this phrase may be understood), is a sort of loosely compacted person, in some respects of higher rank than the person of an individual organism." (CP:5.421)

The immediate "I" as First (icon), refers to the object (index) or that which is the object of persuasion, in addressing itself to the interpretant (symbol) which is in the process of "coming into life in the flow of time." And the interpretant in turn becomes itself a sign with its own object (CP:2.274). In other words, the "I" or more immediate *self* is itself split. There is the interpreting "I" (First) as subject and the "I" (Second) as object of interpretation. The first "I" distinguishes itself and the sign from the process of interpretation; the second "I" becomes one with the *semiotic* process. The first project, an impossible dream, is destined to remain incomplete, since there is no immediacy, only mediacy, of the "I's" perception and conception of the *other*, hence the "I" is not genuinely autonomous. The second project, a fail-

chasing dog game, is equally pathetic, for the "I" cannot know itself as *it is*, but only mediately, as *it was* during past moments.

The upshot is that there is no pure "I" or *self*. No sign — or *self* — is an island, an entity unto itself and absolutely autonomous. We, as signs, are thoroughly embodied, and we are socialized. The "I" addresses itself to its *otherness*, but part of that *otherness* is that which is emerging and that into which the "I" is merging: the "I" is incessantly flowing into that *otherness* of which it is a part of and apart from. For, to repeat Peirce's words, "a person is not absolutely an individual", and at the same time, a person's "circle of society" is a sort of "loosely compacted person". Yet, our impoverished individualism is masqueraded about, bloated by our vanities, kept afloat by our modernist obsession for control, and in our postmodern milieu, it is frocked with high tech glitter and glitz. Yet all the while we continue in ignorant bliss, generally oblivious to our radical dependence on *our otherness*, for "the selfhood you like to attribute to yourself is, for the most part, the vulgarist delusion of vanity" (CP:7.571).

The artificial condition of this radical *self/other* duality compelling the *self* to become an artificial autonomy (immediacy, Firstness) is false to itself. The *self* actually remains inextricably linked to a community (mediacy, Thirdness, generality). For Peirce, "a person is not absolutely an individual" in one sense that the *self* engages in constant dialogue with its *other self*, and in another sense insofar as the *other* is the social *other*, with its host of prescriptions and proscriptions. This is not to imply that initially the individual *self* was not socialized and then at some point socialization became a fact. The *self* is always already embedded in a context — first the body, then the community or "semiotic world" as a system of signs. Consequently it is also embedded in itself, the *self* that speaks "to that other self that is just coming into life in the flow of time" (CP:5.314). In this sense the *self*, as a sign among signs, is a composite or conglomerate sign, a text. From Peirce's belief that every thought requires a relation between the thought and something else of which one is conscious, since the content of consciousness as well as the *self* is not immediately intuitive but the result of inference, and since the object of such an inference is itself an inference, it follows that the *self*, consciousness, and the mind, are all signs¹.

At the outset it is difficult, if not well-nigh impossible, to come to grips with this "Man = Sign" equation, Peirce observes, because we persist in identifying ourselves with our will, with our power over our physical being². But our identity entails the consistency of both what we do and think, and what we say we do and what we actually do. As the consistency between the physical and the (inferred) *self* of consciousness approaches the ideal, intelligent character is enhanced, and inasmuch as it is enhanced, knowledge of the

"real" stands a chance of at least approaching the ideal, whatever that may be. But, once again, the individual is no more than the repository of "ignorance and error," for knowledge enjoys merely potential, not "real," existence, which is dependent upon the collective thought of the community. And this individual, "since his separate existence is manifested only by ignorance and error, so far as he is anything apart from his fellows, and from what he and they are to be, is only a negation" (CP:5.317).

Now, what has all this to do with the central theme of my modest essay? *Everything and nothing*. *Nothing*, because the *self*, as no more than a bundle of signs, as a conglomerate symbol, loses itself within the universe of all signs: its ersatz individuality is at most a pale reflection of its signs, of all signs. Signs — the *self* included — are granular only during the ephemeral moment they have emerged from the *semiotic* soup as signs for some semiotic agent or other in some respect or capacity. Then they sink back into the continuum from whence they arose. And *everything*, for signs, meanings, and minds mediating between them and some "semiotically real" sphere or other, are ultimately one and indivisible. The something of individuality is at the same time *nothing and everything*, depending on our way of taking it.

That much written, it becomes quite apparent that if author-interpreter, ego, *self*, are all signs, then they are their own interpretants, which calls for concession to the idea of...

II. The author-interpreter (with) in the interpretant

Ironically, the "negation" Peirce speaks of is indirectly affirmative, much like a Socrates negation, "I know that I know not." The individual may think she knows, to be sure, but this felicitous, Edenic condition self-destructs in Peirce's conception of things. Innocence becomes knowledge solely after this individual has been expelled, or better, when she has expelled herself, from Paradise, and consequently what she knew becomes relegated to a cloud of unknowing. Learned ignorance ultimately rules.

This transformation from knowing (thinking) one knows to the knowledge that one know not is the fruit of dialogic interaction. It is somewhat comparable to Hegel's law of inversion, the beginning of the master-slave dialectic: "inner" and "outer" arise when the *self* distinguishes itself from itself by pushing itself into, and then away from, *otherness*, that which had hitherto remained alien. It is Freud's original schism at the enlightening *Fort/Da* moment, the mirror-stage, exploited by Lacan to the *nth* degree. It is Borges's "I" and "other," or Beckett's schizophrenic "I am I" and "Everything divides into itself." Yet all these images remain incomplete, for it is also circularity,

which is vicious or virtuous depending on the perspective, like Escher's hand drawing another hand which in turn draws the first hand, like Bach's "Endlessly Rising Canon", or like a Gödelian sentence that bears witness to its own inadequacy. However, it is not only disjunctive; it is, quite paradoxically, at the same time conjunctive. It is Nietzsche's or Walt Whitman's "Every name in history is I". It is the utmost of *generality* (everything) and at the same time the most primitive of primitives (nothing, utter *vagueness*).

This interaction between *everything* and *nothing* is the most alienated — de-personalized in Emile Benveniste's (1953) conception — of "shiflers" in the progression: "'I-me' ↔ 'you-he-she' ↔ 'it'": "I-me", "you-he-she," and "it" are more than mere indices. They are, as Peirce terms them, "de-generate" counterparts of genuine symbols³. Partly to largely arbitrary, symbols, unlike their forebears, demand the most extreme form of "inner/outer," presence/absence, and this/other. Yet their very existence is derived from the initial act of acknowledging some sort of other of severance between *this* and *that*, the "I" and the rest of the universe — Peirce's "cat", G. Spencer-Brown's (1979) "mark of distinction", Gregory Bateson's (1972) "difference that makes a difference". Benveniste's categories eventually follow, and from there, genuine symbolicity emerges.

Symbols in the form of language should be for us the most foreign of sign forms, given their indirect, conventional, nonconcrete linkage to their objects and to other signs. But they are not. We are, of course, obsessed with language. We lionize it as the Alpha and Omega of communication, that which makes us distinctively human (*via* "logocentrism"). But we are actually quite deluded. Language's very nature is deceptive. As marks or sounds, linguistic symbols are apparently able to maintain their aloofness, their alterity, their "itness", and as subjects we presume the capacity to remain detached, properly appraising their objectivity as well as the immediate presence of the physical or mental semiotic object to which they refer. But that aboriginal severance between "I" and symbol — and by extrapolation, between mind and body — was never absolute: at their extremities the conjointness of the two somehow manages to endure. Symbols and their meanings are not simply something *other*: *they are in us as we are in them*. In the Peircean scheme of things there is no primacy of any given sign form, and this includes the semiotic agent as herself a sign. Although we obstinately persist in exercising some sort of hegemony over our semiotic world — as we presumably do of mind over body — in the final analysis, of our presumed grounding signs we are made and to those baser signs we shall return. Sign emitters and interpreters compose a mutually interpenetrating, all-embracing whole.

To cite an example of the *semiotic* interaction between sign and semiotic agent to which I refer, suppose I spot a lewd, racist, or sexist bit of graffiti

written on the subway wall. The object of the sign's content is something ordinarily prohibited by social convention from appearing in public places. There is, in addition, another semiotic object: the author of the sign. Someone has been here and left his "signature." Suppose the content of the sign clashes with my mind set such that my thought (= sign) gravitates from the graffiti to its absent author. The graffiti-monger *via* his "signature" has now become the object of the sign. As such the sign is the sign of the present absence of its author, and my thought-signs regarding the fact that he was here is the interpretant. I reflect with ire on this unknown defacer of public property, my cognitive contact with his absence being mediated by the presence of the sign or representamen, the graffiti. Now, I have revealed my attitude, my belief (= a set of embedded, "de-generate" signs), concerning those who write on subway walls. The author's presence once determined the sign by putting marks on the wall, and perception of the sign and the inferential process leading to its interpretant is determined by my belief about him in his absence, and thus, indirectly, he determines what my belief about him would have been were he to have been present.

What I am implying is that symbolicity, given its capacity to convince us that it *is* what it *is not*, shines forth with respect to negativity and temporality. Symbolicity illustrates how meaning is forthcoming in spite of the absence of that to which the sign relates. And, given that absence, symbolicity draws us, as semiotic agents, into the equation: *ultimately, we become signs among signs*. This bears on: (1) our role of negation and error — what we don't know can't hurt us until we become aware that what we know *is not* what *it* — (2) the abstract *other/other* of symbolicity and its role ultimately in maintaining an honest game, and (3) the game itself, which is unfolded in time, demanding, on the part of us as time-bound human semiotic agents, memory (traces) of the past, and expectations regarding the future. In other words, to reiterate, dialogue is not merely between the "I", the inner *other* of the "I", and the *others* of the community, but also between the "I" and the "real" world *other* — including the body — which, as noted above is the most unrelenting, the most challenging, the most taxing, opponent imaginable. All three *others*, it stands to reason, are necessary participants in the unfolding of meaning.

Although the role of *otherness* might make sense of the *relata* between the three Peircean sign components, the business of meaning-engenderment admittedly remains garbled⁴. Meaning or interpretation, from the Peircean point of view, is by no means limited to signs autonomous of their authors interpreters, nor does it exclusively involve either mentalist-subjectivist thought-signs "in here" or positivist-behaviorist-physicalist-objectivist sign-events "out there". Neither is it strictly private or strictly public. Rather, it entails a confluence of all the above. It is production not product, process not being; it emerges while signs are in the making⁵.

III. The living tempest of the mind

It has become quite obvious that Peirce's account of sign *relata* and meaning engenderment, especially within the domain of symbolicity, goes much further than mere dyadism. For symbols are nothing if not shot through and through with the nature of Thirdness, of the *would be* of things.

For example, the subjunctive conditional — at the heart of what Peirce calls the "pragmatic maxim"⁶ — depends upon certain future conditions (Thirdness) which in turn depend upon past conditions (Secondness) and which may or may not be actualized (Firstness). And in the event that they are actualized, there is no absolute guarantee that what signs with greatest probability *would be engendered will have been* the case. Given Peirce's principle of fallibilism, a degree of indeterminacy will always inhere, which is the contingent character of the self-correcting universe of signs always subject to change. But Peirce's account is also in a sense participatory inasmuch as there is a perpetual collusion and collaboration between author-interpretant and interpretant. In fact, the term reader-interpretant is also somewhat inadequate because there can be no author-interpretant without an interpretant, and vice versa. Or better, in light of the above, the author-interpretant is herself an interpretant to/for the sign. In the act of her interpreting the sign, she is in turn interpreted by it, she becomes an act of signification by which she, as sign entailing a body-mind fusion, undergoes a change at the same time that the sign is transmuted into another sign by her act of interpreting it.

Thus what is construed to be the "semiotically real" consists of the seeds sown by the sign emitter with the intention of their germination into interpretants of a certain character in conjunction with the interpretant actually engendered by the author-interpretant. The author-interpretant's interpretant does not fall from the clear blue; neither does it come to her *deus ex machina*. She finds in it only what she, her mind, the body-mind as sign, as itself an interpretant, put there in the first place. Thus there is a three-way interdependence of sign, object, and author-interpretant, which coincides with interpretant, "semiotically real," and interpretation, on the one hand, and body-mind, world, and knowledge on the other. Without the sign, there is no object; without the author-interpretant, there is no "semiotic reality"; and without body-mind in general, there is no "world" (CP:5.213-37, 6:238-86).

But this scheme of things is not a mere matter of body-mind, or even of language hopefully mirroring the "world." Heraclitus in his efforts to block Parmenides's architectonic dreams gave raw experience of the flux of becoming the upper hand, a view now emerging in a spectrum of disciplines from chaos physics to deconstruction. In contrast, Kant's insight was

blemished by his limiting the mind to the inflexible space-time categories of Newtonian physics. Consequently, the fall of classical mechanics spelled certain doom to his specialized categories of the mind. Peirce, a child of the nineteenth century, endowed the body-mind with free-wheeling evolutionary principles contingent upon his triadic dialogic spiral, beginning with "chance" and ending in "necessity." But unlike Kant, he helped liberate classical mechanics from its conceptual straightjacket, though he did not take the final step into the light of day finally made possible with relativity, quantum theory, the "limitative theorems" of Gödel and others, chaos theory, and *avant garde* movements in the arts⁷.

However, an important episode in this tale is yet to be told in full. Peirce's triadic *relata* are exceedingly more subtle than their dyadic cousins, the card-carrying members of the continental Saussure-based doctrine of semiology, and the subtlety intimately involves, among other characteristics, *negation* — as dyadic and triadic relations rather than a unary operation. In this respect, Eco (1984:177-82) proposes that a chief, if not the chief, requisite for semiotics is the capacity to lie. Of course, lying and other sundry forms of prevarication entail presenting an object, act, or event as that which it *is not*, and the sign must be in command of the same faculty: it must be construed as significantly substituting for something else. Like the lie, it must refer back to that which it *is not* — though in certain cases it conceivably may become what *is not* in the future. And like the lie, it must possess the potential for producing an interpretant the nature of which is commensurate with what *is not as if it were*.

Though it is by no means certain that prevarication is limited to the human semiotic animal⁸, at any rate, the characteristic of the sign enabling it to lie transforms dyadic, transitive linearity into a back-peddling triadic carousel. For example, regarding our graffiti on the subway wall, someone (object) engendered a sign (representamen) which evokes a response (interpretant) in me, that reaction being dependent upon that someone as mediator between the representamen and interpretant. In addition, that reaction was dependent upon some other graffitist in my memory bank, whether "real" or imaginary, who scribbled something somewhere, at some time, evoking some reaction in me, which related back to a more remote graffitist, and so on (i.e. the infinite regress of Peirce's signs [CP:1.339]). In this regard, the statement of fact, "A graffitist graffitized this subway wall", is not equivalent to "The graffiti on this subway wall is a sign of the absent presence of a semiotic agent who, as both author and object of the sign, left something of his 'self' in order that it become part of another semiotic agent-sign". The former is dyadic, while the latter implies that the graffitist has some capacity as himself a sign to

bring about some interpretant or other in my mind by way of a sign he has authored.

Peirce once wrote of the sign triad that "[a] regular progression of one, two, three may be remarked in the three orders of signs, Icon, Index, and Symbol" (CP:2.299). But the progression is not as simple as One, Two, Three, True; the icon has no necessary physical (dynamic) connection with the object it represents, the index enjoys such physical connectivity though the interpreting mind has virtually nothing to do with this connection, and the symbol is linked to its object by way of the idea of the symbol-using mind. But the equation still remains incomplete. The symbolicity of language, whether considered to be a "house of Being" (Heidegger), a "Prison-house" (Jameson), coterminal with the "unconscious" (Lacan), the "text" within which we find ourselves (Derrida), or that which "speaks through us" (Lévi-Strauss), can be at least mediately present to the author-interpretant, but "everything which is present to us is a phenomenal manifestation of ourselves" (CP:5.283). And "our-selves," I would submit, includes both the mind that speculates, reasons, and cogitates and the body that feels, senses, and intuits.

Thus, to repeat, the author-interpretant is at the same time a sign, an object, an interpretant. Where the icon and index are the symbol shall be; what the interpretant is the icon, index, and symbol shall have been; and what the symbol is the icon and index can (by "de-generacy") become. Icons and indices without symbols remain unfulfilled; symbols without icons and indices are empty shells. Everything comes in a whole package. When someone interprets (thinks) a sign (a thought-sign embodying an icon, an index, and a symbol), as an author-interpretant, she cannot help but construct another interpretant. In fact, the entire process consists of an interpretant constructing, being constructed by, itself. That is to say, the mind, as it is at that moment, "appears as sign" (CP:5.283). And in its capacity as an interpretant, that self-same mind, that sign, is the sign of another interpretant along the stream of *semiosis*.

So it is that Peirce solemnly and enigmatically declares: "My language is the sum total of myself" (CP:5.314). Just as Thirdness is tropologically accelerated by the mind as sign within the *semiotic* flow of things, so symbolicity, containing within itself vestiges of iconicity and indexicality, is a continuously changing displacement in space within a temporal framework raised to the second power — an intersection of the time of the mind "in here" and the time of the signs "out there". And just as, Peirce observes, "we say that a body is in motion, and not that motion is in a body," so also we ought to say that we are *in* our thought-signs and not that our thoughts-signs are *in* us (CP:5.289, n. 1).

By the same token, meanings, our meanings, are in the *relata* emerging along the *semiotic* stream, as they pass between signs and other signs and between *selves* and *others*. In this sense, signs, like *selves*, are embodied, not abstractions, they are concrete not merely conceptual, they are community not autonomy, and they never fail to bring along a good sized load of Firstness and Secondness, not exclusively Thirdness.

Suppose, say, I had spied a piece of graffiti depicting genitalia rather than an instance of verbal graffiti. The sign as such does not directly evince the alienation of symbolicity. As an icon, the sign's temporality is unidimensional. "I" relate quite directly to its iconicity, in virtually an instant, with hardly any mediation, it might appear. Dutifully registering the appropriate reaction of repugnance, "I" "see" myself in "it". It is not surprising that habit, by the force of years of Puritanical inculcation, produces this visceral reaction in me, for "I", without giving the matter conscious or self-conscious thought, merge into the thinsness of the sign. This is radically more direct than any mediated symbolic thatness, which would necessarily be at least twice removed from me.

But does not the graffiti embodied in written symbol-signs evoke the same or a similar response as if it were an icon? In a manner of speaking, yes. The word "Commie" and the caricature of a hammer and sickle, "Yalta" and a photo of Stalin, Churchill, and FDR seated together, the utterance "I pledge allegiance to..." with a U.S. flag in the vicinity, the utterance "O! Blue Eyes" and an image of Frank Sinatra on the screen, "Air Jordan" and the real thing doing a gravity defying slam-dunk, a caricature of George Bush with the caption, "Read my lips". In each case the symbol, if presented effectively and in the right context, stands a fighting chance of evoking some "gut" response as an icon — as if the word were the thing, the map the territory⁹.

Just as symbols "came into being by development out of other signs," so also a symbol's interpretant — as my thought, my mind, my *self* — refers back to another sign. It refers back toward that original but irretrievable sign, in the case of my graffiti example. Consequently, "I" put myself in the symbol in spite of its character as a mere set of static — and arbitrary, as it were — spray-paint smudges on a wall. "I" have been sucked into the trap, duped by the symbol's "lie". But its lure captivates me; "I" cannot resist it. The sign's *depth* (a specific quality or attribute) exercises virtual authority over its *breadth* (range of contextualized uses), such that a particular instantiation of the sign becomes, for me at that particular moment, as if it were clearly and simply *the way things are*¹⁰. At that moment, body-mind and sign are one, along the ongoing stream of *semiosis*.

§ In Peirce's words:

"[I]t is sufficient to say that there is no element whatever of man's consciousness which has not something corresponding to it in the world; and the reason is obvious. It is that the word or sign which man uses is the man himself. For, as the fact that every thought is a sign, taken in conjunction with the fact that life is a train of thought, proves that man is a sign; so, that every thought is an external sign, proves that man is an external sign. That is to say, the man and the external sign are identical, in the same sense in which the words homo and man are identical. Thus my language is the sum total of myself; for the man is the thought." (CP:5.314)

See also Sebeok's (1979:61-62) argument that for Peirce the semiotic agent, and especially the human agent, is a string of signs, a text.

‡ For further on the "Man = Sign" equation, see Merrell (1995).

† The term "de-generate," I should point out, is used by Peirce in its mathematical sense, and should not be confused with its ordinary language use as something "algebraic", "retrograde", or "corrupt".

† I have substituted "meaning engenderment" (or "interpretation") for Peirce's term "meaning determination" for obvious reasons: not the least of which is the generally accepted notion — implicit also in Peirce's writings, to be sure — that meaning is "indeterminately determinate".

† Upon presenting my case regarding Peirce's thought, we must keep in mind that, in very general terms, "determination of meaning" and "sign response," or concomitantly, determination of one physical event by another, has been given three general interpretations during this century. To wit, (1) causal determinism (physicalism, materialism, objectivism), (2) statistical determinism (probabilistic accounts), and (3) to a lesser degree, mind-dependent determination (subjectivism, idealism in its various incarnations). Interpretation (1) generally follows modern philosophy, physics, and certain strains in literary theory focusing on the author's intentions and the work as an organic whole concealing univocal meaning. (2), which began in the physical sciences with probabilistic mechanics and thermodynamics during the nineteenth century — of which Peirce was a forerunner — donned a strange new hat with the advent of quantum theory. And with respect to the problem of meaning, it lurched from the starting-blocks in the guise of information theory envisioned to fulfill the dream of those seeking a human science capable of the rigors of the physical sciences (but it was shortly called back due to a false start; it said everything about information, formally conceived, and virtually nothing about meaning, humanly perceived). (3) also took a strange turn in the twentieth century, following the observer-observed collision in quantum theory, beginning with Bohr's Copenhagen interpretation and brought to a climax with John A. Wheeler's "participatory universe", and in philosophy and literary theory and including subject — and reader — oriented theories, from certain poststructuralists and Anglo-American scholars of postanalytic bent to a variety of literary theorists and critics (Wolfgang Iser, Johanna Culler, Stanley Fish, Derride, Rorty, Derride, de Man).

‡ The "maxim", in short, is a method for ascertaining the meaning of a statement by virtue of the construction of all the conceivable hypothetical statements, which, if put to the test and found valid, would determine the value of the original statement. In the case of "This is salt", a spin-out of sentences such as "If I were to taste this material I would experience a salt-like sensation", "If this material were subjected to spectroscopic analysis, a frequency pattern equivalent to that of a combination of Na⁺ and Cl⁻ ions would be forthcoming", and so on, would ultimately yield the meaning of the statement and of the substance to which it refers (for a discussion of the "pragmatic maxim", see Almeida 1980).

† See in general, Merrell (1991, 1995a), Hartsborne (1973), Murphey (1960).

‡ I will not enter into the controversial issue of whether animals can lie (see Sebeok 1976) or if nouns and indices are used to lie (Steiner 1982). I merely wish to illustrate a particular characteristic of semiotics; that the lie — i.e. saying what something is by saying what it is not — is germane to the act of engendering signs and their meanings.

† Elsewhere (Merrell 1995a, 1995b) I have termed this confusion of sign for object signified sign *ambivalence* (or *commutation, entrenchment*).

‡ That the sign's necessary characteristic of negation or the capacity to lie, its very perversity, brings about pallors as well as certain promise against which, for better or for worse, we have been properly warned from a diversity of vanities, from Plato and the early rhetoricians to Nietzsche and a plethora of contemporary thinkers, including the poststructuralists-postmodernists.

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“MY LANGUAGE IS THE SUM TOTAL OF MYSELF”: HUMBOLDT AND PEIRCE

It was fitting to honor Thomas A. Sebeok on his sixty-fifth birthday with a paper (Rauch 1987) configurating linguistics and semiotics, in particular Peirce who characterizes himself as having “no pretension to being a linguist.” It remains most fitting a decade later to continue celebration of Thomas Sebeok, Distinguished Professor of Linguistics and Semiotics, with further study of Peirce relative to linguistics. This time, the oft referred to Humboldt in the writings of Sebeok represents the linguistic side which is brought here into configuration with Peirce.

Charles Sanders Peirce was born four years after the death of Wilhelm von Humboldt. Both lived the greater half of their lives in the nineteenth century, to be sure in opposite halves of that century. What is the significance, if any, of the fact that Humboldt is nowhere mentioned in the voluminous writings of Peirce except in the “Questionnaire Responses for Short List of 48 Great Men” (Kloesel 1982:76-7), which lists his younger brother, Alexander von Humboldt, as one of the 48. Wilhelm von Humboldt occurs, along with Agassiz, in answer to the check-list question 41 on Alexander, viz. “Was he (Alexander) beloved by anyone much above the average?” — a sort of back-handed acknowledgment of Wilhelm. But while Alexander appears as “Provisionally Admitted” in Peirce’s “Impressionist List of 300 Great Men (Kloesel 1982:28), Wilhelm escapes that list entirely by not being in the “Doubtful” or “Provisionally Excluded” categories.

Is there relevance in comparing the work of the linguistic philosopher Humboldt, who speaks of the human being as a “singing creature,” with work of the logician, actually polymath, Peirce who designates the human being a “signifying animal”? Nöth in his *Handbook of Semiotics* (1990:33) devotes a column to Humboldt in a chapter on the “History of Semiotics” showing him to have made his mark in linguistics rather than in sign theory. Indeed, Trabandt (1986:71) speaks to an “anti-semiotic” approach to the understanding of language on the part of Humboldt: “Wenn Humboldt immer wieder betont, die Sprache sei ihrem Wesen nach kein Zeichen, so wendet er

sich gegen eine Semiotik der Sprache, wie er sie seit der Antike bis zur Gegenwart als naive... herrschende Lehre vorfindet." Trabant insists (70): "Es gibt kaum einen Punkt in Humboldts gesamten Werk, an dem er so entschieden und ausdrücklich immer wieder gegen die Tradition [understanding language as a sign system] spricht." On the other hand, Schmitter (1986:322) argues that "...statements... such as that Humboldt's theory of language is 'keine Zeichentheorie'... must be rejected as one-sided." Schmitter (322-3) is convinced that "Humboldt's conception [of the structure of language] seems to bear similarities to that of Peirce," however, "...no exact comparative studies of Peirce and Humboldt have yet appeared."

Schmitter (1987:43) has, nevertheless, studied closely "Zeichentheoretische Erörterungen bei Wilhelm von Humboldt," and he has a few tentative suggestions of possible similarities between Humboldt and Peirce. Schmitter (1986:323) lists:

"...a certain agreement in the view that thought is dependent upon language or signs... as well as in the fundamental assumption that the three factors 'the thinking subject,' the 'object, as thought of' and 'language (or signs)' as the medium of thought are constitutive of the process of thinking. Humboldt's concept of *energeia* also seems comparable with Peirce's view, inasmuch as Peirce's model of *semiosis* likewise stresses that the constitution of meaning is a process."

The paper offered here aims to contribute to the much needed exact comparison of Humboldt and Peirce selected relevant passages from the oeuvres of both men, including citations from hitherto unpublished papers of Peirce. In particular, five *tertium comparationes* are chosen, from among innumerable possible points of comparison:

- (1) Human versus animal communication
- (2) Linguistic relativity
- (3) Language origin
- (4) Language as mediator between inner and outer world
- (5) Language and thought

(1) Human versus animal communication

Peirce (1934/1960, 5:334) writes:

All thinking is by signs; and the brutes use signs. But they perhaps rarely think of them as signs. To do so is manifestly a second step in the use of language. Brutes use language and seem to exercise

some little control over it. But they certainly do not carry this control to anything like the same grade that we do. They do not criticize their thought logically.

Peirce states further (1958, 7:379-379n.17)

"...for some kind of language there is among nearly all animals. Not only do animals of the same species convey their assertions, but different classes of animals do so, as when a snake hypnotizes a bird. Two particularly important varieties of this Species of study will relate to Cries and Songs (among mammals and birds chiefly) and to facial expression among animals. I can tell by the expression of face the state of mind of my horse just as unmistakably as I can that of my dog or my wife."

Concentrating among Peirce's several insights only on the point now of language as general to both man and animal, we may wish to compare Humboldt's requirement of *sound* as one of two "constitutive principles" (1836/1988:214) in human language as it compares with animal communication. Humboldt (65) writes:

"The articulated sound, the foundation and essence of all speech, is extorted by man from his physical organs through an impulse of his soul; and the animal would be able to do likewise, if he were animated by the same urge... For the *intent* and the capacity to *signify*, and not just in general, but specifically by presentation of a *thought*, is the only thing that constitutes the articulated sound, and nothing else can be stated to describe its difference from the *animal cry*, on the one hand, and the *musical tone*, on the other."

Briefly, Humboldt's (1836/1988:60) "man, as a species, (is) a singing creature, though the notes, in his case, are also coupled with thought" reinforces a concept of human language differing in kind from animal communication, while Peirce's (1902:244) statement "...of course it [language] must have existed, since it exists in animals that are far inferior to man..." directly encapsulates a concept of language differing in degree from animal communication.

(2) Linguistic relativity

Linguistic relativity, characterized by Aarsleff (1982:335) as the "central doctrine" in Humboldt's philosophy, effected a broad network of linguists, philosophers, psychologists, anthropologists not only from Humboldt forward

to Cassirer, Weizsäcker, Trier, Bally, Levi-Strauss, Piaget, Sommerfelt, Wittgenstein, but also before Humboldt back to Plato. Humboldt (1836/1988:88–89) writes:

“The combination of the sound-form with the inner laws of language constitutes the perfection of languages; and the highest point of this perfection of theirs reposes on the fact that this combination, proceeding always in simultaneous acts of the language-making spirit, becomes a true and pure permeation... The true synthesis springs from the inspiration known only to high and energetic power. In the imperfect one, this inspiration has been lacking; and a language so engendered likewise exerts a less inspiring power in its use [emphasis mine]. This can be seen in its literature, which, is less inclined to those genres which require such inspiration, or bears on its face a lesser degree of it. The smaller mental power of the nation, which carries the blame for this deficiency, then evokes the same again, through the influence of a more perfect language [emphasis mine], in subsequent generations; or rather the weakness is evinced throughout the whole life of such a nation, until a new transformation of spirit arises through some kind of shock.”

Peirce (1932/1960, 2:67-70) speaks directly to linguistic relativity as one “of a swarm of different methods of establishing the truths of logic”. He writes (69):

“I must acknowledge...there are a number of eminent linguists who maintain this method in its extremest possible form... When Sayce [a linguist] says that ‘had Aristotle been a Mexican, his system of logic would have assumed a wholly different form’, I am willing to admit that there is a good deal of truth in that. It is lucky that Aristotle’s only language was one that led him into as few errors as did the Greek [emphasis mine]. But so far am I from finding in this remark any encouragement to trust to the indications of language as evidence of logical necessity, that it seems to me to go quite the other way.”

Let us consider a few more citations from Peirce where he addresses linguistic relativity indirectly. Peirce (1933/1960, 3:430) observes that speculative grammar “must analyze an assertion into its essential elements, independently of the structure of the language in which it may happen to be expressed”. He notes (1933/1960, 3:481): “It is a curious example of the

degree to which the thoughts of logicians have been tied down to the accidents of the particular language [emphasis mine] they happened to write...” On the other hand, in his unpublished ms. (1902:244) Peirce writes: “It seems to me that the broadest classes of speech are determined by the general character of the thought which they represent.”

The continuation of the above 1902 passage is published as fo. 22 of Peirce 1958, 7:385. Speaking to the full development of the common noun in IE, Peirce observes:

“This requires and evidences considerable power of thought on the part of those who use these languages... Only very simple propositions can be expressed involving higher relations; and those whose mental education is limited by the power of these languages (emphasis mine) are unable to grasp the meaning of a complex triple relation; ...”

(3) Language origin

For both Humboldt and Peirce language arises in a social setting. Humboldt (1836/1988:24) notes:

“...languages... must always have evolved with and by way of the burgeoning of peoples [emphasis mine], must have been spun out of their mental individuality... When speech and song at first flowed freely [emphasis mine], language took form according to the measure of inspiration, and of the freedom and strength of the cooperating mental forces. But this could only proceed from everybody at once, each individual would have to be carried therein by the others, for inspiration gains new uplift only through the assurance of being felt and understood.”

Compare Peirce’s (1958, 7:384) observation:

“The earliest Art of man, after that of trapping animals, was doubtless the Art of making a home... Families became communities; and there gradually arose a notion of what customs and behavior were tolerable [emphasis mine]. It must have been early in this state of things when men were leading an easy and joyous life [emphasis mine], that language began to take grammatical form, so that sentences could be constructed, and to acquire a relatively copious vocabulary.”

(A) *Language as mediator between inner and outer world*

Peirce (1934/1960, 5:313) writes:

"Man makes the word, and the word means nothing which the man has not made it mean, and that only to some man. But since man can think only by means of words or other external symbols, these (the words) might turn round and say: 'You mean nothing which we have not taught you, and then only insofar as you address one word as the interpretant of your thought.' In fact, therefore, *men and words reciprocally educate each other* [emphasis mine]; each increase of a man's information involves and is involved by, a corresponding increase of a word's information."

Regard now Humboldt's words (1836/1988:56):

"Subjective activity fashions an *object* in thought. For no class of presentations can be regarded as a purely receptive contemplation of a thing already present. *The activity of the senses must combine synthetically with the inner action of the mind, and from this combination the presentation is ejected, becomes an object vis-à-vis the subjective power, and, perceived anew as such, returns back into the latter* [emphasis mine]. But *language* is indispensable for this. For in that the mental striving breaks out through the lips in language, the product of that striving returns back to the speaker's ear. Thus the presentation becomes transformed into real objectivity, without being deprived of subjectivity on that account. Only language can do this; and without this transformation, occurring constantly with the help of language even in silence, into an objectivity that returns to the subject, the act of concept formation, and with it all true thinking, is impossible."

Regard further (Humboldt 1836/1988:214–215):

"Just as it is a general law of man's existence in the world, that *he can project nothing from himself that does not at once become a thing that reacts upon him and conditions his further creation* [emphasis mine], so sound also modifies in its turn the outlook and procedure of the inner linguistic sense."

Finally consider Humboldt's (1836/1988:30) observation: "...the goal... of mankind's developing progress is always the fusion of *what is produced*

independently from within with what is given from without..." [emphasis mine].

Both Humboldt and Peirce view language as the mediator (Peirce's universal phenomenological category of Thirdness) between a sense stimulus (Firstness) and an object (Secondness). Semiotics related theories such as Jakob von Uexküll's (1940) sensorimotor functional cycle, which depicts the mutual feedback of the inner and outer world, and René Thom's (1975) grip catastrophe or loop catastrophe, which both depict the internalization of external stimuli, enhance this major agreement of Humboldt and Peirce regarding the mediating function of language.

We conclude by observing words that surround the title of this paper in text comparison.

(5) *Language and thought*

Humboldt insists that (1836/1988:183) "*Language and intellectual endowment, in their constant interaction, admit of no separation...*" He writes further (54-5):

"Language is the formative organ of thought. *Intellectual activity, entirely mental, entirely internal, and to some extent passing without trace, becomes, through sound, externalized in speech and perceptible to the senses. Thought and language are therefore one and inseparable from each other. But the former is also intrinsically bound to the necessity of entering into a union with the verbal sound* [emphasis mine]; thought cannot otherwise achieve clarity, nor the idea become a concept."

Compare now Peirce (1934/1960, 5:314):

"...it is sufficient to say that there is no element whatever of man's consciousness which has not something corresponding to it in the word; and the reason is obvious. It is that the word or sign which man uses is the man himself. For, as the fact that every thought is a sign, taken in conjunction with the fact that life is a train of thought, proves that man is a sign; so, that every thought is an external sign, proves that man is an external sign. That is to say, the man and the external sign are identical, in the same sense in which the words *homo* and *man* are identical. Thus my language is the sum total of myself; for the man is the thought [emphasis mine]."

Humboldt's inseparability of language and thought approaches but does not equal Peirce's equation of language with thought. To be sure, both Humboldt and Peirce regard language as a mediator between man's inner and outer world (point 4 above). The possibility of equating language with thought and with man rests on the multidimensional configurations engendered by Peirce's phenomenology in contrast with the comparatively unidimensional plane in which Humboldt theorizes. Language accordingly is thus not only in a Thirdness relationship with thought, but also in a Firstness relation via Peirce's equation (language = thought = man), and in a Secondness relation via Humboldt's necessity feature (thought must unite with sound).

This paper has ferreted out original texts for five *tertia comparationes* as a step in the comparative study of Humboldt and Peirce. Sizable chunks of discourse are cited in order to avoid superficial, invalid comparisons. The data suggest a rich, fertile ground for micro-investigation or word-by-word scrutiny of the given passages. Preliminary macro-analysis suggests Humboldt and Peirce to be "on the same wave length" regarding items (2), (3), and (4). Although this paper has extracted one feature for comparison in each of the cited text sets, the given feature is hardly simple. Item (5) illustrates such complexity very well. Troublesome also is the validity of extracting a given feature without concentrating simultaneously on concomitant features for comparison between Humboldt and Peirce. Finally, additional citations may be welcome for corroboration of each feature. The five features presented thus represent a springboard for further direct data comparison in the neglected study of Humboldt relative to Peirce. Such feature analysis may prove more fruitful than insistence on Humboldt's employment of the concept *sign* in considering Humboldt as an eighteenth century contributor to semiotic theory.

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CONTOURS OF A PEIRCEAN TEXT SEMIOTICS

This paper is a preview of the research project I am currently working on, and the purpose of which is to develop a general theory of written texts based upon the semiotics of Charles S. Peirce. I hope this project — *Reading the Signs* — will crystallize in a booklength manuscript in the not too distant future. Given the limited aim of this essay, the overview here must necessarily be selective, while my discussion must remain global and informal.

To start with a definition of what exactly must be understood here by the term “text” is, though obvious, easier said than done. Not only is “text” used to refer to widely diverse objects, but also can a text be seen from a large number of viewpoints. Today almost any sequence of words — *War and Peace*, a haiku, the lyrics of a Beatles song, Anne Frank’s *Diary*, a grocery list, a radio interview, a doctor’s prescription — may qualify as a “text” and consequently be filtered through one and the same text-processing grid. The same holds for non-verbal and partially verbal phenomena such as a comic strip, an opera performance, the urban landscape, or a theatrical costume. What the different “texts” have in common and what makes them different, has often (too often) stayed implicit and must, it appears, be intuitively “grasped”. Consequently, what is a “text” (and what is not a “text”) is widely interpretable and has become more blurred rather than more transparent.

Even when conceived as an exclusively verbal entity, the phenomenon of text cannot be studied adequately by linguistic methods alone. The study of texts is traditionally the province of literary scholarship, together with such text-oriented disciplines as ethnology/ethnography, history, philosophy, religious studies, and law; more recently joined by sociology, psychology, and psychiatry. Text-theoretical research is highly interdisciplinary (or transdisciplinary) research. Roughly speaking, it includes, besides language-related disciplines — such as poetics, rhetorics, stylistics, (general) linguistics, semantics, (pragma-)linguistics, speech-act theory, semiology —, other humanistic disciplines like philosophy (in its various specializations and ramifications), psychology, sociology, ethnomethodology, as well as a number of interdisciplinary research fields — translation theory¹, artificial-intelligence research,

information theory, etc. In the final analysis, the phenomenon of text would therefore be best served with a holistic approach, in the framework of a general semiotics.

If the concept of "text" is notoriously hard to define, numerous attempts have nonetheless been put forward. Indeed, "text" has been defined and re-defined many times, by many different scholars, and from many different angles. What needs to play a role in the definitions is that the question of "what a text is" has at least two aspects. On the one hand should the ontological status that should be assigned to the entity "text" (abstract/concrete, general/individual, code, producer, receiver) be clarified and, on the other hand, the "essential" properties of texts must be established. Again, from a linguistic point of view can these problems only be addressed partially; whereas from a broader, general-semiotic perspective a text must be considered as a complex linguistic sign couched in articulated language and functioning as a communicative agency.

That it is often so problematic to distinguish between a linguistic and a semiotic concept of text, is caused by the fact that a Saussurean semiotics, in contradistinction to a Peircean semiotics, is basically linguistic semiotics and takes language as its primary model. This may be illustrated by Brinker's definition of text as "a coherent sequence of verbal signs or sign complexes which are not embedded in another more comprehensive unit" (Brinker 1979:3; my transl.). In this (rather static) definition, syntactics — sign structures and their hierarchical relations — is foregrounded, while both meaning and use — the semantic and pragmatic aspects — are de-emphasized or even ignored.

In the preface to his highly original and thoughtprovoking *Semiotic Foundations*, Merrell writes that written texts

"...entail all corpora written in natural and/or artificial languages for the purpose of conveying observations, ideas, thoughts, intuitions, feelings, and emotions. Verbal discourse in the oral tradition, such as myths and folktales, as well as filmic and other iconic texts, are obviously excluded from this classification. Yet the general class of written texts definitely involves a broad spectrum ranging from poetry through religious, philosophical, and historical works to journalism, and then to reports in the social and physical sciences and even mathematical proofs." (Merrell 1982: vii)

Merrell's above-quoted description contains in fact an excellent working definition of "written text", one that strikes by its non-doctrinaire clarity in what seems a jungle of other attempts. However, the term "corpora" in

Merrell's descriptive definition deserves further specification and, for the purpose of this study, semiotization. From a semiotic viewpoint, a text is any written verbal entity, which is, firstly, materially recognizable and delimitable as such, which is, secondly, deictically anchored in "real" time and space, and which, thirdly, becomes meaningful by being used in a social context. This does *not* exclude the creation of private meaning: in a Peircean semiotic framework, social meaning in fact includes and presupposes private meaning. Following Larsen (1994: 19) we may add to this that a text is the "compound of actually realized signs, filtered through the discursive logic of intentionality". While the irreversible order in which the verbal text is presented is a prerequisite for producing intersubjective meaning, the production of meaning, however, takes place on two planes: a serial plane and a structural plane.

Traditional linguistics concentrated on the study of short language units, the word and/or sentence level. The results of this study were then held to be representative for language as a whole. The prior received view of the word as the basic theoretical (or at least empirical) unit of verbal behavior and hence of linguistic description, has been challenged by Saussure, for whom "[t]he concrete unit must be sought not in the word, but elsewhere... A rather widely held theory makes sentences the concrete units of language; we speak only in sentences and subsequently single out the words" (Saussure [1916]1959: 105-106). In Chomsky's 1957 *Syntactic Structures*, this thinker stated: "From now on I will consider a language to be a set (finite or infinite) of sentences, each finite in length and constructed out of a finite set of elements" (Chomsky 1957: 13). More than ten years after *Syntactic Structures*, Fillmore's 1968 "case grammar" remains limited to the sentence: neither does Montague, in his 1972 "universal grammar", go beyond the sentential level.

Against this supremacy of the sentence, classical European linguistic structuralism, of which Jakobson is of course an eminent representative, took at an early date not the word nor the sentence, but the text or discourse as its research object. The same is true for another branch of linguistic structuralism, Hjelmslev's "glossematics." For Hjelmslev in his 1943 *Omkring sprogteoriens grundlæggelse* (translated as *Prolegomena to a Theory of Language*), "[t]he object of interest to linguistic theory are texts. The aim of linguistic theory is to provide a procedural method by means of which a given text can be comprehended through a self-consistent and exhaustive description" (Hjelmslev [1943]1961: 16). Following Saussure, the "procedural method" referred to by Hjelmslev was conceived by him as a two-sided combinational thinking model. Hjelmslev differentiated in the linguistic sign two planes, which he called the "plane of expression" and the "plane of content". Both planes may be further divided into smaller units, such as "phonemes" on the plane of expression, and "semes" on the plane of content.

Hjelmslev started thus from the text as a whole and proceeded deductively, working his way "down" from the textual level. Other linguists after him did, however, rather invert this procedure, and arrived inductively at the textual level. This is particularly the case of the American linguists, Z. Harris and Pike. Though their theories diverge, both Harris and Pike concentrated on linguistic units beyond the sentence, thereby opposing Chomsky's view. To be sure, before Chomsky published his *Syntactic Structures*, Harris's 1952 "discourse analysis" already built upon the textual level taking "discourse... as the fullest environmental unit for distributional investigation" (Harris 1954: 158). Harris offered a "distributional" analysis of structural equivalences between successive sentences. His descriptive transphrastic linguistics is concerned with the occurrence and distribution of repetitions and parallelisms on the syntactic level, as well as with their combinations.

While Harris rejected meaning as irrelevant outside the actual identification of repetition, meaning is an essential component in the linguistic analyses devised by the American linguist, Pike. In his monumental work, *Language in Relation to a Unified Theory of the Structure of Human Behavior* ([1954]1967), Pike coined the term "tagmemes" to refer to verbal sequences; and hence his theory is called "tagmemics". Tagmemes are discursive structures in which form and meaning occur interdependently. Pike analyzed these tagmemes according to the so-called "slot-and-filler" method, which he devised.

The scope and application of Pike's conceptual framework turn him into a key figure in the development of linguistic analysis of texts. The way in which Pike's referential filler classes (such as actor, purpose, recipient of an action, time, place) fill tagmemic slots (such as subject, object, predicate) is similar to Fillmore's cases as well as to Greimas's "actants". Pike's slot-and-filler method is inspired by Hjelmslev's model of a form-substance dichotomy and its double articulation of the grammatical level and the referential level; and thus it ultimately builds, albeit implicitly, on Saussure's signifier-signified relation. If this dichotomous thinking offers signs of a structuralist spirit, this kinship tends to be confirmed by Pike's ethnolinguistic concerns; because on the one hand, Pike's method seems to echo Propp's narrative functions, while, on the other, approaching Lévi-Straussian and Malinowskian ideas.

By absorbing the multifarious ideas and perspectives put forth by many different linguistic scholars, French structuralism showed its ambition to be, or at least to become, the "total theory" pointed at by Pike. As I have previously argued (Gorlée 1992), structuralism has, however, some built-in and self-imposed limitations, which thwart its being or, for that matter, naturally becoming a universal methodological tool. Suffice it to advance at this point that one reason for this is that the structural, or better structuralist, method is in principle less suitable to be applied to non-linguistic facts of culture than

what will be called the "semiotic" method. The latter, which is exemplified by Peirce's processual method, is better equipped to describe the flow of and in language than a "fill in the pigeon-hole" system, which is precisely designed to halt flows.

Pike's perspective also prefigures some aspects of text linguistics, text grammar, and particularly Petöfi's "*Textstruktur-Weltstruktur Theorie*." Theoretical work on texts as it emerged from the 1960s onward, appeared under different names and guises, such as "text linguistics", "text processing", "textology", "text grammar", "grammar of discourse", "text theory", "discourse analysis", "text pragmatics", "text semantics", and, last but not least, "text semiotics"². Yet the family resemblance between Pike's approach and text-linguistic/text-grammatical research is more apparent than real. This is because text linguistics and text grammar have systematically sought to follow the path of logical formalization. In doing so, they did fulfil Chomsky's requirement that linguistic theory must be formal in order to be scientifically valid; but this also implies that both text linguistics and text grammar reject a basic assumption made by Pike, namely, that "[t]agmemics is set up as a part of the structure of behavior not merely as a formal algebraic system", while "[t]he necessity for intuitive components in the action of the analyst rules out an analytical algorithm for procedure" (Pike [1954]1967: 501,289). Indeed, Pike emphasized that what he calls "intuitive steps" or "analytical leaps" (Pike [1954]1967: 224-225) are crucial elements of his linguistic analysis and the procedures based upon it. On this view, intuition enables the linguist to "identify, crudely, etically, with a wide margin of error, something of [the] characteristics in the data before he applies his rigorous emic procedures to this material to arrive at a structural refinement of that material" (Pike [1954]1967: 224). First, meaning is discovered intuitively; only then can these data be exploited by formal descriptive methods. As opposed to the transformationalists³ and their successors in text linguistics and text grammar, Pike asserted unreservedly that "there is no mechanical discovery procedure" through which meaning can be recovered (Pike [1954]1967: 225n.).

Pike's argument seems, in many ways, to move away from the structuralist thought to which it has served as an important contributory factor, and towards Peirce. What is emphasized in the above quotation — intuition as the initial step in a discovery procedure, and from which the first impetus must come toward sound logical reasoning — is clearly reminiscent of Peirce's concept of abduction, or instinctive reasoning, which is radically conjectural in nature, yet in itself a plausible (though far from infallible) reasoning method.

It should be clear that seen in the light of Peirce's logic, his semeiotic, which is anything but impressionistic but in which abductive thought is

explicitly included, the endeavors of text-linguistic, text-grammatical, and similar research, as conducted in compliance with the Chomskyan formalization requirement, have in doing so proceeded from false premisses. This line of research certainly provided new and intelligent constructs; as an alternative to its (to a great extent impressionistic) predecessor, literary stylistics, it was an excellent proposition; as a final answer, however, it seems destined to failure.

My text-theoretical argument has hitherto followed some developments in linguistics during, especially, the second half of this century. For Chomsky, linguistics was, in essence, syntactic theory. As has been shown, semantic theory was added first, followed by pragmatic theory. Linguistics theory thus approaches semiotic theory, with particular reference to Charles Morris's division of the field of general semiotics into three branches: syntax, semantics, pragmatics (Morris 1938 and later works). According to Morris (who again based himself freely on Peirce), signs have three kinds of relation. The "syntactical dimension" is the relation of sign-vehicle(s) to other sign-vehicle(s); the "semantic dimension" is the relation of signs to their object(s); and the "pragmatic dimension" is the relation of signs to their interpreter(s), or more general, their user(s). In tandem with speech-act theory, Morris's tripartite view has been introduced as a methodological tool, or thinking-model, into a (pragma-)linguistic text theory, thus operationalizing the perspective of a separate, but not independent, sign user. This was one way in which text theory was led toward sign theory. The other way was structuralism.

Textual production and textual interpretation are, among innumerable other human practices, forms of communication through signs. The text-phenomenon can therefore be studied from the perspective of a theory of signs. Obvious as this may perhaps seem, a "semiotic textology" (Petöfi 1986b)⁴ is nevertheless a relatively recent enterprise within semiotics, and remains in many ways a little-explored field of applied semiotic investigation. One important reason for this is that text semiotics as it has so far been practiced has often concentrated rather one-sidedly on linguistic semiotics, or sign theory in the Saussurean tradition (including, to a certain degree, Lotman's concept of text); whereas, on the other hand, the semiotic project of a textology from the point of view of Peirce's semiotics has as yet received scant attention.

The development of a Peircean text semiotics has long been hampered by the scant attention given to Peirce's ideas on language and linguistics. In fact, the *literary* text-phenomenon has so far been the principal object of study (by Peirce scholars such as Johansen, Sheriff, and Van Zoest)⁵. My own project, *Reading the Signs*, will build upon my own earlier work as well as upon the text theories by Merrell, Santaella Braga, and Johansen. If it is critical of the

text-theoretical work done in the semiotic "School of Stuttgart", this is because Bense, Walther, and their associates follow the path of rigid taxonomy. Their text typologies, while elaborating upon Peirce's sign classifications⁶, fail to take into account the dynamic nature of the sign, its changeability, which is really its distinctive mark, and which forbids that the sign and its meaning be treated as fixed entities⁷. This is a fortiori true for linguistic signs, which must be viewed as essentially (though not exclusively) symbolic; thought-signs, the meaning of which can never be exhaustively described but needs to crystallize itself through the successive, but labyrinthine, semioses. From Peirce's point of view, written texts are organic (that is, growing) compound signs characterized by the dynamic interdependence of, and interaction between, their subsigns. In this mercurial process, nothing can ever be fixed. In response to the two-sided concept of sign as advanced by structuralism (including Jakobson's structuralism), semiosis is, following Peirce's well-known definition, "an action, or influence, which is, or involves; a cooperation of *three* subjects, such as a sign, its object, and its interpretant, this tri-relative influence not being in any way resolvable into action between pairs" (CP: 5.484). Textual semiosis implies that the text evolves a chain (or rather an interrelated web) of interpretants, in which previous sign-object relations are ever more harmoniously integrated and rationalized.

Regarding texts as signs susceptible of being divided into ten (or more) trichotomies, and as capable of inner and outer composition, showing different shades of sign action, mention of the concept of valency is in order here, because semiosis — iconic, indexical, and/or symbolic semiosis — is the semiotic analogue of phanerochemical valency, according to which signs (including text-signs) may be divided into monads, dyads, and triads. The dynamics of clustering transposed from chemistry to language⁸ means that signs are not simply atomistic individuals, but they are divided into sub-signs, which interrelate in different ways with one another and with other signs — textual signs, sub-textual signs, and/or non-textual signs, the latter linguistic and/or extralinguistic. These relations and interrelations are semiotic processes. Semiosis, textual and otherwise, being an inferential, non-linear, recursive but irreversible process, in which entropy is decreased, its eventual outcome is increased information on the (extrasemiotical) dynamical object.

Textual semiosis, then, may occur in many different ways and on many different levels. Different text-signs may, e.g., have different successive significative effects⁹, which provides the ground for dividing the final interpretant into three: "Gratiific; To produce action; To produce self-control" (CP: 8.372). Elsewhere, in an unpublished manuscript, Peirce calls the three, "Gratiific", "Practical" and "Pragmatic" (MS 795: 2, 1906). This categorial classification provides the basis for distinguishing — but without isolating them vis-à-vis

each other — the three major text-types: poetic, practical, and scientific¹⁰. Each of these may again be kaleidoscopically subdivided (Santaella Braga 1980), such that by being peripherally modified, one text type may shade into another, thereby changing its significative effect¹¹. By this token, texts may be genuinely symbolic, or (more often) they may embody different types of generacy and degeneracy¹².

That written language exhibits the dynamics of generacy and degeneracy, also shows that it cannot live by culture alone, but is always a blend of culture and nature. Individual text-signs are situated in a universe of discourse, which consists of iconic clusters linked by indices and consequently combined into symbols, thus anchoring what are abstract thought-signs in our experiential and emotional life-world. This is how written texts become coherent and meaningful for us.

Linguistic signs may be distinguished according to Peirce's early triadic division of symbols: (1) "Symbols which directly determine only their *grounds* or imputed qualities, and are thus but sums of marks or *terms*", (2) "Symbols which also independently determine their *objects* by means of other term or terms, and thus, expressing their own objective validity, become capable of truth or falsehood, that is, are *propositions*", (3) "Symbols which also independently determine their *interpretants*, and thus the minds to which they appeal, by premissing a proposition or propositions which such a mind is to admit. These are *arguments*" (CP: 1.559). Applied to written language — discrete graphic units consisting in their turn of discrete graphic segments —, this would imply that a term is the equivalent of a word (or combination of words); the proposition the equivalent of a statement (or sentence); and the argument, the equivalent of a text (or combination of statements)¹³.

This semiolinguistic analogy is corroborated and illustrated by Peirce's theory of the interpretant¹⁴. From a logical viewpoint, a rhematic sign is, in the relation between sign and final interpretant, a third under its aspect of firstness, a degenerate proposition and a degenerate argument (a virtual or rudimentary — in other words, truncated or condensed — statement and/or text). A proposition, as third under its aspect of secondness, is both a degenerate argument — that is, a virtual or rudimentary text — and a generate (or upgraded) rheme. While an argument, as genuine third, is exemplified by the fully-fledged text, as well as, not coincidentally, by the three modes of reasoning — abduction, induction, deduction — which I have mentioned earlier in this paper, as tools in a discovery procedure (Peirce's "logical inquiry").

Let me finish at this (perhaps rather arbitrary) point of the discussion, and let me continue the work on this project. Because, in Peirce's spirit, only by experimenting upon it can the true nature of the text-phenomenon be discovered.

NOTES

¹ About this field of research, see Gorlée (1994) and the references mentioned therein.

² See further Petöfi (1986a): 1080f.

³ On Chomsky's view, intuitive judgment does exist but has no validity: "It is undeniable that 'intuition about linguistic form' is very useful to the investigator of linguistic form (i.e., grammar). It is also quite clear that the major goal of grammatical theory is to replace this obscure reliance on intuition by some rigorous and objective approach" (Chomsky 1957: 94).

⁴ The term "textology" was originally an invention of Bakhtin's. See his 1959-1961 article "Das Problem des Textes" (Bakhtin 1990: 437-438.n.2 [composed by the translators]).

⁵ More numerous are applied literary text analyses using Peircean concepts (see, e.g., the work done by Browne, Pignatari, Van Zoest, and myself).

⁶ See Gorlée (1994): 62-66 and the references mentioned therein. See also Peirce's unpublished MS 1135 (133 handwritten pages) of [1895]1896, consisting of various attempts by Peirce to rethink and rewrite, on the basis of his own triadic thinking strategy, the topical classifications in the famous *Rogee's Thesaurus* (the first edition of which had appeared in 1852).

⁷ More on this in Gorlée (1990).

⁸ See also Nef (1980).

⁹ For Peirce's pragmatic "significative effect", see Gorlée (1993).

¹⁰ Additional basis for this may be found in Bird (1959), who, in this connection, cites Peirce's own rhetorical question: "[W]hat is man's proper function if it be not to embody general ideas in art-creations, in utilities, and above all in theoretical cognition?" (CP:6.476).

¹¹ This textual dynamics has been effectively demonstrated in Machado, Veiga Filho, Gatti, and Santaella Braga (1984), originally a research report commissioned by the Ministry of Agriculture of the State of São Paulo, Brazil.

¹² On degeneracy, see Gorlée (1990) and the references therein.

¹³ Merrell (1982: 163, n. 2) adds to this a proviso, namely that "the text's premise can, and usually does, remain implicit, due to inevitable *embedding*".

¹⁴ More on this in Gorlée (1994): 56-61.

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POINSOT'S SEMIOTICS AND THE CONIMBRICENSES

Whenever we speak of John — or rather João — Poinsot's biography and of his work as a theologian and a philosopher, and, in our case, most especially, as a logician, we must necessarily call to mind four important points which are as a rule ignored.

The first is that he was born, not in Spain — which by right did not yet exist —, but in Portugal and, more precisely, in Lisbon (1589) — a fact he did never forget, as everyone can see that, in the title-page of all his famous books, he called himself «lisbonensis». It is true that, after a series of unfortunate events — the tragic death, in the battle-field of Alqasr-Kebir, of the heroic but imprudent and unhappy King Sebastian («Louco sim, porque quis grandeza/Qual a sorte a não dá!»), the wretched decease of the old and undecided Cardinal-King Henrique and the easy triumph of the Duke of Alba against the most unhappy «King» Antonio, the illegitimate son of the Infante Luis and the «Pelicana» —, Portugal was now no more than one of the kingdoms ruled by the powerful «Castilian» King Philip II. Yet it had still preserved, at least in the foreign sovereign's promises, all the rights and privileges of an independent country.

The second is that he was the son of an Austrian father, Pedro Poinsot, Chamberlain of the Archduke Cardinal Albert — Portugal's Viceroy (1583-1593) —, and a Portuguese mother, Maria Garcez, herself a member of the Portuguese nobility.

Third point. The future Father John of Saint Thomas spent in Portugal — first in Lisbon then in Coimbra — the decisive years of his childhood and of his youth. There and then he must have learned to speak the language that, since King Manuel's time, was the second language of courtly life and of culture, i. e., Castilian. But, in the beginning, at home, with his mother and his younger brother, with his mother's family and friends, and, of course, with the servants, and out of home, with his playmates, he could not but speak the Portuguese tongue. Later, in Coimbra, it is, I think, impossible to suppose that, in the academic «milieu» where he lived, he had not got to know to read and

love Sá de Miranda, Camoens — whose epic poem had had, from 1572 to 1593, not less than three editions, and whose lyrics had been published twice, viz. in 1595 and 1598 —, and Bernardes, among the poets, the playwright Gil Vicente, the chroniclers of the discoveries, like Barros and Castanheda — whose first volume had been translated into French (1553) by the humanist Nicolas de Grouchy, who had acted, under André de Gouveia, as a professor of the «Collegium Artium» of the Coimbra University.

Fourth and last point. Pedro Poinso's oldest son went soon to Coimbra, we do not know how soon, anyways soon enough to learn there «as primeiras letras», in which Latin played certainly the chief role; and, after these initial studies, he was admitted, with his brother Luis, in the celebrated «Collegium Artium». There he attended the lessons of the Jesuit fathers — the famous Conimbricenses, Descartes' «Conimbres» —, whose first four volumes of commentaries on Aristotle had been published from 1592 to 1598¹, and there, in 1605 — when he was just 16 years old — he took the degree of a bachelor in Philosophy. The next scholastic year — the same in which appeared the last volume of the «Cursus Conimbricensis»² — he began, still in Coimbra, the study of theology. But immediately afterwards he left Portugal, most probably called, as a «protégé», by the powerful sovereign of the Low Countries, the Archduke Albert, transferring himself to the University of Leuven, to prosecute his study of the sacred science.

This was certainly the opening of a new chapter in his life, but I am persuaded that, be it in Leuven, be it in Madrid and, at last, in Alcalá, where — under the religion name of John of Saint Thomas, he taught Philosophy and Theology —, he did never completely sever his old ties with his fatherland or, more exactly, his «motherland». His father had died in Lisbon in 1598. We do not know how long his mother outlived her husband, but nothing indicates that she was not alive during, at least, a part of his son's career abroad and that he did not keep in touch with her and/or with her family. As for his brother Luis, he had remained in Coimbra, where he took the degree of a doctor in Theology and, as a Trinitarian friar, had become, in his turn, University professor and, from 1647 till his death (1655), principal of the Trinity College. John Poinso could not ignore his brother's destiny, all the more since both, one in Alcalá, the other in Coimbra, were dedicating their lives to the teaching of Theology.

Being this so, why should we call John of Saint Thomas a Spanish and not a Portuguese philosopher and theologian?

However, for our present purpose, the greatest significance belongs to the fact that John Poinso's philosophical, and specially logical, building was due to the Conimbricenses' teaching. The *Commentarii in Universam Dialecticam Aristotelis*³ — the last volume of the so-called «Cursus Conimbricensis» — appeared, as we said, only in 1606, therefore when our Poinso had already

graduated. But the doctrine, which was then put in print, was the same that any student could have received, through hearing in the Logic classes and possibly and likely through reading the handwritten «apostilas» — the generally very thorough class notes that passed, in several copies, from hand to hand.

In fact, I consider as inconceivable that the lessons of Poinso's Jesuit masters have not left their imprint in the mind of the young philosopher and, later, in the doctrine of the matured author of the *Cursus Philosophicus*. But what we wish to know presently is how deep is this imprint and, more specifically, in what measure he is indebted to them as a semiotician. This is however not possible without a long and detailed comparison of his *Tractatus de Signis* (to use John Deely's felicitous title) not only with the first chapter *De signis*⁴ of the *Commentarii in Libros Aristotelis De Interpretatione* of the «Cursus Conimbricensis», but with a number of other commentaries of the same aristotelian book and with many scholastic Renaissance and pre-Renaissance treatises on Logic. This is a part of the task I am proposing to do but is yet undone, so that I must now limit myself to a couple of superficial remarks and conjectures.

To begin with, there is no doubt that in the classical commentaries of the *Peri hermeneias* — I mean, those of Ammonius (and, of course, his Latin translation by William of Moerbeke), Boethius and Thomas Aquinas —, no place was given to the semiotic problems. I can also state that the celebrated dominican master of the Salamanca University, Domingo de Soto, in his *In Dialecticam Aristotelis* of 1543, did not even include the *De Interpretatione* and, before him, another Salamanca master of the same period, the Portuguese Pedro Margalho, in his *Logices utriusque scholia* (1520), alludes in a few words to the *significatio* and the *suppositio* and this is all. As regards the Jesuit Pedro da Fonseca, master first in Coimbra and later in Evora, for whom a lengthy and subtle commentary in Aristotle's *Metaphysics*⁵ conquered a well deserved celebrity, in his *Institutionum dialecticarum libri octo* two and a half pages were enough to present to the reader all he needed to know about signs.

From the afore-said we may conclude provisionally that the author or authors of the *Peri hermeneias* commentary we are considering, were real innovators in dedicating a relatively large space to semiotics. And so and even more did Poinso, in the *Ars Logica*, where the proportion of the pages dedicated to semiotics is singularly high. This coincidence cannot be fortuitous. In my interpretation, Poinso learned from his Coimbra masters how important is the doctrine of signs to a good understanding of the art of thinking.

Let us consider now some coincidences between Poinso's and Couto's semiotic doctrine, without definitively and — it is important to lay stress on this point — prematurely conclude upon a direct and decisive influence of the latter over the first author. But we must also keep in mind that, in the non

unfrequent cases where both of them quote or/and base themselves upon the same authorities, this can equally reflect the fact that Couto called Poinso's attention upon them.

Relating to the nature of the sign «in communi», Poinso rejects the augustinian definition — «Signum est, quod praeter species, quas ingerit sensui, aliquid facit in cognitionem venire» —, arguing: «Definitio enim quae communiter circumfertur ... solum instrumentali signo competit» (25, note 1)⁶; and more explicitly (after repeating his own definition): «Quam definitionem ita communiter tradidimus», i.e., in «lib. I. Summularum, cap. 2», «ut complecteremur omnia signorum genera, et formale et instrumentale. Nam vulgaris definitio, quae circumferri solet apud theologos ... ex Augustino ... , instrumentali signo solum convenit» (116/4-13).

The same rejection with the same argument we do find in Couto — in Art. I of Quaest. I —, who, quoting the same augustinian definition (to which he adjoins, though not «verbatim», another one by Augustin)⁷, observes: «Sed animadvertentes posteriores dialectici has definitiones solis signis instrumentalibus nec omnibus accomodari, aliam ampliolem statuerunt hodieque ratam habent, quae sic habent: «Signum est quod potentiae cognoscenti aliquid repraesentat» (p. 5c)⁸.

If we compare now this definition (implicitly accepted by Couto) with that proposed by Poinso — «signum est "id, quod repraesentat aliud a se potentiae cognoscenti"» (116/3-4)⁹ —, we see that this is more complete than the first one, since the words underlined in the latter — and which express something essential about the concept defined — are absent from the other. But this deficiency is largely made up by the context.

First, immediately after quoting the two Augustin's definitions, Couto adds, as an explanatory comment: «Hoc est, signum dicitur illud quod, perceptu ab aliquo sensu, est in causa ut cognoscens ex vi illius provehatur in alterius rei notitiam.» (p. 5c). And, as if this were not enough, all the Articulus II of the same Qu. (pp. 8c-11b) is dedicated to proving «Nihil seipsum proprie significare», and there we read, v.g.: «vera sententia est "nihil posse esse signum sui"», and more explicitly: «Optima ratio sumi potest ex verbis Aristotelis, in contextu vocavit enim voces notas conceptuum. Quod si accomodetur signo in communi, ostendit necessariam eius distinctionem a significato; nihil enim est nota sui. Idque indicatur in definitione tum Augustini, in qua dicitur signum ostendere aliquid praeter se, tum in vulgata; nam ille terminus "aliquid" importat diversitatem significati a signo.» (p. 10-11). After speaking of the instrumental signs Couto goes on: «Pro formalibus [signis] est propria et efficacior ratio [of the said distinction]. Haec enim ... sunt imagines et similitudines rerum significatarum; imaginem vero esse distincta a repraesentato certissimum est ... Ubi cumque est similitudo ... oportet quod sit aliqua distinctio, quia ... similitudo est rerum differentium eadem qualitas, alias

non esset similitudo sed identitas» (p. 11); «Cum ergo formalia signa sint similitudines, consequens est necessario ut differant a significatis» (p. 11). And so forth.

Let us consider now the problems concerning the division of signs into their different classes. Poinso solves it decidedly and definitively since the beginning, in chapter 2 of the *Summulae* (26/20-27/12). There, after distinguishing the concepts of «facere cognoscere», «repraesentare» and «significare», and the three different ways in which the first of these cognitive functions — of which the other two constitute narrower kinds — must be considered, he defines the last one — which belongs properly to signs — saying: «Significare dicitur de eo, quo fit praesens aliquid distinctum a se et sic solum dicitur dupliciter, scilicet formaliter et instrumentaliter», finally concluding: «Hinc nascitur duplex divisio signi. Nam ex qua parte signum ordinatur ad potentiam, dividitur in signum formale et instrumentale; quatenus vero ordinatur ad signatum, dividitur illud penes causam ordinantem illud in naturale et ad placitum et ex consuetudine».

For his part, Couto begins his Quaestio II¹⁰ — «De signorum divisionibus» — by considering critically four different sorts of divisions, according to as many view points. The third of them is essentially the one adopted by Poinso and that he finally chooses himself, dealing with it in the following Articuli. But, previously, in the same Artic¹¹, where he proposes his definition of sign, he had already distinguished four (not five, like Poinso) classes of signs — *formalia* and *instrumentalia*, *naturalia* and *ex instituo*¹², according to their relation, on the one side, with the cognitive *potentia*, and, on the other side, with the *res significata*: «notandum est ... signo duos esse comparationes habitudinesve, unam ad rem significatam, alteram ad potentiam cui significat» (p. 7); «signum formale et instrumentale sunt duae signorum species in hoc dissidentes, quod unum percipitur a potentia, aliud non percipitur¹³, qui sunt respectus ad potentiam» (p. 8b); «eadem repraesentatio conceptus modo constituit signum formale modo instrumentale, propter diversum modum se habendi ad potentiam» (p. 8b); «si formaliter sumatur, [signum] est compositum per accidens ex duplici respectu, altero ad rem altero ad potentiam, et quovis eorum immutatio variatur ratio signi» (p. 8c); «Qui [recentiores dialectici] praesertim loquuntur de signo ex impositione, in quo invenitur relatio rationis impositionem¹⁴ consequens. Et eadem ratio est de [signis] naturalibus: omnia enim (...) definiuntur et intelliguntur per ordinem ad terminum, quod est primum relationis indicium» (p. 9b); «Et quidem de signis ex instituto res videtur manifesta. Nam ut vocabulum *homo* habeat sufficiens fundamentum ad nos perducendos in notitiam "hominis" satis est quod impositum fuerit et a nobis intelligatur, ut secum deferens illam extrinsecam voluntatem, quae etsi physice nusquam sit, moraliter tamen intelligitur in voce perseverare» (p. 9c).

In this point, we find what seems to be an apparent and fundamental disagreement between Poinso and Couto, in that the latter distinguishes, as we see, two classes of signs according to their relation to the «res significata» — those of the «signa naturalia» and of the «signa ex instituto» —, while for Poinso such classes are three, i.e., of the «signa naturalia», «ad placitum» et «ex consuetudine».

But such a disagreement is deceptive, as we can easily ascertain by reading farther Poinso's own discussion on the subject. This discussion we find at length in Question 6 of Part 2, under the title «Utrum signum ex consuetudine sit vere signum», that *seems* to call in question the very existence of this class.

If at first he had defined the customary sign as «quod ex solo usu repraesentat sine publica impositione, sicut mappae supra mensam significant prandium» (27/25-28), now he shows that this point is not so easily cleared up: «Specialis difficultas», says he, «est circa quaedam signa, quae non publica aliqua institutione, i. e., ab auctoritate publica dimanante, sed sola ex voluntate particularium frequenter illis utentium ad aliquid significandum accomodantur. Unde quia tota vis significandi ex ipso usu et frequentia dependet, dubium restat, an iste usus et frequentia modo naturale significet an vero significatione ad placitum» (278/1-9).

In this way he puts tacitly aside the doubt seemingly expressed in the title — «Whether a sign arising from custom is truly a sign»¹⁵ — and states, before entering into the discussion proper, the only conclusion he considers to be possible: «Si consuetudo respiciat aliquod signum, destinando illud et proponendo pro signo, tale signum fundatum in consuetudine erit ad placitum. Si vero consuetudo non proponat aliquid vel instituat pro signo, sed dicat simplicem usum alicuius rei et ratione illius assumatur aliquid in signum, tale signum reducitur ad naturale» (278/10-17).

And in the following paragraph¹⁶ he makes clear what he means by *consuetudo* in the first and in the second case: «Itaque consuetudo vel potest esse causa signi, sicut si populus [N. B.: *not* publica auctoritas] consuetudine sua introducat et proponat aliquam vocem ad significandum [first case]; vel potest se habere ut effectus, qui nos manuducit ad cognoscendam suam causam, sicut canis frequenter visus comitari aliquem manifestat quod sit dominus eius, et consuetudo comedendi in mappis manifestat nobis prandium, quando mappas videmus appositas [second case]» (278/18-27)¹⁷.

The remaining discussion does not interest us now, since we have found already what we were looking for. As I said before, the disagreement between Couto and Poinso is entirely apparent, since the latter's three sign classes are actually and essentially reducible to Couto's two classes.

Other doctrinal points — such as the nature of signs as «entes reales» and «entes rationis», to mention but one of them — that I intended to deal

with, must be left aside, because of the unfavourable circumstances in which I have had to write this paper. I hope that I shall have later, as my study of Couto's commentary advances, the opportunity to treat them at leisure.

NOTES

¹ See, for instance, DIAS, J. S. da Silva — «O cânone filosófico coimbricense (1592-1606)», in *Cultura — História e Filosofia* IV (1985), pp. 257-370.

² No commentary to Aristotle's *Metaphysics* was ever published, certainly on account of the existence of Pedro da Fonseca's — the most renowned of all the Portuguese Jesuit philosophers — commentary, whose(?) four volumes appeared between 1577 and 1612.

³ The authorship of this volume is generally attributed to Father Sebastião do Couto, but I am strongly inclined to believe that it was rather the work of a «collectivum», that is, to accept literally what the title declares: «Commentarii Collegii Coimbricensis e Societate Iesu». Couto would be then one of the authors and, at the same time and, above all, the editor. However, for a question of convenience, from now on I shall mention the commentary on the aristotelian *Peri hermeneias* by(?) the name Couto.

⁴ Pp. 6 ff. (cf. note 6).

⁵ See note 2.

⁶ All the Poinso's quotations to be found here refer to Deely's edition of the *Tractatus de signis*.

⁷ From *De principiis dialecticae*, ch. 5: «Eodem sensu ... ait signum esse quod seipsum sensit et praeter se aliquid animo repraesentato» (p. 5c). I am quoting, from the «editio princeps», Coimbra 1606.

⁸ Cf. too: «Nam signum est quod loco rei substituitur et eius notitiam affert» (Couto p. 7).

⁹ See also 25/11-13.

¹⁰ See Art. I *Admultiplex signorum divisio explicatur*, pp. 12a-14c.

¹¹ Q. 1, Art. I *Quae sit essentia signi*, pp. 6-10.

¹² In Couto (p. 9a), we find too the name *signum ex impositione*, corresponding both to Poinso's *ad placitum*. The first one is probably the oldest: it occurs already in the XIIIth century's in Petrus Hispanus's *Summulae*, i.e., *Tractatus (Logicae)* (?). About this point and the explanation of Couto's designations, as well as about Poinso's concept of *impositio* cf. chapter 3 of my *Teoria Geral da Linguagem* and my edition of the *Summulae* with Versor's *expositio*, (both in preparation) and my *Teoria da Linguagem*, 1st edition Coimbra 1967, 6th edition Coimbra 1984(?), 7.16, note 22.

¹³ See below.

¹⁴ See note 10.

¹⁵ As Deely translates it.

¹⁶ The next one [279/1-22] is specially important on account of the neat distinction Poinso achieves there (see the text immediately quoted) between «lex/auctoritas publica» and «lex/auctoritas consuetudinis, i. e., populis», distinction which, I think, does not support Deely's interpretation on note 22 of p. 27.

¹⁷ As regards the really natural essence of this second kind of customary signs see 280/26-43, and about the incidental («per accidens») customary character of the stipulated («ad placitum») linguistic signs cf. 283/10-21 and my *Teoria da Linguagem* 8.17 and *Teoria geral da Linguagem* 4.3.3.

SEMIÓTICA: ALGUNS PROBLEMAS
EPISTEMOLÓGICOS E METODOLÓGICOS

SEMIOTICS: A FEW EPISTEMOLOGICAL
AND METHODOLOGICAL ISSUES

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SEMIOTIC AS COGNITIVE SCIENCE *

It was not long ago that I began to understand how much cognitive science and semiotics have — or should have — in common. I had heard remarks occasionally about how cognitive science should take semiotics more seriously, and I had even heard Thomas Sebeok reprove cognitive scientists for staking a claim to part of the territory of semiotics and then having the effrontery to call it by a different name¹. But my conception of cognitive science was tied closely to my conception of artificial intelligence in the late 70's, and that not remind me much of semiotics. The main concern of AI, in those days, was the rough internal architecture of artificial intellects — that is, of computer programs theoretically capable of driving instantiating hardware to perform intelligent activity. Quite a lot of attention was given to such questions as whether Stephen Stich and some suitably placed doppelganger had the same "psychology" — that is, the same set of intentional states — even though Stich *really* had perused dictionaries with Williard Quine while his doppelganger only thought he had. The main thrust of most of the philosophical work in AI, in those days, centered on the cogency of what came to be known as folk-psychology, and on the adequacy of functionalism as a general theory of mind. Actually, quite a lot of work was expended on the purpose and value of AI and on appropriate research methodologies. It is true, of course, that in the arguments that raged about the truthfulness, or usefulness, of folk-psychology, one often encountered penetrating discussions of the nature of such cognitive states as believing and desiring, and the question of the nature of representation was sometimes addressed. In fact, representation has always been recognized as a fundamental concern of AI. Margaret Boden has stated in the *Oxford Companion to the Mind* that "the central theoretical concept in AI is *representation*", and she says that "AI workers ask how a (programmed) system constructs, adapts, and uses its

* An early version of this paper was presented to the Toronto Peirce Conference, University of Toronto, 9 Oct. 1992. I have retained the somewhat autobiographical tone of the presentation. References to Peirce's writings are given in the standard fashion with CP indicating that the source is the Harvard edition (*Collected Papers*) and W indicating that the source is the Indiana edition (*Writings*).

inner representations in interpreting — and changing — its world” (p. 50). This willingness to postulate mental representations as crucial elements in intelligent performances was one thing that set AI theorists so clearly apart from behaviorists. Still, the focus on semantics and on internal functional structures, camouflaged a close family relationship between AI and semiotics. Besides, semiotics was not then in vogue within philosophy (even less so than it is today). In 1979, a well-known philosopher and a major contributor to AI, who knew that I was planning to write my dissertation on Peirce, advised me to reconsider because Peirce was so frequently associated with semiotics. Clearly that would not be good for my career. So I was not much inclined to think of AI as a close relative of semiotics.

Artificial intelligence is not my field of study, but during the period just described (in the late 70’s and early 80’s), I was excited about the promise of AI for epistemology and philosophy of mind, and since then I have followed from a distance the realignment of the more theoretical (dare I say philosophical) factions from the AI camp into what has come to be called cognitive science. For a time I tried to stay abreast of the main discussions in cognitive science, but in the end I was content to stay in touch only with the main trends. I was aware that there were some interesting defections from cognitive science, among the most notable those of Terry Winograd and, later, Hilary Putnam; and I watched the new science divide into two camps, the traditional camp devoted to the symbol processing model of cognition, and the newer neuro-science inspired connectionist (parallel processing) camp. More recently, I have noticed what seems to be an easing up of the commitment to the computational model that has been the single guiding foundational conception, which has stood (almost) as an axiom. I have also noticed that some of the dissenters from cognitive science have raised objections that parallel major concerns of semioticians. For example, in 1986, in his paper “How Old is the Mind”, Putnam pointed out that the task of formalizing interpretation (as well as the task of formalizing nondemonstrative reasoning) is normative, “in a way in which simply modeling how we actually, see or think or interpret is not” (Putnam 1986: 47). Yet it was not until March 5th, 1992, when I participated in a round table discussion on cognitive science and semiotics, that I was struck by their underlying commonalities, at least when the semiotics in question is Peirce’s.

On that occasion I heard practitioners from both sides characterize their work and, more revealingly, their general research goals. I had not thought much about the comparative goals of semiotics and cognitive science. The Lakatosian principal that a science is defined by its research program seemed to be accepted on all sides and, at first, this seemed to set the cognitive scientists and semioticians far apart. Assuming that the defining research program of a

science is revealed in the research activities of its practitioners, we looked at what the different participants do. The cognitive scientists work with computers a lot, some in programming and some in design (and they occupy a lot of E-space — that space dedicated to computer network interactions), they study neuro-science, they devise models of presumably intelligent behavior, they study linguistics (or certain parts of linguistics), they do a little philosophy, they fill out grant applications (because agencies still fund cognitive science), and they talk a lot. The semioticians study different language and sign systems, they devise models of sign interactions, they study linguistics (or certain parts of linguistics), they do a little philosophy, they are beginning to occupy a lot of E-space, they study Peirce, they don’t fill out grant applications (because agencies don’t fund semiotics much these days), and they talk a lot. What do cognitive scientists and semioticians have in common? They do a little philosophy and some linguistics, they occupy a lot of E-space, and they talk a lot. Hardly enough overlap to support the claim that cognitive science and semiotics are closely related research programs! However, as the conversation went on it became clear that really is an interesting overlap of purpose, obscured though it is by their diverse practices. I want to consider very briefly some of these general aims before I look a little more closely at Peirce’s semiotic in relation to selected issues in cognitive science.

Some cognitive scientists describe their field simply as one “dedicated to the investigation of processes such as thinking, perceiving, remembering, inferring, learning, believing, and knowing” (Aizawa 1993: 187). Others describe it more generally as the science which “studies the nature of cognition” in humans, animals, machines, or anything else — if anything else can cognize (Fetzer 1991: xvi). Another view is that cognitive science is quite simply the study of mind (Varela, Thompson, and Rosch 1992: 4). Almost all cognitive scientists, at least until quite recently, agree that they are committed to a computational model of cognition, but there is considerable disagreement over just what that means. For some it means a strong attachment to the research program of AI and the view that all cognition is mechanical in the sense that it can be completely “captured” or simulated in a computer program of the right kind (if we only knew how). For others the computational model is not as demanding, and seems only to involve the idea “that all cognition can be understood in terms of operations on symbols” (Pylyshyn 1980: 154). Naturally the “mother disciplines” of cognitive scientists, whether philosophy, linguistics, psychology, computer science, or whatever, strongly influence the direction research takes within cognitive science; but in general it seems to be agreed that the principal subject for research is cognition, but in a purer or more formal sense than for cognitive psychology. Perhaps we can say that cognitive science is the formal study of cognitive states and processes. We might even say that at

its most abstract level cognitive science is the logic of cognition. Winograd and Flores have identified three basic underlying assumptions of cognitive science: "1. All cognitive systems are symbol systems. They achieve their intelligence by symbolizing external and internal situations and events, and by manipulating those symbols. 2. All cognitive systems share a basic underlying set of symbol manipulating processes. 3. A theory of cognition can be couched as a program in an appropriate symbolic formalism such that the program when run in the appropriate environment will produce the observed behavior" (Winograd and Flores 1986: 25).

How should we characterize semiotics? If we look at what individual semioticians do, we will find at least as much diversity as there is among cognitive scientists, but at present I will not elaborate on this diversity of semiotic research — a diversity that depends partly, as with cognitive science, on the "mother disciplines" that feed it, but also on personal preferences that lead one researcher to one level and kind of sign activity and another to something very different. For present purposes, I will focus my attention on Peirce's semiotic: What is semiotic science, for Peirce? Because of the limitation of space, I can give only the briefest sketch of Peirce's general theory, after which I will point out what I believe are some interesting similarities to cognitive science. I should mention in passing that Peirce's theory of signs is extremely complicated and that the small glimpse I will give is as inadequate as a full account of Peirce's theory as was my account of cognitive science.

Peirce's semiotic is a general and formal theory of signs. It is general in the sense that it applies to any kind of sign. It is formal in the same sense that cognitive science is formal; its subject is signs and sign activity whether in humans, or animals, or machines, or anything else. Peirce's semiotic is a normative, not a descriptive, science. As far as his theory goes, it is not relevant to ask what sort of thing may instantiate the sign activity in question. In practice, however, Peirce does generally relate his sign analyses to actual sign user types, usually (but not always) persons. Semiotics divides into three branches. The first, speculative grammar, deals with signs as such, focusing on the necessary and sufficient conditions for signhood or, as Peirce says, what is requisite for representation of any kind. Speculative grammar deals mainly with syntax. The second branch, often simply called critic, deals with the relations of signs to the objects that they represent. The focus of critic is on semantic questions. The third branch of Peirce's semiotic is speculative rhetoric, which deals with the relations of signs to their users (or to the effects of the signs). The focus of this branch is on the pragmatic aspects of semiosis.

Up to this point one may well ask what this has to do with cognitive science. Here is the crucial point. On Peirce's view, every sign is in a special kind of triadic relation with the object that it represents and with what he calls

its "interpretant", the effect the sign has on its user or interpreter. The semiotic triad (sign-object-interpretant) belongs to the category Peirce calls "thirdness" and is what, in his view, constitutes mind. Peirce further holds, as is well known, that signs are the medium for thought or, as he says, that all thought is in signs. Taking into account his stipulation that all thought takes time and cannot occur in an instant, we can say that thought is semiosis (sign action). We can summarize Peirce's position by saying that minds are *sign systems* and that thought is *sign action*. It remains for me to point out that according to Peirce, cognition involves three elements: thoughts, the habitual connection between thoughts, and processes establishing these habitual connections. In his *Logic of 1873*, Peirce remarked that "it appears that every species of actual cognition is of the nature of a sign", and he pointed out that it is very advantageous to consider the subject from this point of view (W3: 75). Given these remarks it should be evident that, for Peirce, semiotic is (or at any rate includes) cognitive science. But recalling again that Peirce's semiotic is normative, not descriptive, we must remember its abstract nature and think of it as a formal (or as Peirce sometimes says, a "quasi-necessary") science. Perhaps we can think of it as providing a logic of cognition. You can see where we have arrived. The mission of Peirce's semiotic science, to use the jargon of the institutions of the present day, is the very mission of cognitive science. Peirce spent much of his life attempting to work out this science. It seems to me that cognitive scientists would do well to pay attention to what he found out.

That's how it seems to me. But I realize that it would be rather presumptuous of me to expect cognitive scientists who have never studied Peirce to undertake the study of his semiotic — knowing how difficult it is — simply because his general purpose appears to correspond to theirs. Are there more specific grounds for believing that Peirce's results might apply to current research in cognitive science? Are the two approaches to cognition even commensurable?

In the remaining pages I will begin to address these questions. What follows is preliminary — little more than disconnected remarks pertinent to questions about the relevance of Peirce's semiotics and its commensurability with cognitive science. In fact, I am convinced that not only are the two approaches commensurable but that Peirce has a great deal to contribute to current research on cognition. Actually, I was surprised to see how compatible the two approaches are — there is more agreement in principle than I expected. Of course some will find Peirce's theory to be less amenable to cognitive science than I found it, but even in that case it will be useful to begin working out the linkages between these two approaches both to see if and how they can inform each other and to get some idea of where the problematic spots are in cognitive theory — to find the cruxes, as we say in critical editing².

To investigate the relevance of Peirce's theory to current issues in cognitive science, I used E-space to find out what those issues are. I e-mailed the following question to a colleague in the cognitive science program in Bloomington: "What are the three most intractable problems in cognitive science today?" He forwarded my question to a cognitive science network discussion group and I received several helpful replies³. After reflecting on the replies, I identified what seem to me to be five interesting questions that reveal key features and commitments of cognitive science today. I will briefly consider these five questions, comparing Peirce's views with the received views in cognitive science, and will then take a final look at the question of the commensurability of (Peirce's) semiotics and cognitive science.

1. Is cognition computation? The view that cognition is computation is often thought to go back to Leibniz although it occurred earlier and may be related to the Roman view of logic. (Peirce claimed that the difference between the ancient Greek view of logic as *logos* and the Roman conception as *ratio* marked the separation between the conception of logic as language and that of logic as calculation). Some version of the Leibnizian view is held by most cognitive scientists, but is the idea that cognition is computation compatible with Peirce's semiotic?

I believe it is, but only with a number of caveats. The idea that cognition is computation on symbols would have to be broadened to include all kinds of signs. What would that entail? There are as many as sixty-six classes of signs, on Peirce's view, and many of these are primarily iconic or indexical. Working out the problems of syntax alone would be monumental. Computing with an indexical sign might require pointing some proto-sensory input device in a particular direction. It is noteworthy that Peirce claimed that indexical signs cannot function as signs in the absence of their objects. This would necessitate major refinements to the idea of practical computation. Computation on iconic signs would involve pattern recognitions and would be based on Peirce's abductive logic. Cognition may involve all three kinds of inference, so while Peirce's view may be compatible with the idea that cognition is computation (in an extended sense) it may be a view of computation extended beyond anything acceptable to cognitive scientists.

It might be thought problematic that Peirce holds that cognition is a semiotic *process*, and that signs always involve relations through time. But computation is also a process, so this may not be a stress point.

2. Is physicalism adequate? Physicalism, the monist theory which holds that physical matter (along with its states) is the only stuff, is the received dogma in cognitive science. If we add that physical matter is the only *existing*

stuff, I believe Peirce's semiotic theory of cognition is largely compatible with physicalism. Note that Peirce always held that signs have to be embodied. However, to say that Peirce's view is compatible with physicalism puts a lot of stress on the physicalist concession that there are states of matter as well as matter *per se*. Signs as relations through time and space certainly cannot be reduced to mere physical matter.

It might be thought that Peirce's objective idealism raises doubts about the compatibility of semiotic with physicalism, but to say that two views are compatible does not entail that they are equivalent. I admit that Peirce seemed to hold either that there is one kind of stuff, which is mind-stuff, or that there are three kinds of stuff corresponding to his categories. Even so, I believe that his theory is compatible with a weak form of physicalism. Besides, Peirce's semiotic science is epistemically prior to metaphysics and is relatively neutral to questions of ontology.

3. Does physical replication duplicate cognitive capacity? This is the kind of question that dominated discussions in philosophy of mind a few years ago, but it is useful for revealing what may be a "stress point" for the commensurability of semiotic with cognitive science. (This is really an extension of my remarks on physicalism.) Having conceded that Peirce's semiotic may be compatible with a weak form of physicalism, I must now admit that any physicalism that is compatible with Peirce's views may be too weak to be acceptable to cognitive science. This is because I believe cognitive scientists might find it difficult to accept that even though we might somehow manage to fully duplicate Newt Gingrich, molecule for molecule, Newt and his doppelganger might not be cognitively identical. Peirce could accept this result because he held that cognitive states are processes not reducible to mere physical matter. It is possible for two *different* signs at time t_1 to be physically identical. But the only way a physicalist can admit the non-identity of the two signs is to allow that two physically identical entities can at the same time be in different relevant physical states. The only relevant physical states, for cognitive scientists, are internal states. Being in different semantic relations, as in the example about Stich that I mentioned at the beginning of this paper, would enable Peirce to deny cognitive identity, but it might not count for the cognitive scientist as a relevant physical state difference. (I am equivocating here because I can imagine a case where a strong physicalist *could* deny the identity of Newt and his doppelganger at time t_1 because of a physical state difference. There might be corresponding particles in Newt and his doppelganger at identical positions relative to all other particles, but with different velocities.)

4. Can machines think. A few years ago when I was at the University of Bristol for a workshop on the philosophy of mind there was much discussion about whether true intelligence can ever be (artificially) created. It occurred to me then that one can be rather confident that intelligence can be and surely will be (perhaps already has been) created. How can I be so sure of this? Consider the probable origins of natural intelligence. By some grand primordial accident, no doubt a fairly trivial chance occurrence in the cosmic stirrings of the formative years, a little teleological process got going — as Peirce might say, the germ of a habit was born — from which life and intellect grew. Natural life and natural intelligence happened by accident, by the slow and visionless direction imposed by natural tendencies and urges. But now that intelligence of an admittedly still somewhat pitiful, yet under the circumstances rather astonishing, level has arisen, and especially now that the degree and level of intellect has surpassed that required for the ordinary maintenance of life (I will only mention that it is all too apparent that intellect has not yet reached the level necessary for maintenance of civilization and, perhaps, even the species), we humans can shift the focus of our natural intellects to the question of intelligence itself. If our natural intelligence grew from an accident in a primordial cosmic soup, at most hardly intelligent at all, then it is surely obvious that established intelligence concentrated to the degree it is in the minds of humans is far more likely to find the key to intellect and the means to manufacture it. This argument is not likely to persuade theists and deists and supernaturalists of other stripes; but for evolutionary naturalists it might carry a little weight.

Of course cognitive science holds that machines can think, although there is an important embedded question here as to what constitutes a machine. Some cognitive scientists, such as Justin Leiber, extend the scope of “machine” to include, at one extreme, artifacts such as natural language, and at the other extreme, organisms such as you and me. Surely our language can’t think but certainly we can. Given this broad view of machines I suppose no one would deny that some machines can think. The point though, I believe, is this: can anything think which functions by mechanical or physical causation alone? Peirce would say no, for he is firm in holding that mechanical and mental causation are distinct — the question to be addressed next. Yet it does not follow that machines can’t think, for it has not been shown that machines are in principle incapable of operating by semiotic action.

Peirce argues, though, that even if a machine can be made to reason as we do, it will have been designed with great care, and that the thought that goes into its design will be the true source of its rationality. I have not thought this through fully enough to judge whether this constitutes a serious difference between Peirce’s theory and cognitive science. It would seem that the “thinking” of any machine that has a capacity to learn would cease to count merely as an extension of the mental life of its designer.

5. What are the roles of mental action and mechanical action in cognition? This question applies primarily to Peirce, because cognitive scientists don’t make this distinction. In effect, cognitive science only admits what Peirce calls mechanical action (action by physical causation). But Peirce is unequivocal in holding that mere mechanical action, characterized by secondness, is not thought. All thought, all semiosis, involves mental action, which is characterized by thirdness. Mental action is action under the influence of final causation; it is what today we would call goal-directed action. Now cognitive science does take account of goal directed behavior, but usually the criteria for identifying such action, for instance, Dan Dennett’s intentional strategy, lead to the assignment of weak cognitive states to such instruments as thermostats (Dennett 1987: 37). Peirce, on the other hand, flatly rejected that the action of thermostats in controlling temperature is mental: “if [a] thermometer [Peirce wrote] is dynamically connected with the heating and cooling apparatus, so as to check either effect, we do not, in ordinary parlance speak of there being any *semiosis*, or action of a sign, but, on the contrary, say that there is an “automatic regulation”, an idea opposed, in our minds, to that of *semiosis*” (CP 5.473).

Here we seem to have found a crucial difference between current cognitive science and Peirce’s semiotic — one that might represent a real incommensurability. Yet mental action cannot occur in the absence of mechanical action, even though they are of distinct types, so it might be possible to work out a theory of semiotic action based on some kind of chunking rule, or on some other combining principle, that will preserve Peirce’s richer view of causation without seriously offending cognitive science. Peirce knew that there was a problem here. In 1908 he wrote: “Thus, it may be that thought only acts upon thought *immediately*, and matter *immediately* only upon matter; and yet it may be that thought acts on matter and matter upon thought, as in fact is plainly the case, somehow” (CP 4.628). Peirce was confident that there must be a way to explain how semiotic action can have mechanical consequences and how mechanical acts can have cognitive effects. This should assuage the cognitive scientist, who can continue to hold to physicalism without cutting the ties with semiotic.

These considerations suggest that there are a number of tensions between cognitive science and semiotic but that there are enough points of contact to make some sort of collaboration worthwhile. The next step to be taken is to examine some intricate problem in cognitive science, such as the situatedness problem, using the full force of Peirce’s semiotic theory⁴. I am confident there would be useful results. But I do not wish to imply that the benefits of collaboration would all go one way. Cognitive science might bring the spirit of

pragmatism — the laboratory spirit — back to semiotics. Not that it was absent for Peirce, but it is fair to say that it has been absent for some of his followers. The very essence of Peirce's pragmatism was to orient the ship we sail through the sea of language and other signs, with the external world — to *connect* the universe of discourse and thought with the universe of facts. It may well be that today's cognitive scientists are better pragmatists than many of today's semioticians. Has the time come for these two interdisciplinary sciences to begin working together in the spirit of American naturalism?

NOTES

¹ See Sebeok 1991, pp. 2-5, for some development of this point.

² I do not wish to imply that no work is being done in this area. See n. 5 below.

³ The following nine intractable problems summarize the replies:

(1) What is thought and can we in principle build machines (computers) that can think? This is really Turing's problem, which should not be confused with the Turing test.

(2) The problem of cognitive architecture. Is thinking symbolic and computational in the way that a Turing machine computes? Or is thinking sub-symbolic and non-symbolic in the way connectionist networks have it?

(3) What is consciousness and what is its role in cognition? A related problem is the extent to which machine intelligence is possible without emotion and/or consciousness.

(4) What is inductive learning and how do we do it?

(5) The problem of semantics. What is meaning and what does it matter?

(6) The frame problem. What knowledge do we need in order to get around in the world, how is that knowledge actually represented or encoded if it is, and how can that knowledge actually be deployed in action without running into knowledge-base update problems? (Christopher Hookway has characterized the frame problem as "the problem of how we are able to engage so efficiently in fallible *ceteris paribus* reasoning" (Hookway 1984: x).

(7) The problem of the integration of higher and lower cognition. How are reasoning, planning, language and so on integrated with perceptions, motor control, mood, emotion, and the like?

(8) The situatedness problem. What must a cognizing system be like to be properly situated in its world? This has at least two dimensions. The semantic aspect is known as the grounding problem. There is also a temporal dimension: properly understanding cognition means taking time seriously, and developing an understanding of cognizing systems as essentially temporally embedded in their world. A related problem concerns the extent to which understanding cognition requires understanding the world (not just the physical environment, but also the social context) in which the agent is embedded, and how we can get a "scientific" grip on that world.

(9) How does the brain do it? How does neural circuitry give rise to cognitive functions? In particular, how can linguistic capacities, with their extraordinary productivity and systematicity, emerge from neural processing?

⁴ See problem 8 in n. 3 above. Such work is has begun already in the work of cognitive scientists like James Fetzer and Barbara Von Eckardt and in the work of a number of Peirce scholars and general semioticians. There is a need for a good survey of articles and works showing the relevance of semiotics to particular problems in cognitive science.

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TOWARDS A SEMIOTIC CALCULUS

Vivem em nós inúmeros,
Se penso ou sinto, ignoro
Quem é que pensa ou sente.
Sou somente o lugar
Onde se sente ou pensa.

PESSOA

1. Introduction

A 'semiotic calculus' would enable us to deduce, among many other things, whether or not from the two statements 'the keystone is a sign of the Commonwealth of Pennsylvania' and 'the Commonwealth of Pennsylvania is a sign of a gift to William Penn by Charles II,' it is proper to conclude that therefore 'the keystone is a sign of a gift to William Penn by Charles II.' In other words, a semiotic calculus might make available to the verb 'is a sign of' or (synonymously) 'signify,' besides the calculations of classical syllogistic or enthymemic reasoning as in Aristotle's *Prior Analytics*, also those of the propositional calculus as in Frege (1879) for verbs like 'implies.' (This is of course the verb 'strictly implies' or in common parlance 'entails,' so that 'p implies q' can be illustratively paraphrased as 'if p is true then necessarily q is therefore also true.')

That is, the 'Pennsylvania' sentences just instanced would yield a semiotic deduction in just the same spirit as is found in the propositional or logical deduction: 'the possession of a furrowed brow implies the possession of a Ph.D.' and 'the possession of a Ph.D. implies the attainment of social respectability,' therefore 'the possession of a furrowed brow implies the attainment of social respectability.' In short, a semiotic calculus would enable us to define the verb 'signifies' or 'is a sign of' as a functional connective, surely a useful task in that it must precede any exact understanding of how signification works, which understanding must in turn form part of the very nerve of semiotics, no matter what its immediate object of inquiry¹.

We will mean by a 'proposition' a sentence for which some degree of truth is asserted with some degree of certainty. 'Degree of truth' we could generally define as falling between 0 and 1 inclusive, that is between 'altogether false' and 'altogether true'; but for our present purposes we will fix the truth value of our propositions at 0 or 1, ignoring the rich varieties of 'maybe' in between those two termini. Moreover, except where noted to the contrary, we will assume that any assertion of truth or falsity is made with a certainty of 1, that is, with absolute certainty. In all, then, when we entertain a proposition such as 'that weathervane is pointing northward' we will take it to be quite true or else quite false, and to be asserted to be so with absolute certainty. (Such assumptions are of course better made in logic than in life.) We note also that it cannot be the function of a semiotic calculus to say whether or not a given weathervane is indeed pointing northward: that is the province of empirical observation and aletheutics. The calculus will only be able to tell us things like this: given a (true or false) proposition about the weathervane, and a (true or false) proposition about the local wind, *if* the first does signify the second, does the second therefore signify the first? Lastly, we make the crucial observation that except where noted to the contrary our calculus will deal with propositions about weathervanes (and other things), not with weathervanes themselves (or their mental images). It's the pointing-southward of the weathervane that signifies (more accurately, someone's real or potential observation of that event). So what signifies is expressed by the proposition 'that weathervane is pointing southward' ².

The verb 'is a sign of' or 'signifies' is not easy to define; here, to ease exposition, we will assume that it means 'calls to mind' or 'potentially calls to mind' and thus denotes a real or potential event or class of events in which, for some real or possible sign-processor, *aliquid stat pro aliquo*. One might hope that, under whatever proper definition is warranted by the semiotic calculus, the cardinal verb 'signify' would be so defined as to be invariant over the whole of the sign domain; in other words that it would hold for all three of the classical Peircean signs index, icon, and symbol. But let's not start by prejudging the matter. Accordingly, in the beginning we'll take up the three sorts of signs separately.

2. As to the Index

As always, the easiest example of the Peircean index, because the purest, is the instrument: 'that weathervane's pointing southward signifies that the local wind is from the south'; or, to bring this expression closer to propositional terms, '(that weathervane is pointing southward) signifies that (the local wind

is from the south).' To fortify our discussion of the index with the promised discreteness, let us when treating of indexical signs substitute for the verb 'signify by means of an index' the verb 'indicates.' So the southward-pointing weathervane *indicates* a local southerly. Now we ask: if we are also told that 'the local wind's being from the south indicates that it's going to warm up,' from this plus the earlier sentence 'that weathervane's pointing south indicates that the local wind is from the south' can we therefore conclude that 'that weathervane's pointing southward indicates that it's going to warm up'? In other words, letting 'p', 'q', and 'r' stand respectively for the three propositions 'that weathervane is pointing southward,' 'the local wind is from the south,' and 'it's going to warm up,' if p indicates q and q indicates r, can we infer that therefore p indicates r? The answer is: granting that p does indicate q and that q does indicate r, then, yes, p must [ultimately] indicate r. Let's take this chain of semiotic reasoning further: let's add 'its being about to warm up indicates that more beer will be drunk.' Is it therefore just to conclude that 'that weathervane's pointing southward indicates that more beer will be drunk'? Letting 'more beer will be drunk' be represented by s, does p [ultimately] indicate s? Again, though a trifle far-fetched in the quotidian sense, this semiotic deduction seems inescapable. But 'more beer's being about to be drunk indicates that more bar-fights will erupt,' so that the south-pointing weathervane must indicate an increase in bar-fights; hence more broken teeth; hence more dental work; hence a greater demand for gold; hence a greater need to find the precious metal and dig it out; hence an upsurge in the sexual frustrations of lonely prospectors in the Arizona hills. Letting 'an upsurge in the frustrations of Arizona prospectors' be denoted by z, is it really true that p [ultimately] indicates z? The apparent answer is: Again, *if* each of the 'indicates' propositions contained in the chain is granted, the first link must [ultimately] indicate the last one. So 'indicates' is 'transitive' in the sense familiar from logic.

Let us now take up another relation of 'indicates,' the one logicians call 'symmetry': If p indicates q, does therefore q indicate p? If this weathervane's pointing southward indicates that the local wind is a southerly, does therefore a local southerly indicate that this weathervane is pointing southward? A thorny point, perhaps, if we recall that a south-pointing weathervane may or may not indicate a southerly (it may be being actuated by mischievous boys), and that a local southerly may or may not indicate that any local weathervane is pointing southward (the mischievous boys again). But this is not the issue: the issue is, *if* the weathervane indicates a southerly, does therefore that southerly indicate the direction in which the weathervane is pointing? Put otherwise, under the circumstances in which a south-pointing weathervane reliably indicates a local southerly, does the occurrence in that location of a local southerly reliably

indicate that that same weathervane is pointing southward? Plainly, the answer is 'Yes.' In which case 'indicates' is both transitive and symmetric.

We now turn to the third logical relation, that of reflexivity. Does *p* indicate itself? From *p*, in other words, or rather from the assertion that *p* is true, can we conclude that 'p indicates p'? Does the weathervane's pointing southward indicate that the weathervane is pointing southward? Obviously, if only in an admittedly vacuous sense, yes. If so, then 'indicates' is transitive, symmetric, and reflexive.

(This is probably the place to note that any claim of parity between 'signifies' and the logical connective 'if and only if' could at most claim only partial functional equivalence, with no further implication, if only because 'signifies' — in the case at hand, 'indicates' — is not universal but contingent. The south-pointing weathervane indicates a local southerly only if not actuated by pranksters, and so on; the southerly indicates that a local weathervane is pointing southward only if there is one, and so on. Thus 'indicates' is *at most* functionally equivalent to 'contingently if and contingently only if.' Whether such contingencies are best satisfied in a Peircean interpretant, after the sign → object connection has been made by abduction, or before that connection has been made, hence in what we might call a neoPeircean 'prosemenomenon,' remains to be explored elsewhere.)

(As a related point, we note that it cannot be that both 'indicates' and [for example] 'symbolizes' are synonymous with 'signifies,' since if they were they would be synonymous with each other. We also note that 'indicates' has similarities to the relation 'materially implies'; but this is not the place to take this further.)

3. As to the Icon³

In the preceding section I have used 'indicates' as a convenient synonym for 'signifies by means of an index,' and now I need a similar synonym for 'signifies by means of an icon.' The ideal would be something simple like 'represents,' but that verb is too broad in its meaning. For instance, in 'Pope John XX represented the hopes of the multitude' no imaginable Peircean iconic relation is envisaged, since John XX bore no physical resemblance to the hopes of the multitude⁴. Other obvious alternatives like 'resembles' have pitfalls of their own. With all due reservations, therefore, I will adopt the neologism 'iconizes.' Now we want to proceed to ask: is 'iconizes' transitive? But first we must remind ourselves that when dealing with indices we dealt only with propositions like 'that weathervane is pointing southward,' whereas icons are less uniform. For it would seem that the Queen's profile on a coin is an icon of the Queen herself, iconizes the Queen herself, in a topological sense

irrespective of any proposition about Queen or coin: irrespective of whether the coin (or Her Majesty) is upside-down, for instance. Such icons are best dealt with as if expressed by *nominals*, not propositions; and in such instances instead of speaking about propositions 'p', 'q', 'r', and so on, we should speak of nominals 'A', 'B', 'C', and so on. Yet some icons appear to be events, just as much so as with indices like 'that weathervane is pointing southward.' Running a finger across one's throat, for instance — a popular sign meaning 'I've had it' — is an iconic sign of, because it resembles, the act of having one's jugular slit. This is not the place to take this discussion further, and so we will have to content ourselves with distinguishing, wherever necessary, between 'nominal' and 'propositional' icons.

Is 'iconizes' transitive, then? If A iconizes B and B iconizes C does A therefore iconize C; if p iconizes q and q iconizes r, does p therefore iconize r? If the haut-relief profile on the American penny iconizes a portrait of Lincoln, and if the portrait of Lincoln iconizes Lincoln himself, does the penny therefore iconize Lincoln? Surely it must. By the same token, if using one's finger to make an imaginary scribble in the air iconizes making an actual scrawl on paper, and if making such a scrawl iconizes writing something intelligible, does the airy scribble therefore iconize genuine writing? Again, it would certainly seem so. In sum, 'iconizes' — or 'is an iconic sign of' — would seem to be transitive. And, given how tenuous can be this sort of signification, because the foundational similarities hence the grounding of the iconization can be so slight, the transitivity of 'iconizes' would seem to be well granted even when between the first term of a lengthy series so connected, and the last, there is almost no discernible resemblance at all. A sketchy rendering of Lincoln's haut-relief profile iconizes Lincoln too, though it does so even less faithfully than the penny; and a child's crude rendering, or a caricature, presumably does the same. The notion of iconicity is necessarily as broad as is that of similarity; this granted, 'iconizes' must be as transitive.

Is 'iconizes' symmetric? Does Lincoln himself iconize the penny in the same sense as the penny iconizes Lincoln? Despite the fact that Lincoln himself is rife with warts, while the profile on the penny is unso? As before, the answer would seem to be in the affirmative — precisely as Sebeok has trenchantly maintained (1979/1989: 119-120) — though in speaking of Lincoln's 'iconizing' the penny, in the sense of iconically signifying it, we are of course using a somewhat refined semiotic terminology, and are not speaking in the vernacular. (But the vernacular has a point, as we will see below.)

Is 'iconizes' reflexive? Does the profile on the coin iconize the profile on the coin? Does Lincoln iconize himself? At first the question seems absurd; but an answer in the negative turns out to be more absurd still. For as was

noted earlier if 'is a sign of' means anything it means something like 'calls to mind,' or better 'is in principle capable of calling to mind'; and if Lincoln's profile were to be proscribed from iconically calling Lincoln's profile to mind, this would mean that on seeing Lincoln's profile one could not be aware of the fact that Lincoln's profile, whatever else it might resemble, resembles itself more closely still. If this is so we are left with no alternative but to say that 'iconizes' is reflexive.

Concluding, let us say that 'p iconizes q' is a correct expression and that 'A iconizes B' is a correct expression but that 'p iconizes A' and 'A iconizes q' are *not* correct expressions. That is, we forbid the mixture of prepositional and nominal variables. The point is subject to debate, but not within the compass of this paper.

We note, lastly, that, like 'indicates,' the relation 'iconizes' is transitive, symmetric, and reflexive, and so is functionally equivalent to the relation 'contingently if and contingently only if.'

4. As to the Symbol

With the third Peircean sort of sign, the symbol, we arrive at what may at first seem new difficulties; but these are easily dispelled.

First, is the verb 'symbolize'—adopting the obvious synonym for 'is a symbolic sign of' or 'signifies by means of a symbol'—transitive? If the word 'pan,' for example, is a symbol standing for a certain class of cooking-utensils, and if pans are a symbol of household drudgery, is then the word 'pan' a symbol of household drudgery? It would certainly seem so; if so, 'symbolize' is indeed transitive. But in actuality the written word 'pan' cannot be said to symbolize anything in its own right, for it symbolizes 'cooking utensil' in English but 'bread' in Spanish, 'flap' in French, 'Help!' in the international radio code, and in most languages nothing at all. So it would seem more correct to say this: ('pan' when occurring in the context of an English sentence) symbolizes (*cooking utensil* as understood in the context of English discourse). Or something of the kind, even pedantry has its limits. But these two parenthesized expressions are propositions. Thus we are dealing, not with 'A symbolizes B,' but with 'p symbolizes q.' Below, we may sometimes fall casually into the habit of speaking of symbolizing as if between words and objects—that is, we may sometimes speak in terms of nominals instead of propositions—but we will do this only to avoid what pedantry we can.

Secondly, is 'symbolize' symmetric? If ('pan' as occurring in English) symbolizes (*cooking utensil* as occurring in English discourse) does (*cooking utensil* as in English discourse) symbolize ('pan' as in English sentences)?

Here is where we meet the promised 'new difficulties,' since on first glance it seems absurd to answer in the affirmative. We are quite willing in everyday speech to take the pan, or the class of all pans, or any particular pan, as a symbol, provided that what is symbolized is something like 'household drudgery'; but surely it's putting the cart before the horse to say that the utensil 'symbolizes' the word that stands for it. Generally, which is to say in everyday parlance, 'symbolize' is not symmetric at all: whatever the Statue of Liberty symbolizes, for instance—free enterprise, let's say⁵—it seems preposterous or even ungrammatical to say, in turn, that free enterprise symbolizes the Statue of Liberty. Yet, despite the vernacular use of the word 'symbolize,' it may be correct to take it, *sensu stricto*, to be symmetric after all. If 'symbolize' means 'to signify by means of a symbol,' which in turn means 'to signify by means of a sign tied to its significatum arbitrarily or by convention,' then surely it is in fact quite correct to say that 'free enterprise' symbolizes the Statue of Liberty, given the arbitrary (non-indexical and aniconic) relation that obtains between the two terms and considering the fact that, in somebody's mind, the former may call to mind the latter, given that the latter can call to mind the former⁶. Should someone associate such a symbol as the Statue of Liberty with any abstraction, that person's pondering that abstraction could expectably call to mind—that is, symbolize—the symbol. For since it is part of the very *definiens* of a symbol that it signify its object arbitrarily (whether on agreed-upon convention, as within the confines of canonical language, or by the ad-hoc decision of some signifier), such signs, unlike indices or icons, are not tied to their objects by any intrinsic bond, and can in principle signify anything. The point is perhaps a little strange in respect to the Statue of Liberty; less so in respect to the swastika.

There does, of course, remain the salient difficulty that calling 'free enterprise' a symbol when as just above it 'symbolizes' the Statue of Liberty, grates against our everyday sense of the language and, more importantly, of what a symbol is, or of how one works. This objection is all the more compelling when one claims, as just above, that the utensil called the pan 'symbolizes,' when it calls it to mind, the word 'pan' that represents it, thus making the utensil the symbol and the word—ordinarily the 'symbol' incarnate—the significatum, the *semenomenon*, the Peircean object. In fact, however, the difficulty in question resolves into a mere quibble over the meaning of the word 'symbol' when used alone as opposed to when it forms the root of the verb 'symbolize.' Ordinarily, a symbol is taken to be 'something chosen to represent something else; esp. an object used to typify a quality, abstract idea, etc.' But no one, it might be argued, has 'chosen' the concept of free enterprise to 'represent' the Statue of Liberty in this sense, or 'chosen' the pan to 'represent' the word 'pan.' Yet the notion of choice is a

tricky one: what if somebody does make the choice in question? Has he not then reversed the usual order of things; is it not then true that, for that person at that moment of choosing, the symbol is not the word but the utensil? And then was it not always the case that the utensil *could* be the symbol and the word 'pan' the significatum? But is not it inherent in the notion of 'symbolize' that the significations it covers be potential, not necessarily actual? If so, then the verb 'symbolize' is indeed symmetric, despite the fact that in ordinary parlance the word 'symbol' is used (and most usefully) in a much more limited and uni-directional sense: namely, *res pro notione*, the thing you can see for the thing I can think. The only difficulty that remains, then, is the one that Peirce himself created when he used the term 'symbol' to mean 'a sign signifying arbitrarily or by sheer convention.' For 'symbolize,' the relation obtaining between any such sign and its significatum, is quite obviously symmetric, on fresh consideration, while the term 'symbol,' which is simply the Peircean term for any sign caught in such a relation, has a popular use quite at variance with this relational notion, breeding, even among semioticians, no end of confusion.

Before we leave this digression to return to our theme of the moment, we might remark that the same comment applies, *mutatis mutandis*, to the nouns 'index' and 'icon' as contrasted with the verbs 'indicate' and 'iconize.' In fact it applies to the word 'sign' itself, as contrasted with the verb 'signify': in all three cases, just as with 'symbol' and 'symbolize,' in common use the noun applies only to something *in use* to stand for or represent — to signify — something else; commonly one speaks of the weathervane as being the indicator, for example, but scarcely of the wind as being such. It's a mark of Peirce's genius that he recognized, hidden behind ordinary usage, the fact that the sign-object relation can be dissociated from the nature of the sign itself (whatever that might mean). By the same token it's a mark of Peirce's obduracy and isolation that, in choosing terms, he chose ones that would necessitate explanations like the one here concluding.

Returning to our theme of the moment, is 'symbolize' reflexive? Does the word 'pan' symbolize, among other things, the word 'pan'? On the one hand, if 'pan' symbolizes a pan and a pan symbolizes 'pan,' there would seem to be, given that 'symbolize' is transitive, no alternative to concluding that 'pan' symbolizes 'pan' indeed that therefore 'symbolize' is reflexive. For myself, I have to confess that I have no idea what it means to say that 'pan' symbolizes 'pan'; but perhaps this is one of those logical or rather semiotic relations whose vacuity does not detract from — if, indeed, it does not add to — its verity.

We conclude that, like 'indicates' and 'iconizes,' the relation 'symbolizes' is transitive, symmetric, and reflexive.

5. Conclusion

We have seen good reason to conclude that all three sorts of signifying — indicating, iconizing, and symbolizing — are transitive, symmetric, and reflexive. In all, then, the semiotic relation of signifying, whether it takes the form of indicating, iconizing, or symbolizing, is functionally equivalent to the logical relation 'contingently if and contingently only if.' We now briefly consider what a semiotic calculus, so construed, might yield in the way of calculations on complex chains of signs varying as among index, icon, and symbol.

First, to clarify matters, let us state the three axioms of the semiotic calculus that we have arrived at, using the symbol 'imp' to mean 'implies,' using the symbol 'sig' to mean 'signify,' and leaving all contingencies tacit:

Axiom 1: $((p \text{ sig } q) \& (q \text{ sig } r)) \text{ imp } (p \text{ sig } r)$ [Transitivity]

Axiom 2: $(p \text{ sig } q) \text{ imp } (q \text{ sig } p)$ [Symmetry]

Axiom 3: $p \text{ imp } (p \text{ sig } p)$ [Reflexivity]

(Minuscules stand for propositions; the same Axioms can be restated to hold for nominals, represented by majuscules.)

Now we consider a chain of significations, mixing indices, icons, and symbols, to see what conclusions our three Axioms permit us to draw from such a chain. How about: [(that weathervane points southward' indicates 'the local wind is from the south') iconizes ('that chip of wood drifting northward' indicates 'the current is heading northward')] symbolizes ('a material object physically influenced by a physical force' indicates 'aspects of that physical force')? This is of the form, simplifying, of [(*p indicates q*) iconizes (*r indicates s*)] symbolizes (*t indicates u*). Substituting 'v' for the entire underlined expression, and 'w' for the expression 't indicates u', we obtain 'v symbolizes w'. We know from our Axioms that 'symbolizes' is symmetric. So 'w symbolizes v.' Since precisely this is true, we have the first glimmerings of a semiotic calculus, quod erat inveniendum.

NOTES

¹ How the calculus fits the interpretant, I leave for another time.

² As to the symbol, there too I will assume that it isn't words that signify, but propositions about where they occur and in what language, even dialect. Note that e.g. the word 'corn' can't properly be said to signify much until its context is established as British or American, since in the former dialect 'corn' means 'grain'; in the latter, 'maize'.

³ I have argued elsewhere that the Peircian icon is merely a special case of the sign I have called the 'synesthon,' but I won't embroider the issue. For the record, a sign is a synesthon if it signifies its object by evoking in its perceiver a *similar reaction* (whether or not by virtue of any imputed physical similarity). Not all synesthons are icons. When for some observer excrement (sign) signifies some politician (object) — as verbalized in in 'that little shit' — he need be imputing no physical similarity, it's just that sign and object elicit similar reactions.

⁴ Or so one assumes; there was no Pope John XX, nor will there ever be.

⁵ The Statue of Liberty, since a representation of it currently appears on their licence-plates, is seemingly viewed by New Yorkers as symbolizing the State of New York. Odd. The statue is in New Jersey.

⁶ '[T]he Chinese...were always more inclined to regard a communication...less as the contents of a vessel than as the vessel itself...' (Cooper 1973, 53).

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SEMIOTICS, ENANTIODROMIA, CHANGE AND DETERMINISTIC MODELLING

Introduction

According to an outside observer, contemporary structuralism is reconsidering diachrony: the dominance of synchronic studies gives way to new approaches and visions (Gal-Or 1983:467).

To underpin this observation, one of the currently wavefront concerns which, by its complexity, keeps many sober minds perplexed, is change in its many forms. Change or transformation, by its nature, cannot be described in a synchronic fashion — being the par excellence manifestation of semiosis, it is calling for a diachronic approximation. Thence, the study of change by semiotics implies the study of semiosis as well. Indeed, this need had been identified long ago, although the appropriate methodology — apart from Peirce's own existential graphs — was missing (Ransdall 1986:678).

As I will suggest below, there is a variety of powerful means by which one can start modelling some of the more delicate issues of semiosis. These tools are widely used, although in scholarly communities other than those of semioticians. Yet their underlying frame of thought can be well interpreted in terms of semiotics, to the benefit of the cooperating disciplines.

Semiosis

By semiosis, we mean a sequence of moments, to which the triadic sign relation "as the most basic form or structural principle of a dynamic process" applies (Ransdall 1986:675). This process is illustrated with great insight by Charles Sanders Peirce: "the technical word semiosis refers to the action of a sign in generating or producing an interpretant of itself (...) Any given sign is itself necessarily an interpretant of a prior sign of the same object (...) which implies that the object of the sign is, in any given case, distanced from it by a logically intermediating sign" (Ransdall 1986:675). What remains to be studied

in more detail, however, is the actual behaviour of signs — how exactly interpretants turn out to be objects of a next level in the course of signification? From an average sign population, what will be the percentage of symbols, indices and icons, not to speak of Peirce's more detailed classifications? During semiosis, due to modifications in their relational structure, is there any conversion of sign types into one another?

To illustrate the latter, imagine the following situation: somebody hands out invisible gifts, and I am competing for the prizes with others. The person will say: "This is for you; for you; even for you." My mental state, according to whether I identify momentarily with one of the "you" or with the "even you", will change its type as a sign; from a proud icon, resembling the generous donor, I will diminish into a tiny and arbitrary symbol, or perhaps an index of this gesture (at least as long as I identify with my state, which is another stage of semiosis). If we have no dynamic idea of how these events can be visualized, we cannot answer the tantalizing questions above (cf. Marty 1990:304-305).

Consequently, since change and semiosis are so intertwined that nobody ever has seen one without the other, there is little doubt that ongoing scholarly research in many areas would welcome new possibilities through simulation and modelling. Fields such as zoosemiotics, phytosemiotics, or the mapping of intra- and extracellular communication, or economics and politics, are in constant need of hypothesis testing.

Enantiodromia and change

The frame of my thought is to distinguish between enantiodromia and real change, much in the sense of Watzlawick *et al.* who made a difference between first- and second-order change (Watzlawick *et al.* 1974). The idea goes back to Herakleitos (Kirk 1954, Kahn 1983, Maly-Emad 1985), the connection between the philosopher and the psychologists being Jung (Jung 1976:375).

The word enantiodromia means the progress of opposites toward each other: "Die Jeweiligen sind füereinander *enantiol* in der urspruenglichen Bedeutung des griechischen Wortes, d. h. sie sind einander als Feinde "entgegengesetzt" (Held 1980:98). The concept refers to alternation between two polar opposites or between two sets of them (cf. Fragment B 8: "Moving-against [is] a bringing together, and from out of separation [comes] the radiant joining", in Maly-Emad 1986:17). It properly accounts for any series of modifications which, departing from an initial state perceived as a set of signs, result in some other deviant sets of values, described by sign agglomerations being oppositely different from the initial set. With time, however, just while the new values happen to start being acceptable to the majority of the signifying population, a continuing but this time opposite convergence toward old values

and sets of signs would begin, again testing the tolerance of the majority. This state of ambiguity, being torn apart by divergent torrents, is what people are exposed to most of the time, and what Herakleitos must have referred to — although, as Beaufret suggests, this reference was pertinent to a state of All-One rather than to ambiguity, to a principle unifying antagonistic forces rather than to the opposites themselves (Beaufret 1987:72-77). At the same time, this concept explains why history, in spite of ever changing, cannot escape old sets of values in new disguise. Since this type of alternation is always located on a certain existential plane, by its very nature it is two-dimensional, that is, it leads nowhere but back to the beginning. It is like a twodimensional universe, with no way out into a third dimension, fooling human effort and aspirations.

Real change, on the other hand, depends on finding a frame of reference for, but always outside of, a given situation (Watzlawick *et al.* 1974:20). To explain the oddity of this existential constraint, itself the engine of cognition in the form of contextualization (see below), let me cite a brilliant example. Talking about the puzzling identity of information in an Information Age, would we suddenly find ourselves back to the Iron Age and ask a local smith, what is iron, he would eventually not even understand the question, because he would lack molecular theory as a frame of reference (Devlin 1991:1). Since real change is as rare as the legendary white crow, the quest for it begins always by making a certain existential situation questionable, examining its facts, modes and reasons. It is intrusion into a new dimension: from the existential plane, it is moving out into existential space. It is rather a psychological than a social experience, inherent e.g. in religious bliss, enlightenment, or revelation. Without mastering it, which is outside of both individual and social control, it penetrates humans instead. Intuitive vision behind (and sometimes beyond) scientific reasoning, yet preceding it from somewhere outside of human perception, is also a matter of fact. Kekule, a reputed French chemist who finally suggested that benzole must have a circular structure of carbon and hydrogen atoms, is said to have been struggling with different linear arrangements of them in vain until one night, on his way home (and under a Paris moon, they say), he dreamt atop an omnibus with atoms dancing in a ring.

In a quite similar manner, human cognition as a sociohistorical preoccupation is both devoted to the acquisition of new patterns, in order to be learnt and recognized at a later stage, and aspiring for contextualization, i.e. moving out from its present stage, into the context, which exactly corresponds to conquering new dimensions of understanding (cf. P. Maranda, personal communication). Compared to the dimensionality of enantiodromic processes, change or contextualization is therefore always one dimension higher than the previous level of understanding was. This, on the other hand, explains it well why official or individual declarations of change do not bear any other fruit than promises. Change, like semiosis, is beyond control or cognition.

Due to the must of contextualization and huge investments in science, part of this pattern acquisition, i.e. cognitive activity resulted by now in superstring theory, a ten-dimensional description of the physical universe, instead of the four-dimensional spacetime we came to get used to. No claim, however, has covered the possible number of those psychological dimensions which, to no less extent, shape our globe and environment. Yet the concept of contextualization seems to be quite pertinent to all cognitive activities, and needs therefore to be distinguished from enantiodromia as such.

The role of mathematical modelling

The role of mathematical modelling is to challenge our ideas about reality, whatever it (or they) may be. Modelling is meant to formalize, properly arrange, and mobilize our percepts about a particular domain of the world. In spite of this apparently mechanistic philosophy, we seem to know no better way to test a pudding than to taste it. "In general, by a mathematical theory, is meant a scientific treatment of certain real-world phenomena, carried out within the framework of mathematics, using (and developing, when required) mathematical techniques. Examples of such theories are fluid mechanics, signal processing theory, many parts of theoretical chemistry, and most branches of what is generally known as theoretical physics" (Devlin 1991:3).

As I have indicated in some earlier papers, an enantiodromic chain of events sometimes underlies history or mythology (Daranyi 1995, cf. Figure 2; Marty 1990:224-226). Phases of such processes can be described by Markov chains, in which, in spite of convergence toward some alternative goal state which opposes the initial state of the system, the probabilities of a next phase depend only on that of the prior state in the chain. That is, an increasing frequency of events of a particular type inevitably leads to certain wellpredictable consequences, whereas other phases make the occurrence of other types of outcome more probable. Because of enantiodromia, such a probabilistic system can produce symptoms such as "what was forbidden yesterday will become compulsory tomorrow", often embarrassing the victims of politics and ideology. Also, P. Maranda suggested that such Markov chains can be extracted from texts by discourse analysis (Maranda-Nadeau 1993). Measuring the probabilities of events such as expressions, and mapping them onto a structure which can act as a semantic network is a concept which, paired with phase transition maps of enantiodromic processes, needs only one input component, the mapping of event classes onto phases of the chain. Given the distribution and frequency of event types over a closed system, their probabilities can then be calculated. I will demonstrate it elsewhere how this mapping can be carried out by multivariate classification techniques.

This already takes me to my next topic, semiotic modelling. Some of the implied concepts have been investigated recently such as continuity (Dusek 1993), the evolution of conceptual spaces with regard to dimensionality (Gärdenfors 1993), and experimental philosophy in particular (Mayo 1993:161). Further, there are several tools which allow for scholarly accuracy while experimenting with process scenarios. Let me enumerate some of those which are accessible to anybody. In the end, I will give an example how elementary linear algebra can help to analyze state transformations.

Modelling Tools

The methods available include the stochastic modelling of ageing (Glänzel-Schoepflin 1995), time series analysis, genetic algorithms and evolutionary computation, linear structural equations and causal modelling (Joreskog-Wold 1982; Blalock 1985) and linear algebra (Watkins 1991). The major underlying concern for all of them is to find or estimate the transformation function which converted a sign population such as a pattern of dots with associated meaning into a next one. Between the initial and the goal state, sign exchange by intermediary transactions of any kind among entities, consisting of signs themselves, is allowed. The basic idea for this approach is that entities are patterns of their features, a pattern embodying a texture of characteristic features and their interwoven relations both on individual and on group level. Consequently, modification in states of a system corresponds to a transformation of a pattern into a consecutive one.

Such patterns can be extracted from sign populations by means of multivariate statistical analysis, eminently by block clustering (Hartigan 1976). As is the case with matrix representations of populations, columns in the matrix can represent individuals (called observation cases), to be compared for the values of their features (called observation variables). These variables are displayed in the rows of the matrix, or vice versa if we compare a big sample by a few traits. Thus we have three analytic directions: we can compare cases for their similarities or dissimilarities in terms of their variables and observe their grouping into clusters, or we may be interested in the agglomerations of comparison criteria (words underlying phrases, symptoms referring to a disease). Since comparison criteria are always signs as well, the results for these two analytic directions are either sign clusters or groups of individuals based on a common use of certain signs. The third direction is to relate the two above approaches and to show how exactly sign (variable) clusters underly case groups. This can be done by block clustering, for instance.

In block clustering, the result of analysis is a block matrix, in which the original arrangement of the row and column input vectors is permuted to give

rise to case groups homogenous in terms of the variables they share. The block matrix needs to be read like a crossword: we look for a group of e.g. individuals along the vertical axis, then we follow the matching horizontal rows to find those variables which explain the emergence of a particular case cluster. We can learn for instance that individuals Ian McGregor, William Hynes and Stanley Monfort were grouped in one cluster because they all are men, more than 1.60" tall, have red hair and blue eyes, whereas individuals Monica Galante, Rosalinda Benvenuti and Mariangela Chiara formed a second group, sharing the traits female, less than 1.60" tall, dark-haired and with blue eyes.

Transforming patterns by linear algebra

Matrices are patterns and vice versa, therefore matrix operations are pattern operations as well, adding up, subtracting, multiplying and dividing sign agglomerations. Once we have created such agglomerations by classification, there is no reason why we should not consider transforming one into the other, thus imitating change (cf. Marty 1990:163-164). As a matter of fact, Peirce himself dealt also with this field, having written footnotes and an addendum to his father's book on the subject (Peirce 1980).

In linear algebra, operator matrices are the means to bring about certain changes on observation matrices. Given matrix A, the initial state and matrix B, the goal state, the course of modification can be imagined as matrix multiplication, where x, the multiplier matrix, is unknown. A and B are matrices describing consequences, x is the matrix of deterministic factors. Since matrix multiplication is not commutative, we will not receive the same result if we multiply A by x from the right or the left side:

$$\begin{aligned} Ax &= B \\ xA &= B \end{aligned}$$

We can learn the values of x by dividing B by A. This is done by multiplying B with the inverse of A, matrix A^{-1} again either from the left or the right side. If A is invertible,

$$x_1 = (1/A)B = A^{-1}B$$

or, using Matlab notation, $x_1 = A \setminus B$. Similarly, for $xA = B$,

$$x_2 = B(1/A) = BA^{-1}$$

again, in Matlab notation, $x_2 = A/B$. This is the notation we will use below when computing some transformation matrices.

Matrix multiplication is possible if the sizes of matrices match, i.e. the number of columns in matrix A equals the number of rows in matrix B (Harman 1967:34). Further, a matrix can be inverted if and only if its determinant is nonzero, otherwise the solution will be singular, i.e. containing infinite values. In this case, a generalized inverse can be computed as a second-best solution. Linear algebra computer programs such as Matlab or Maple, can find x, using a least squares approach. This means, if the optimal solution cannot be found, the approximation closest to optimum will be chosen.

Given the above constraints, we can formulate the following model, in which chained and multilayered factors act upon connected consequences (Figure 1). Let the direction of matrix multiplication represent the direction of change. I.e., let matrix A change into matrix B and C, consecutively, over period t_{1-3} , so as the transition from A to B is determined either by primary operators x_1 or x_2 , and from B to C either by y_1 or y_2 . In this case, $By = C$, where $y_1 = (1/B)C = B \setminus C$, and $y_2 = C(1/B) = B/C$.

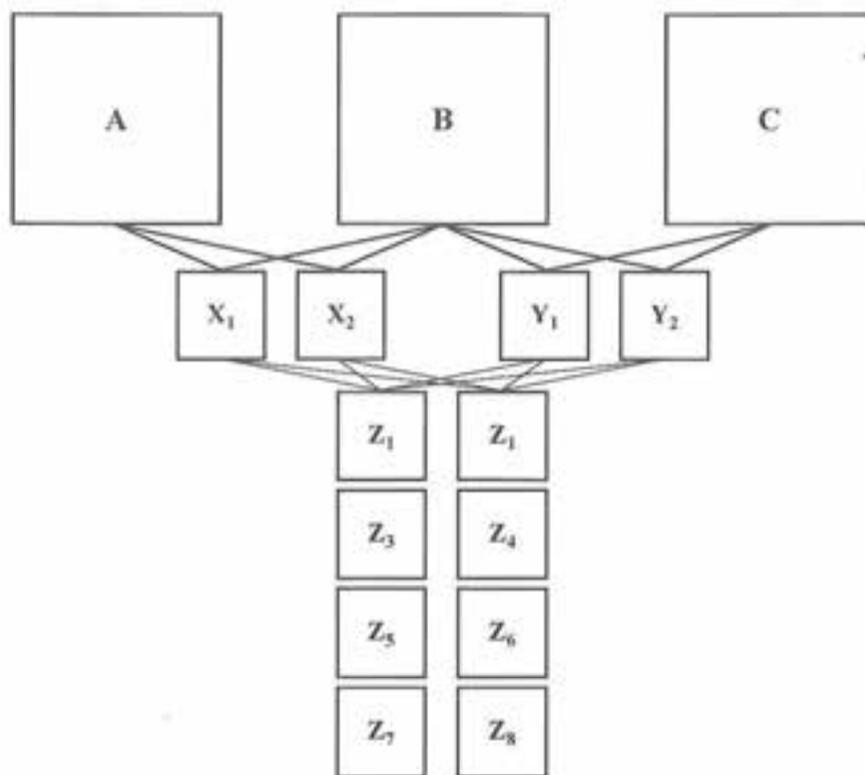


Figure 1 — Deterministic model of a transformation process

Since, however, this will also correspond to transitions of x to y one level deeper, let us express secondary operators $Xz = Y$ and $zX = Y$ as

$$\begin{aligned} Z_1 &= X_1^{-1}Y_1 = X_1/Y_1 \\ Z_2 &= Y_1X_1^{-1} = X_1/Y_1 \\ Z_3 &= X_2^{-1}Y_2 = X_2/Y_2 \\ Z_4 &= Y_2X_2^{-1} = X_2/Y_2 \\ Z_5 &= X_2^{-1}Y_1 = X_2/Y_1 \\ Z_6 &= Y_1X_2^{-1} = X_2/Y_1 \\ Z_7 &= X_1^{-1}Y_2 = X_1/Y_2 \\ Z_8 &= Y_2X_1^{-1} = X_1/Y_2 \end{aligned}$$

Taking random examples, the numerical results will be as follows:

$$\begin{array}{ccc} A = \begin{matrix} 1 & 2 & 1 \\ 3 & 1 & 4 \\ 3 & 1 & 1 \end{matrix} & B = \begin{matrix} 2 & 2 & 1 \\ 3 & 1 & 2 \\ 1 & 1 & 3 \end{matrix} & C = \begin{matrix} 1 & 3 & 3 \\ 2 & 2 & 3 \\ 3 & 1 & 1 \end{matrix} \end{array}$$

$$\begin{array}{l} X_1 = \begin{matrix} -0.1333 & 0.0000 & 1.0667 \\ 0.7333 & 1.0000 & 0.1333 \\ 0.6667 & 0.0000 & -0.3333 \end{matrix} \\ X_2 = \begin{matrix} 1.1000 & -0.5000 & 0.3000 \\ -0.4000 & 1.0000 & 0.8000 \\ 0.2000 & 1.0000 & -0.4000 \end{matrix} \\ Y_1 = \begin{matrix} 0.0000 & 0.4000 & 0.9000 \\ 0.0000 & 1.2000 & 0.7000 \\ 1.0000 & -0.2000 & -0.2000 \end{matrix} \\ Y_2 = \begin{matrix} 1.0000 & -1.0000 & 1.0000 \\ -0.5000 & 1.0000 & 0.5000 \\ -0.7500 & 2.0000 & -0.7500 \end{matrix} \\ Z_1 = \begin{matrix} 1.6000 & -0.1200 & 0.1300 \\ -1.2000 & 1.2400 & 0.4900 \\ 0.2000 & 0.3600 & 0.8600 \end{matrix} \\ Z_2 = \begin{matrix} 1.5833 & -0.5500 & -0.1333 \\ -0.5833 & 1.1500 & 0.7333 \\ -0.4167 & 0.2500 & 0.6667 \end{matrix} \\ Z_3 = \begin{matrix} 0.4833 & 0.0667 & 0.4167 \\ -0.6667 & 1.6667 & -0.3333 \\ 0.4500 & -0.8000 & 1.2500 \end{matrix} \\ Z_4 = \begin{matrix} 1.3000 & -0.8000 & 0.8000 \\ 0.2000 & 1.2000 & 0.0000 \\ 0.8000 & -0.6000 & 1.2000 \end{matrix} \\ Z_5 = \begin{matrix} 0.4667 & 0.1467 & 0.5800 \\ 0.6667 & 0.2667 & 0.1000 \\ -0.6000 & 1.2400 & 1.0400 \end{matrix} \\ Z_6 = \begin{matrix} 1.0250 & -0.5750 & 1.1000 \\ 0.2750 & 0.6750 & -0.4000 \\ -1.4500 & 1.3500 & 0.2000 \end{matrix} \\ Z_7 = \begin{matrix} -0.7000 & 2.7000 & -0.7000 \\ -0.1000 & -0.9000 & 0.9000 \\ 0.8500 & -0.6000 & 0.8500 \end{matrix} \\ Z_8 = \begin{matrix} 0.0267 & 1.2000 & -0.5867 \\ 1.6533 & -0.6000 & 1.6267 \\ 0.8667 & -1.0000 & 0.9333 \end{matrix} \end{array}$$

Since at least one of the operator matrices x , y and z could be computed, our assumptions about a deterministic change from A to C through B hold for this case. But obviously, this model can become complex enough quite soon. As the number of time shifts increases, so does the number of operator matrix layers, and the number of possible operators. By only four stages of a transition in study, there are three levels of deterministic effects accounting for the outcome on surface level, indicating possible dispersions of factors which interact both upon one another and lastly upon the observable events in a sequential fashion. As yet, it is not clear, what may create and trigger a deterministic chain reaction of this type.

To develop these ideas, I hope to return elsewhere to the application of transformations meaningful to semiotics, such as ageing of an imaginary population.

Discussion

To identify factors affecting event scenarios, the general practice is deducing them from the outcome of events. This process can be made more transparent, using linear algebra. Provided a modification of two consecutive states of a system is brought about by factors inherent in that system, one can compute a measure of transition, in form of an operator matrix. The model I have introduced is deterministic and linear: its potential interest lies in the fact that, once one has identified the operator matrices, she can analyze them and learn about the structure of deterministic factors. Moreover, there is a direct possibility of manipulating matrix B through primary operators x_1 or X_2 , and C through y_1 or y_2 . That is, by replacing values in the operator matrices, through multiplication, the effects will cascade down to B and C , respectively. This can lead to induced specific changes, a kind of semiotic engineering. It lies with future research to show, however, if reality tolerates such a high degree of determinism or more random mechanisms must be also included in the model (Carus 1891-92,1892; Peirce 1891-92,1893; Burks 1977:549-606). The general question is, whether sequences of historical events can be described by such an over-determined model, in which many combinations of factors lead to the same consequences. By other methods identified above, other, near- or indeterministic, linear and non-linear models can also be built.

Acknowledgements

This paper was written during my visit as a Kaiser Endowed Lecturer at the School of Library and Information Science, Indiana University (Bloomington). My gratitude goes to Zoltan Hajnal (Technical University, Budapest), for explaining the role of operator matrices. Also, I am greatly indebted to Nathan Hauser and Paul Nagy (Indiana University, Indianapolis) for discussions on the subject.

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EL OLVIDO DEL CONTEXTO EN EL ANÁLISIS DEL SIGNIFICADO

El olvido del contexto en el análisis del significado se ha dado, prácticamente desde el principio de la tradición occidental. El estudio de los signos — me voy a referir sobre todo a los lingüísticos —, se ha concentrado en la información más o menos homogénea que puede ser descrita fácilmente y que puede ser sistematizable, practicando ciertos tipos de análisis relativamente mecanizados. Es decir, los análisis se han concentrado, por ejemplo, en los significados unívocos de carácter referencial que no van más allá de una oración. Muchos de estos estudios se basan en el uso exclusivamente cognoscitivo del lenguaje, o, peor aún, sólo en el estudio del léxico, y de manera un tanto aislada, en el funcionamiento de otras formas mínimas, como las clases de palabras. Por lo general estos trabajos, lo más que alcanzan es a hacer análisis intraoracionales — *y siempre de oraciones aisladas* — del comportamiento de esos signos.

Todo esto ha significado que muchos de aquellos aspectos del lenguaje que son difíciles de sistematizar, porque reflejan la heterogeneidad propia de una gran parte de los fenómenos semióticos, se echen al olvido. Por ejemplo, para tomar sólo el caso de nuestro casi terminado siglo XX, en el análisis lingüístico tradicional, normalmente se dejan fuera las diferencias de significado lingüístico que se deben, en primer lugar, a la existencia de los prácticamente infinitos contextos y de las infinitas situaciones comunicativas; casi se olvida que al hablar o al escribir podemos producir constantemente nuevos significados a través de la combinación de oraciones; pero también se olvida muchas veces que los mismos lingüistas han señalado la importancia de hechos, como la existencia de niveles, de clases o de estratos sociales distintos, las diferencias relacionadas con la mayor o menor cultura de un hablante, las diferencias dialectales derivadas de la dispersión geográfica de una lengua, las diferencias originadas por el uso de una lengua para determinadas técnicas especializadas (lenguajes técnicos o jergas), los usos que intencionalmente pretenden diferenciar a grupos sociales distintos (argots), los cambios que el contacto de lenguas introduce en un sistema (empleo de extranjerismos, tanto léxicos, como fonéti-

cos y sintácticos), y desde luego, las diferencias diacrónicas — históricas —, que caracterizan y van cambiando a todo sistema lingüístico vivo.

En este tipo de análisis tradicional, con frecuencia se toman en cuenta sólo los valores de uso que pueden ser relativamente estables dentro de un determinado dialecto geográfico. Estos valores, generalmente coinciden con los significados o con los sentidos que se perciben como más comunes, o con los sentidos que son estadísticamente más frecuentes, dentro de ese dialecto. Pero se ignoran aspectos fundamentales que forman parte de estos mismos hechos, como todos aquellos valores que los propios términos van adquiriendo, según el uso que se hace de ellos, dentro de esa misma modalidad lingüística. Por ejemplo, rara vez se estudian los tabúes lingüísticos o las *improper forms*, como las llamaba Bloomfield¹. Es decir, no se toma en cuenta cómo una forma dada, y su eufemismo, pueden tener la misma denotación, ni cómo la primera forma tiene, además, una connotación "impropia" o vulgar, que impide utilizar ese término en determinadas situaciones sociales; ni tampoco se entiende que el eufemismo también adquiere un valor, que a su vez es otro significado, que indica que la persona que lo usa "respeto" las convenciones sociales que prohíben el uso de tabúes lingüísticos.

En la misma línea, del olvido de los elementos que no sólo acompañan, sino que son inherentes al lenguaje, podemos afirmar que también son muy escasos los estudios lingüísticos del significado que toman en cuenta todas las formas que indican intensificación. Por ejemplo, las exclamaciones, las interjecciones, las groserías, diversas onomatopeyas, las formas hipocorísticas, y — muy importante — los tonos diferentes de euforia, depresión, iracundia, triunfalismo, petulancia, prepotencia, etc., que son esenciales para la comprensión del significado en un contexto o en una situación dada.

En cambio, lo normal es que, al hacer un corte en el tiempo (sincronía), en una determinada lengua, — tomemos el español como caso, pero lo mismo se aplica al inglés, al francés, etc. — para describir ese idioma, por ejemplo, para hacer una gramática o un gran diccionario, como el de la Real Academia Española, sólo se toma en cuenta, o únicamente lo que es común a esa lengua (a ese diátesis). También sucede algo más grave, en este caso de la Real Academia Española, sólo se describe lo que es propio de un dialecto determinado, como el castellano, con algunos añadidos mínimos de las hablas americanas y de otras peninsulares como los dialectos andaluces. Con esto no sólo me refiero a las palabras y las acepciones del *Diccionario*, sino también a la *Gramática* de la Real Academia Española, construida sobre el castellano viejo. El genial americano², Andrés Bello, en el siglo XIX, hizo que se añadiera una parte importante de la riqueza sintáctico-semántica del español de América. Más allá de esta excepción, el resultado de ese tipo de concepción lingüística casi siempre es pobre: lo que se produce es, desde una fonética y una fonolo-

gía básicas muy elementales que no cubren el enorme ámbito de la lengua española — caso que estamos tratando —, hasta una morfología muy general, reglas sintácticas muy amplias y abarcadoras, un léxico reducido, pero estadísticamente muy frecuente, etc., que en todos los casos no describen las variantes y propiedades comunes y diferentes de esa misma lengua.

Aun más grave me parece que se olvide el contexto y por lo mismo, toda aquella producción de significado que se da a través de la combinación de oraciones, cuando el objetivo consiste ya no sólo en describir, sino en llegar mucho más lejos, hasta intentar *explicar* el funcionamiento de todo el lenguaje humano a través de una lengua, o más recientemente de varias. Tal es el caso del generativismo de origen chomskiano, que a pesar de sus grandes aportaciones sintácticas a la teoría lingüística — hay que reconocer que en cuanto a sintaxis intraoracional se refiere, el avance que produjo la revolución chomskiana es una de las grandes aportaciones de nuestra segunda mitad del siglo XX al estudio, no sólo de la sintaxis, sino en general, de los signos —. Sin embargo, es notable que esta teoría se haya iniciado, a mi modo de ver, reduciendo sus miras, al mostrar una gran falta de comprensión hacia lo que es el significado en una lengua natural o el significado, en general, de todo el lenguaje humano.

Sin embargo, hay que tener en cuenta que la intención explícita de Chomsky fue no llegar nunca más allá de la oración, posición que continúa sosteniendo. En cuanto a significado, su intención inicial también fue no tocar ese hecho tan complejo, inasible y en apariencia asistemático, que es el significado. No obstante, es bien sabido que posteriormente, Chomsky al ir modificando el papel que desempeñaba el componente léxico dentro de su teoría, le asignó a éste un papel cada vez más importante; también es obvio que en cada reelaboración de su teoría lingüística ha introducido más y más nociones semánticas³. En lo relativo al estudio de la variabilidad o de la fijeza de las formas lingüísticas, los conceptos de gramaticalidad y de aceptabilidad han desempeñado un papel importante, a pesar de que la intención de la gramática generativa no ha sido de ninguna manera estudiar la variación gramatical o léxica, específicas de ninguna lengua. Sin embargo, los cuestionamientos que se formularon a la validez y a la utilidad de estas nociones de gramaticalidad y de aceptabilidad, obligaron a los generativistas a tener más presente el problema del significado y a simplificar menos los hechos semánticos.

Para comprender estas simplificaciones en el estudio del significado, que evidencian un gran temor a entrar en la semiótica, debemos remontarnos un momento a la primera mitad de nuestro siglo XX.

En los inicios del estructuralismo, la parcelación del estudio del significado lingüístico surgió, en gran medida, por el hecho de que en los Estados Unidos se empezó a considerar la lingüística como ciencia, gracias sobre todo a Bloomfield y a la *Encyclopedia of Unified Science*, ca. 1939⁴, lo cual exigió

que se dejara de lado todo aquello que no fuera sistematizable, y entre ello, lo que hizo más daño que dejara de lado fue el análisis del significado.

Paradójicamente, junto a la preocupación de lingüistas como Bloomfield, que crearon y consolidaron el estructuralismo norteamericano, cuyo propósito explícito fue trabajar únicamente con objetos estables y homogéneos (aunque en el caso de Bloomfield, él aceptara y supiera muy bien que el significado de la mayoría de los términos de una lengua implican "situations that have not been accurately classified — and these latter are in the great majority" [situaciones que no han sido clasificadas con exactitud y que constituyen la mayoría]⁵, encontramos que en la misma *Encyclopedia of Unified Science*, Charles Morris publicó una de las obras que han tenido una fuerte influencia a favor del estudio del significado: *Foundations of the Theory of Signs*⁶. Gracias a Charles Morris, editor asociado de la magna obra⁷, y gracias también a otros pensadores, en su mayoría filósofos o matemáticos dedicados a la lógica (Rudolf Carnap, Bertrand Russell, Susan Stebbing, Alfred Tarsky), en la *Encyclopedia* se refleja un interés evidente por el estudio del significado.

Pero, lamentablemente, a pesar de estas aportaciones a la semiótica, la lingüística norteamericana posterior a Bloomfield redujo sus miras en relación con el estudio del significado, al dejar de tener presentes ciertos objetivos básicos del movimiento anterior, como por ejemplo, considerar el conocimiento científico, no de un modo fragmentario, sino en su totalidad.

En Europa, uno de los lingüistas que — involuntariamente — contribuyó más a la fragmentación que supuso estudiar lo exclusivamente homogéneo y dejar de lado lo aparentemente heterogéneo, fue Louis Hjelmslev, quien intentó construir, desde una rigurosa perspectiva científica, dentro de la lingüística saussuriana, y de la misma manera que Bloomfield, también bajo la influencia del empirismo lógico⁸; una teoría lingüística, basada en el análisis *deductivo*. Partió para ello, como sabemos bien, de la distinción entre planos (contenido y expresión) y estratos (forma y sustancia), y de la a veces peligrosa noción de solidaridad — unívoca — entre la forma de la expresión y la forma del contenido, que es lo que produce la *relación semiótica* que constituye la *denotación*⁹. La sustancia, tanto de la expresión, como del contenido, no es para Hjelmslev, objeto de estudio de la lingüística, ni tampoco el uso de los signos. Para Hjelmslev, puesto que todo análisis lingüístico debe ser deductivo — hay que partir de las formas mayores, textos, y descender a las formas mínimas. Y los únicos objetos susceptibles de ser analizados de esta manera son lo que Hjelmslev llama las *semióticas denotativas*, que suponen la homogeneidad de su objeto¹⁰. Sin embargo, es difícil que una lengua natural pueda someterse estrictamente a este riguroso sistema de análisis que se limitaba a sí mismo al admitir únicamente objetos homogéneos. El pulcro modelo, casi matemático, propuesto en los *Prolegómenos* peligró hasta convertirse en utopía, puesto que

los textos que se producen en cualquier lengua son normalmente heterogéneos. El propio Hjelmslev así lo reconocía:

Al preparar el análisis lo hemos hecho suponiendo tácitamente que el dato es un texto compuesto en una semiótica definida, no en una mezcla de dos semióticas. En otras palabras, para ofrecer una situación que sirva de modelo *hemos operado partiendo de la premisa de que el texto dado muestra una homogeneidad estructural [...]. Esta premisa, sin embargo, no es válida en la práctica [...]: cualquier texto que no sea de extensión tan pequeña [...], suele contener derivados que se basan en sistemas diferentes*¹¹.

Sin embargo, Hjelmslev, ante este rigor que le exigía la ciencia y puesto que la realidad se le iba de las manos, tuvo que introducir en su teoría una parte — muy explotada por ciertas corrientes semióticas, como la greimasiana — sobre las *semióticas connotativas*, dentro de las que colocó todo lo que consideraba heterogéneo: formas literarias (verso, prosa, combinación de ambos); estilo (creativo, arcaizante, imitativo), registros diferentes (culto, vulgar, neutro), tonos diferentes, lenguas nacionales, lenguas regionales (lengua estándar, dialectos locales), etc.¹². Pero es indispensable saber que este aspecto nunca lo desarrolló, sino que fue únicamente una especie de justificación para su teoría. Lamentablemente las reinterpretaciones de esas líneas de Hjelmslev perjudicaron mucho al análisis del significado, porque ciertas corrientes semióticas cayeron en una especie de "cientificismo *acientífico*" que llevó, a mi modo de ver, al desorden y a la incomunicación y alejó a muchos estudiosos de lo que es la claridad, el rigor y el orden mental.

Por eso, al analizar el significado de unidades mayores a la oración, muchas veces en los estudios literarios se confunde el significado que se organiza en unidades mayores a la palabra o a la oración con sentidos o significados que se califican erróneamente de "anormales", "asistemáticos" o "heterogéneos". Es frecuente leer en los estudios literarios que pretenden ser científicos, que el significado de tal o cual palabra, frase, oración o párrafo en un contexto dado es anormal, que es una desviación del sistema, que es polisémico, que está ideologizado, que no se puede encontrar en ninguna gramática o diccionario, o simplemente que es distinto porque — se suele afirmar — es "literario o metafórico". Sin embargo, en escasas ocasiones se intenta explicar qué sería lo normal, cuál es el sistema del que se desvían los textos, en qué consiste lo monosémico, lo no ideologizado, lo no metafórico, lo no literario o lo prosaico. La respuesta a este exagerado encuentro de "anormalidades", desde mi punto de vista, está en que se analizan varias oraciones que — sencillamente — producen significados nuevos, impactantes, interesantes que, por supuesto, no han consignado los diccionarios.

La compacta e incompleta visión histórica que hemos esbozado, nos lleva a reconocer cómo, con algunas excepciones, por ejemplo la adquisición del lenguaje, la geografía lingüística y la dialectología, la lingüística en el siglo XX ha transferido a otras disciplinas el estudio de la información que denominó heterogénea o asistemática, y al mismo tiempo, ha dejado de lado el contexto, como si el lenguaje humano consistiera en oraciones aisladas.

En nuestro siglo XX, pues, el significado lingüístico ha quedado dividido en varias parcelas pequeñas: la sociolingüística se atribuyó el estudio de ciertas características de los sujetos hablantes, la psicolingüística se concentró en los sujetos oyentes y la pragmática se ocupó de la interacción entre ambos. Mientras que la crítica literaria, siguiendo la tradición, continuó ocupándose de algo, que podemos llamar, "lo bien escrito" o el "estilo literario".

Los lingüistas, al no querer enfocar al mismo tiempo los problemas del sistema y los de su realización y al expulsar de su objeto de estudio al contexto, se han topado con obstáculos que no han podido librar, como en el caso del estudio del léxico. Por un lado, continúan trabajando con listas de palabras, cada una con las múltiples acepciones como se consignan en los diccionarios, con las cuales no pueden formar ningún sistema, pero, por otro lado, ya perciben que los hechos aislados del habla, aunque no sean fácilmente estructurables, hay que estudiarlos. Sólo en los últimos años se ha empezado a librar el escollo de la separación tajante entre lengua y habla, entre código y mensaje.

En resumen y para terminar, sabemos bien que el significado, o los significados que las lenguas pueden comunicar son, por naturaleza y por esencia, infinitos. Por lo tanto, si las combinaciones que producen significado son infinitas (me refiero a construcciones de cualquier dimensión), todas las variaciones resultan fundamentales. Hay que tomar en cuenta, desde las combinaciones sintácticas más pequeñas, hasta el estilo, entendido como todos aquellos factores que concurren para dar originalidad significativa a una expresión, ya sea una frase, ya sea un diálogo, una conversación, un texto, o un libro entero.

Pero esto no puede hacernos dejar de lado lo que es nuestro propio objeto de estudio: el lenguaje humano en toda su complejidad. No podemos seguir analizando sólo de modo microscópico la realidad lingüística de la semiosis. Debemos, continuamente, ir y venir del análisis del detalle a la visión del conjunto, como acostumbra hacer la ciencia. Sólo así podremos perdernos, ni en la complejidad y enorme dimensión del bosque — las lenguas y el conocimiento que se obtiene a través de ellas, la cognición, como la ha llamado Pele ahora —, ni tampoco debemos perdernos en el también complejo análisis de la hoja de un determinado árbol — ya sea un acto de comunicación, un tipo de oración o una clase de expresiones.

¹ Consúltense la ed. inglesa de *Language*, George Allen & Unwin, London, 1961, p. 155 [1.ª ed. 1933]. La trad. española transcribe *improper* por *impropias*, término que no traduce el sentido de la palabra inglesa.

² Al decir América, me refiero a todo el continente y no sólo a los Estados Unidos.

³ Para la gradual incorporación de nociones semánticas en la teoría de Chomsky, véase de Frederick J. Newmeyer, *Linguistic Theory in America*, Academic Press, Orlando, Florida, 1986. Del propio Chomsky, la "forma lógica" está ampliamente explicada en *Knowledge of Language. Its Nature, Origin, and Use*, Praeger, New York, 1986.

⁴ Véase ahí la importante colaboración de Bloomfield, *Linguistic Aspects of Science. International Encyclopedia of Unified Science*, Vol. 1, núm. 4, University of Chicago Press, Chicago, 1939.

⁵ *Language*, George Allen & Unwin LTD., London, 1933, p. 139. Bloomfield siempre reconoció que había que estudiar el significado lingüístico de una manera científica, pero veía que el problema para lograrlo estaba en el retraso de la ciencia misma. En la misma obra dice: "La definición de los significados es [...] el punto débil en el estudio de la lengua, y seguirá siéndolo hasta que el conocimiento humano avance mucho más allá de su estado presente. En la práctica definimos el significado de una forma lingüística, siempre que podemos, por medio de los términos de alguna otra ciencia. Cuando esto no es posible, recurrimos a recursos provisionales". Cita de la ed. española, *Lenguaje*, trad. de A. Zubizarreta, Universidad Nacional Mayor de San Marcos, Lima, 1964, p. 162.

⁶ Vol. 1, núm. 2, The University of Chicago Press, Chicago and London, 1938.

⁷ La obra quedó inconclusa a causa de la Segunda Guerra Mundial y de la muerte de su fundador, Otto Neurath.

⁸ Hjelmslev parece haber conocido bien a empiristas lógicos como J. Jorgensen y R. Carnap, a quienes en los *Prolegómenos* cita con frecuencia.

⁹ Recordemos que Hjelmslev dice que: "la relación que reúne los dos planos (la relación semiótica, o más especialmente, en el caso de una semiótica ordinaria, la denotación) es, como es sabido, una solidaridad...". cf. *Louis Hjelmslev, Prolegómenos a una teoría del lenguaje*, versión española de José Luis Díaz de Liaño, Gredos, Madrid, 1943, p. 177.

¹⁰ Recordemos que su definición de semiótica es: "Una jerarquía [...], cuyos componentes admiten su análisis ulterior en clases definidas por relación mutua, de modo que cualquiera de estas clases admite su análisis en derivados definidos por mutación mutua", cf. *Louis Hjelmslev, Prolegómenos a una teoría del lenguaje*, versión española de José Luis Díaz de Liaño, Gredos, Madrid, 1943, p. 150.

¹¹ Los subrayados son míos. Cf. *Louis Hjelmslev, Prolegómenos a una teoría del lenguaje*, Versión española de José Luis Díaz de Liaño, Gredos, Madrid, 1943, p. 161, y véase también para los tipos de "connotadores", L. Hjelmslev, "La estratificación del lenguaje" en *Ensayos lingüísticos*, (Vol. XII de los Travaux du Cercle Linguistique de Copenhague, Nordisk Spog-og Kulturforlag, Copenhague, 1954), Gredos, Madrid 1959, especialmente pp. 56 y 80-81.

¹² *Louis Hjelmslev, Prolegómenos a una teoría del lenguaje*, Versión española de José Luis Díaz de Liaño, Gredos, Madrid, 1943, pp. 161-162.

DISCOURS ET AFFECT *

Le sujet de cet essai soulève d'emblée la question concernant le lieu théorique à partir duquel la relation entre discours et affect sera envisagée ici. Parler de *discours* et d'*affect* présuppose en fait la conversion de chacun des termes en objet spécifique au champ qui le constitue, délimitant leur étendue selon les contraintes d'un cadre épistémologique donné. Dès lors, tout ce qu'on peut en dire ne concerne pas la réalité phénoménale devenue corrélat de l'activité de connaissance, mais dépend en conséquence strictement de l'engagement méthodologique qui les construit.

La sémiotique, mais aussi la psychanalyse, formulent des hypothèses et élaborent des simulacres explicatifs susceptibles de rendre compte de ce phénomène — l'affect — qui se donne aussi bien pour l'une que pour l'autre à travers le discours, sans se confondre avec lui. Hétérogène, dans cet ailleurs au-delà de la forme, l'affect ne s'appréhende pas toutefois en dehors de ses effets. Le sémioticien le repère dans "ses pulsations discordantes" à la surface du discours qu'il vient par "son intrusion insolite" moduler, instaurant la fracture, l'accident. Ce qui oblige la théorie, étant donné les difficultés méthodologiques que sa présence soulève pour l'analyse du discours, à revenir sur le *parcours géné-ratif*¹ conçu pour rendre compte de la production du sens et prévoir cette étape de sensibilisation des formes qui défie la catégorisation cognitive.

Mais peut-on dire qu'il y a des discours sans affects, c'est-à-dire qui ne mettent pas en scène le "soubassement phorique et tensif"² que la sémiotique essaye aujourd'hui de penser comme une contrainte infranchissable et constitutive qui confère à l'unité-discours un destin? N'étant pas celui de la stabilité postulée au départ par la théorie qui plaçait le sujet aux antipodes de son modèle standard³, ce destin dépend plutôt des tensions liées à la manifestation discursive de la subjectivité qui affecte les paliers de profondeurs successives de la génération du sens, des instances *ab quo* aux structures *ad quem*, pouvant aller jusqu'à suspendre l'unité discursive. Ayant mis en cause ses instruments métho-

* Communication présentée à l'occasion du V Congrès de l'Association Internationale de Sémiotique, à l'Université de Berkeley (USA), juin 1994.

dologiques élaborés pour aménager une place dans son modèle global au sujet manifesté dans et par son discours, la sémiotique se voit alors contrainte, dans un deuxième temps, à rendre compte de la tension qui y règne entre le logique et le pathique, car le sujet producteur de discours est un être de passion⁴. Cependant, comme on le verra par la suite, la sémiotique des passions qui en résulte, quand elle ne maîtrise pas le pathique, le récupérant dans la logique de la grammaire du sens, peut mettre en péril son édifice théorique stable et objectif.

Cette dynamique observée par le sémioticien concernant les effets de la passion n'est pas sans rappeler celle de l'écoute et de l'interprétation analytiques de l'affect. En fait, le psychanalyste localise l'affect dans les égarements du discours suscité par le cadre analytique, discours qui abrégait à la présence de son investissement selon différents degrés d'intensité, pouvant dans son procès ne pas préserver la place des représentations qu'il emporte. C'est qu'il transcende alors les limites défensives du sujet, mettant en cause le travail d'élaboration psychique, de liaison et de maîtrise de l'énergie pulsionnelle. Une diversité de structures cliniques illustre ces effets violents de l'affect qui s'inscrit dans le discours comme la trace d'une expérience corporelle et psychique, suscitant un redressement de la pensée psychanalytique contemporaine. En fait, quel statut conférer à l'affect?

La clinique psychanalytique, comme on déjà pu le constater⁵, ressent aujourd'hui un manque qui remonterait à la naissance de la psychanalyse. Si dans ses analyses, dans sa technique et dans sa théorie Freud a assigné un rôle à l'affect, il ne l'a pourtant pas élevé au rang d'un concept, dans ce sens qu'il ne lui a jamais consacré une théorisation spécifique. C'est ce qui a déterminé le destin de la notion dont l'usage est solidaire du processus de théorisation de la psychanalyse pouvant être reconstituée depuis "Étude sur l'hystérie" (1893-1895) jusqu'à "Inhibition, symptôme, angoisse" (1927), en passant par "L'interprétation des rêves" (1900) et par la "Métapsychologie" (1915). Mais l'absence d'un statut stable conféré à l'affect dans la théorie freudienne, qui est à l'origine des conceptions différentes dont il fait l'objet dans la littérature analytique en général, soustend une construction métapsychologique de la psychanalyse qui a fait dès le départ l'économie de l'égarement du sujet soumis au surgissement et à l'envahissement des pulsions⁶.

Et pourtant, dans la relation propre au cadre analytique, l'affect peut à tout moment manifester toute sa portée. Son investissement est susceptible de déployer une inquiétante étrangeté qui dévoile un fonctionnement psychique hétérogène dont l'acuité se manifeste dans d'autres structures que celles auxquelles le psychanalyste a habituellement affaire. Il s'agit de structures psychiques considérées comme des entités nouvelles de la clinique psychanalytique (la pathologie somatique, la psychose, les cas-limites) qui invitent le

psychanalyste à explorer d'autres directions, visant leur compréhension. C'est-à-dire que le retour aux bases conceptuelles de la théorie et la reprise de certains points et moments de sa conceptualisation sont nécessaires à la réflexion actuelle qui s'étend à ces entités.

Finalement, le retour de l'affect paraît exiger une révision des constructions intellectuelles, en incitant aussi bien la sémiotique que la psychanalyse à imaginer et à élaborer soit une sémiotique des passions, soit une théorie psychanalytique de l'affect.

Ayant esquissé la problématique générale soulevée par l'affect à l'intérieur de ces deux champs du savoir, au-delà de leur radicale différence, on peut apporter une précision supplémentaire.

Parler d'affect en sémiotique présuppose la conversion du phénomène subjectif en objet de signification, c'est-à-dire que la sémiotique ne s'intéresse pas à l'événement affectif, duquel elle prend ses distances tout en l'évoquant, le détour par la réflexion phénoménologique l'aidant dans cette entreprise⁷. Celle-ci en fait ne lui sert que d'inspiration à sa conceptualisation, plus précisément à la maîtrise rationnelle de ce phénomène qui s'empare du discours dévoilant son hétérogénéité. Ne dépassant pas la forme discursive, le sémioticien ne s'intéresse en conséquence qu'aux effets de sens, plus précisément à l'instabilité des positions modales et des rôles pathémiques du sujet en relation avec ses objets, visant à partir de l'analyse des objets empiriques une syntaxe canonique des passions, dont le support est une subjectivité idéale.

Le psychanalyste, quant à lui, s'intéressant au phénomène sensible, considère l'affect comme une expérience corporelle et psychique que le discours de l'analysant permet d'entendre dans son hétérogénéité. Dès lors, la saisie psychanalytique de l'affect ne paraît pas être possible en dehors du discours où il s'inscrit et qu'il transcende, étant pour le psychanalyste celui d'un sujet affecté. Comment en fait repérer l'intensité des ses investissements ou reconnaître ses effets en dehors d'une sensibilisation de la forme discursive qu'il produit et transforme? Pouvant être considéré comme la condition de possibilité du discours, ou, si l'on veut, son fondement même, l'affect, même s'il ne s'y réduit pas⁸, ne se confond pas non plus avec ses stases ou avec les passions-lexèmes recensées par la sémiotique. Au-delà du figuratif, au sens sémiotique ou phénoménologique du terme, ou du représentant-idéique au sens analytique, l'affect trouve son expression plutôt dans les effractions de la syntagmatique passionnelle qui rend perceptible des processus de pensée hétérogènes. D'où pour le psychanalyste l'inséparabilité entre discours et affect, le sens ne pouvant advenir que d'une tension entre l'un et l'autre.

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Il s'agira dans ce qui suit, tout en sauvegardant leur spécificité épistémologique, qui interdit l'assimilation d'une problématique à l'autre, d'une incursion rapide dans le discours sémiotique sur les passions et dans le discours psychanalytique sur l'affect, pour faire ressortir certains points susceptibles de permettre à chaque champ de trouver un espace de dialogue et d'éventuellement tirer profit des conceptualisations respectives concernant ce sujet problématique.

Dans *Sémiotique des Passions*, de A. J. Greimas et J. Fontanille, on peut lire que "sa vocation est de décrire, voire d'expliquer les effets discursifs de la sensibilisation, mais certainement pas de prendre à son compte et sans autre forme de procès ce que d'autres disciplines en disent. Mais il n'est pas interdit de les interroger pour en tirer profit, éventuellement"⁹.

Il reste que, parmi les disciplines évoquées en marge ou circonstanciellement, à la recherche des hypothèses formulées dans *Sémiotique des Passions*, par exemple, il n'y a pas de place pour la psychanalyse. En fait on peut constater que quelque chose n'est pas clair dans les conflits de la sémiotique par rapport à la psychanalyse qui se voit de temps en temps, ici et là, attribuer des affirmations infondées, comme si cette région du savoir constituait un objet menaçant à être conjuré. Travaillant à l'intersection des deux domaines, je voudrais apporter ma contribution au dépassement de cette situation et indiquer la possibilité d'un échange enrichissant, au-delà d'une interdisciplinarité impossible, comme j'ai déjà pu le démontrer ailleurs¹⁰.

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Pour l'instant reprenons brièvement la question de la passion là où elle a été conduite par la sémiotique. Comment cette discipline peut-elle imaginer et reconstruire cet au-delà de la forme, auquel elle fait aujourd'hui explicitement référence?

Ayant formulé les conditions de l'avènement de la signification, la sémiotique se donne actuellement pour tâche la construction d'un niveau susceptible de rendre compte d'un état d'âme caractérisé par un fonctionnement hypothétique, vu comme hétérogène, mais constituant un préalable à ces conditions mêmes. Il s'agit, plus précisément, des pré-conditions à l'avènement de la signification, qu'elle essaye de modéliser à travers deux simulacres explicatifs — tensif et phorique — qui situent la passion antérieurement à toute articulation ou catégorisation, c'est-à-dire, au niveau où le discontinu n'est pas encore advenu avec la discrétisation qu'il implique. Le sémioticien parle alors pour décrire ce

niveau, appréhendé comme continu, d'indifférenciation, de fusion originelle, etc. La discrétisation, plus tardive, étant donné le devenir qui lui est inhérent, pré-suppose par ailleurs séparation, clivage, scission, négation, sommation, débouchant à partir de ses modulations et de ses séparations réitérées sur des positions actancielles et des articulations de contenu. C'est-à-dire, ce qui n'est pas encore *in*, pour être, n'advient que de cette tension originelle.

Dans ces conditions, à ce niveau d'avant l'articulation des formes, caractérisé par l'agitation primitive de la masse phorique non encore polarisée en euphorie/dysphorie, on ne peut pas parler de position, ou de polarisation, mais d'un état fusionnel, qui devient par la suite un fonctionnement proto actanciel, présupposant un presque-sujet et un presque-objet. Ceux-ci émergent d'une oscillation entre attraction-répulsion, qui préfigure déjà le moment de la discrétisation. À ce stade ils se trouvent donc encore dans une relation d'implication originelle, faite d'instabilité, de tensions de l'un vers le double et du double vers l'un. L'un et l'autre, pas encore constitués comme tels, sont pris dans ce devenir défini comme le principe d'un changement continu, considéré comme "le déséquilibre positif", celui qui est favorable à la scission de la masse phorique et, en conséquence, à l'avènement de la relation sujet/objet, soit à l'avènement de la signification. Les modulations du devenir, pouvant donc donner lieu à l'inventaire de formes visées par le sémioticien, sont *converties* dans le parcours génératif en *modélisations* et *convoquées* au niveau discursif comme *aspects*.

En fait, les recherches sur les univers passionnels les montrent co-extensifs des structures modales sous-jacentes aux *modex d'existence* des objets sémiotiques. L'analyse des passions consistera alors à dégager les dispositifs modaux et aspectuels du sujet passionnel dans son aventure syntaxique, marquée par la fluctuation de son statut modal, aussi transitoire que celui de ses objets au long du déploiement discursif.

Voilà en traits très généraux le moment nouveau que traverse la théorie sémiotique visant à rendre compte des passions. Je voudrais m'arrêter sur ce moment problématique de sa conceptualisation. Il s'agit de "cet espace imaginaire et mythique", "ce minimum épistémologique" évoqué par la sémiotique dans son incursion dans cet avant de la saisie cognitive. En fait, ce discours épistémologique qu'on peut lire dans le premier chapitre de la *Sémiotique des Passions* soulève certaines questions.

Tout d'abord, ces questions sont fonction du niveau où l'on s'installe. Si l'on part de la manifestation discursive, qui rend sensibles les simulacres proposés par le sémioticien, on peut sans aucun doute justifier la pertinence de ses constructions. Face aux exemples prélevés par les auteurs de *Sémiotique des Passions*, dans une démarche empirique, à la surface discursive, parler d'état fusionnel, d'indifférenciation, d'antériorité d'une "tension originelle", ne crée pas un sentiment d'étrangeté, si l'on pense au modèle de base de la discipline.

Ces expressions conceptuelles, tout en étant insuffisantes pour rendre compte de tels effets de sens, qui attendent une modélisation, sont secondaires par rapport au principe structurel qui est le fondement du raisonnement sémiotique, représenté par le simulacre formel. Si donc on se situe au niveau le plus profond, celui de la structure élémentaire de la signification¹¹, on constate qu'aussi bien le terme complexe que le neutre présupposent l'ébranlement de leur plénitude toujours prête à libérer ses différences.

Toutefois, quand la sémiotique veut rendre compte de ce qu'elle nomme *phorie*¹², au-delà des expressions et des concepts utilisés, ce qui fait problème c'est le type de raisonnement qu'y est sous-jacent. "Complexifier"¹³ le simulacre formel, base du parcours générateur du sens et socle de l'édifice de la sémiotique, ou le "faire éclater" vers ses extrêmes, pour rendre compte de cet ailleurs de la forme, soulève un problème épistémologique. En sémiotique, on le sait depuis toujours, il s'agit de rendre compte des "passions de papier", c'est-à-dire qu'on doit nécessairement constituer la passion en effet de discours. Or, voilà que le sémioticien va chercher hors du discours, dans cet ailleurs hors de son domaine propre, dans un lieu problématique, la réponse à des questions qui, me semble-t-il, ne relèvent pas du champ sémiotique à proprement parler. En lisant certaines pages de *Sémiotique des Passions*, il nous vient en fait immédiatement à l'esprit des références telles que la *Chora* platonicienne et son espace mobile préalable aux formes, le *musément* peircien antérieur à la discrétisation et à la saisie logique, et pourquoi pas l'*indicernabilité* du sujet et de l'objet posée par Merleau-Ponty dans une radicalisation de la perspective husserlienne.

Mais un parcours inverse est entrepris aussi dans *Sémiotique des Passions*: essayant de réparer son égarement hors de la rationalité qui régit son savoir, le sémioticien remonte de temps en temps vers la surface du discours pour dénier cette incursion, en prélevant des exemples de l'informel dans le formel, de l'indifférencié dans le discret. C'est-à-dire qu'il ne va pas jusqu'au bout de son imagination. Aller jusqu'au bout ce serait faire l'hypothèse de ces préalables à l'avènement de la signification sans faire l'économie du sujet phénoménal, sans quoi l'ensemble du raisonnement manque de cohérence. La sémiotique serait-elle alors prête à réviser ses relations avec la psychanalyse?

Reconnaissant la spécificité de la démarche sémiotique, au-delà de ces remarques passagères, on pourrait dire que l'examen sémiotique de l'affect doit considérer que tout discours est tributaire de cette articulation incertaine entre une dimension pathique et une dimension cognitive, le démarche de connaissance consistant à modéliser et à prévoir les modalités de cette articulation. Toutefois "imaginer" une extériorité et même une antériorité à la forme, moment continu d'avant l'idée, et que ne soit pas déjà pris dans la forme discursive, ne peut que relever de la régression vers l'ineffable, étant par ailleurs difficilement explicable, compte tenu de la démarche de connaissance scientifique et de l'ensemble du métalangage de la sémiotique.

Arrêtons ici notre réflexion sur les apories sémiotiques eu égard à cet espace d'avant la saisie cognitive, qui nous a permis par ailleurs d'anticiper ce qui va suivre.

Pour comprendre d'un point de vue analytique l'irréductibilité et l'inséparabilité entre discours et affect, il faut revenir à l'aube de la vie psychique telle qu'elle est conçue par la psychanalyse, laquelle, ayant reconnu au fondement du psychisme une séparation primaire entre un non-encore-sujet et un non-encore-objet, qui préfigure l'identité de l'un et de l'autre, permet de penser aux implications et aux limites de leur relation. C'est dire que, comme la phénoménologie, pour la psychanalyse seul l'entre-deux de leur relation les fonde, sujet et objet pouvant toutefois perdre à tout moment et selon des degrés variables ce qui garantit leur place distinctive pour refaire l'expérience de leur indicernabilité. Et quand ce retour n'est pas une rechute régrédante il renvoie au procès de l'un et de l'autre, à leurs interrelations constitutives. L'affect est responsable de ce procès qui met en cause les limites du moi et le statut de l'objet.

Cependant, qu'est-ce qui pousse le sujet hors de lui-même, vers l'autre duquel il se sépare, pour être? Si l'on accepte le concept métapsychologique de pulsion élaboré par Freud, son lien inséparable au concept d'objet doit être reconnu. C'est vers lui que porte la pulsion, le sujet lui-même étant impliqué dans cet investissement à la recherche de son unité, c'est-à-dire de la complémentarité susceptible de taire momentanément les tensions éveillées par le besoin de l'autre et les exigences de plaisir qu'il induit. Au cœur de l'affect s'inscrit donc le besoin de l'autre, plus précisément les états affectifs sont liés aux attentes et aux tensions créées dans cet espace entre le sujet et son autre, espace soumis aux aléas de la pulsion. On peut dès lors comprendre la mutation qui peut s'opérer dans le statut du sujet, au-delà des détours et des aménagements des tensions auxquelles il est confronté dans sa recherche d'une satisfaction absolue. L'affect étant une sensibilité de la présence ou de l'absence, il peut neutraliser les défenses qui protègent le psychisme et conditionner la relation du sujet à la réalité, inscrivant son étrangeté dans une perception du monde singulière et hétérogène. Dans cette emprise de la pulsion que le moi subit, c'est l'affect seul qui domine, jettant la conscience hors d'elle-même. Le sujet affecté devient un sujet agi et non agent, lieu d'un drame, corporel et psychique, où se joue le sort de son humanité même. Tout dépend de l'intensité de ses investissements.

Le fondement du psychisme, sa survie, sont donc tributaires de cette relation à l'autre, inséparables d'une demande de plaisir et des vicissitudes de celle-ci, qui par ailleurs n'est pas sans présupposer la coexistence de son autre virtuel:

un déplaisir éventuel. En fait, le dualisme pulsionnel postulé par Freud — Eros et Thanatos — s'étend aux états affectifs. Ceux-ci étant l'expression de la pulsion, ils se dichotomisent à partir du couple qualitatif primaire plaisir/déplaisir, la psychanalyse pouvant à partir de là prévoir théoriquement des transformations telles que la *coexistence* de contraires (amour/haine, p. ex.), l'inversion d'un terme dans l'autre, ainsi que leur *déplacement* et même le *paradoxe* qui le confronte dans une même position, etc., dévoilant l'instabilité et la variabilité des limites identitaires et des positions du sujet qui en découlent.

Dans son processus dynamique vers un ailleurs, quand l'affect ne se décharge pas dans l'acte, il peut trouver dans le discours un "équivalent de l'acte", selon Freud¹⁴. On peut dès lors revenir ici aux observations faites ci-dessous concernant l'articulation discours/affect.

Que l'ordre de l'affect n'est pas celui du discours, c'est ce qu'on a essayé, schématiquement il est vrai, de rappeler. L'affect est un événement psychique. Cependant, lorsqu'on évoque la dichotomie affect/langage dans le milieu analytique, les hésitations ne manquent pas de se faire sentir. La difficulté d'élaboration de cette relation est conditionnée aussi par une certaine conception du langage héritée des sciences du langage, en particulier de la linguistique, qui, pour des raisons épistémologiques, purifie son objet de tout ce qui reste irréductible à la connaissance scientifique. Toutefois, au-delà de l'ordre propre aux représentations de mots, que dans leur évolution récente les sciences du langage étendent au *Discours*, la reconnaissance d'une dimension pathique de celui-ci permet de dépasser l'horizon délimité initialement par la recherche. La sémiotique du discours, par exemple, postulant que le sens s'inscrit *entre* les signes, essaye d'intégrer dans cet espace conceptuel des *différences* qu'elle élabore, fût-ce au prix d'une récupération logique, ce pathique dérangeant autant que fascinant. Plus précisément, elle le localise dans cet espace entre le sujet et l'objet, le sens n'advenant que de leurs intersections.

Par ailleurs, sans soulever la question concernant l'absence d'une théorie psychanalytique du langage¹⁵, la difficulté signalée ci-dessus est conditionnée en outre par les relations entre *représentation* et *affect*, chaque terme ayant en psychanalyse un destin différent, la représentation étant liée au fantasme et au langage, l'affect étant, quant à lui, cette part archaïque de l'homme qui prend naissance dans le Ça, donc nécessairement rebelle à la symbolisation. De ce fait, l'hétérogénéité de l'affect posée, sa relation avec le langage est plutôt vue comme un surplus accidentel, venant opérer des déliaisons qui affectent son ordre propre. Comme si le "langage" ne peut être pris qu'au sens d'un objet idéal! En fait, le concept de *langage* est d'une portée trop générale, n'étant pas définissable en soi. Celui de *discours*, par contre, lié à l'instance d'énonciation, permet de conclure que "l'homme dans son discours" ne s'y inscrit pas seulement comme un être rationnel. Par son énonciation, il vise à conjurer la sépara-

tion, programmant la réponse de l'autre pour qu'il aille dans le *même* sens. L'*acte* producteur du discours est alors nécessairement induit par la passion. Celle-ci ne s'ajoute donc pas au discours et n'est pas non plus par lui médiatisée: elle est plutôt son *supplément fondateur* même¹⁶, tout en étant irréductible à son ordre.



Ces observations sur le statut de l'affect en psychanalyse nous permettent de proposer en conclusion les réflexions suivantes.

L'examen des passions que la sémiotique réalise actuellement présuppose une modélisation de ses effets discursifs, ainsi que son inscription dans le modèle génératif. Ce n'est que tout récemment qu'elle essaye de dépasser le niveau des lexèmes-passions, tels que la colère, la jalousie, l'avarice, etc., pour envisager une unité plus vaste, discursive, visant l'élaboration de ce qu'elle appelle la *praxis-énonciative*, comme une organisation spécifique à l'énonciation passionnelle.

Les modèles suffisamment généralisables que, fidèle à son esprit constructiviste, la sémiotique pourrait éventuellement élaborer, concernant les modes de mise en discours des passions, seraient un apport certain pour le psychanalyste. La modélisation sémiotique lui permettrait de rendre compte des effets opérés par ses déliaisons, ses dislocations, ses fragmentations, etc. Évidemment que l'examen psychanalytique de l'affect a sa spécificité et que la méthodologie sémiotique ne pourrait être prise dans ce cas que comme un complément, à condition d'y intégrer par la suite ce qui n'est pas de son ressort.

Par ailleurs, un détour par la théorie psychanalytique de l'affect permettrait à la sémiotique une révision de ses positions par rapport à la psychanalyse, mais aussi, étant donné les bénéfices certains qu'elle pourrait en tirer pour la suite du processus de conceptualisation dans lequel elle s'engage à présent, une ré-évaluation et un enrichissement de ses formulations concernant l'univers passionnel.

C'est à cela que veut contribuer cet essai.

NOTES

¹ GREIMAS, A. J. et COURTÈS, J. — *Sémiotique — Dictionnaire Raisonné de la Théorie du Langage*, Hachette, Paris, p. 157, 1979.

² — et FONTANILLE, J. — *Sémiotique des Passions*, Seuil, Paris, 1991.

³ — *Du Sens*, vol. 1, Seuil, Paris, 1970.

⁴ *Idem, ibidem*, vol. II, Paris, 1983.

⁵ On peut lire l'essentiel des préoccupations qui nourrissent la pensée psychanalytique contemporaine visant donner un statut à l'affect dans les travaux d'André Green, *Le Discours Vivant*, PUF, Paris, 1973, et *La Folie Privée*, Gallimard, Paris, 1990.

* GREEN, A. — "Passions et destins de passions", in *La Folie Privée* — *Op. cit.*, p. 141.

† On pense ici aux travaux de Merleau-Ponty, surtout *La Phénoménologie de la Perception*, Gallimard, Paris, 1945.

‡ Cf. *Le Discours Vivant*, *op. cit.*, pp. 68-69, et Julia Kristeva, *La Révolution du Langage Poétique*, Paris, pp. 151-163, 1974.

§ *Op. cit.*, p. 158.

|| Cf. TASCA, Norma — "Psychologie und Semiotik", in Koch, Walter A. (eds.) *Semiotik in den Erziehungslehren*, Bochum, pp. 672-723, 1990; et "Semiotics and Psychoanalysis", in *Signs of Humanity*, vol. II, Mouton de Gruyter, pp. 1055-1066, 1992.

¶ Cf. la définition du carré sémiotique in A. J. Greimas et J. Courtés, *Sémiotique* — *Op. cit.*, p. 29.

‡‡ Cf. *Sémiotique des Passions* — *Op. cit.*, pp. 19-20.

‡‡‡ *Idem*, p. 19.

‡‡‡‡ FREUD, S. — *Études sur l'Hystérie*, PUF, Paris, pp. 5-6, 1956.

‡‡‡‡‡ Cf. GREEN, A. — "Le langage dans la psychanalyse", in *Langages*, E. des Belles Lettres, 1984.

‡‡‡‡‡‡ L'expression utilisée ici est employée par Parret pour rendre compte de la relation de l'énonciation à la signification. Elle nous semble très conforme à l'idée que nous nous faisons de la relation de l'affect au discours. Cf. *Passions*, Pierre Mardaga ed., Bruxelles, pp. 148-154, s.d. Cf. aussi la définition donnée par J. Kristeva du procès signifiant et ses deux modalités, le sémiotique et le symbolique, in *La Révolution du langage poétique*, *op. cit.*

SEMIÓTICA: DOMÍNIOS DE APLICAÇÃO

SEMIOTICS: REALMS OF APPLICATION

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SÉMIOTIQUE DE L'ESPACE; ESSAI EN L'HONNEUR DE THOMAS A. SEBEOK

1. L'organe, l'environnement et l'échange

Le Professeur Thomas A. Sebeok a consacré ses travaux au développement de la sémiotique, il a produit une œuvre considérable dans laquelle non seulement il établit les fondements d'une phytosémiotique et d'une zoosémiotique, mais dans laquelle surtout il trace une ontogenèse et une phylogenèse de la langue, dans la perspective d'une évolution de la sémiologie, depuis les modes de communication des organismes les plus primitifs avec leur environnement, jusqu'aux modes de production du sens de la réalité virtuelle des sociétés les plus évoluées.

Thomas Sebeok montre comment les organismes les plus élémentaires eux-mêmes entretiennent avec leur environnement des échanges d'information¹. Ceux-ci consistent à annoncer comme à percevoir une présence. L'information n'est cependant pas reçue sans action en retour. Toute présence est conjonctive ou disjonctive, familière ou étrangère. L'autre est une proie ou un danger et suscite attirance ou indifférence, alliance ou rejet. Tout organisme explore son environnement et cherche à répondre de façon adéquate aux événements qui s'y passent.

Tout organisme se fait un modèle de son environnement, modèle avec lequel il interprète les événements qui l'entourent autant qu'il donne à voir une réaction, une parade ou une esquive. Répondre à ce qui arrive, contrecarrer le danger ou saisir la proie, c'est alors organiser des positions et des distances et mettre en avant des apparences. Un organisme quelque peu évolué trompe sa proie ou se préserve du danger en se fondant en apparence dans le contexte. Les rapports au semblable peuvent être trompeurs.

La capacité de traitement de l'information dépend de la capacité de filtrer la matière informationnelle. La structure d'un organisme se définit par ses frontières; celles-ci forment une interface qui organise les échanges entre un espace intérieur individualisé et un extérieur environnant, source d'information et lieu de matériaux énergétiques assimilables. Tout organisme vit d'activités d'explo-

ration et de collecte active; systèmes récepteurs d'énergie, système d'information et système d'action sur l'environnement sont interdépendants.

Transport, positionnement et orientation sont des comportements d'approche et d'évitement d'une source d'énergie ou d'information. Pour assurer la cohérence de ses actions, l'organisme doit extraire des invariants de son univers sensoriel et transformer l'énergie sensorielle en information. Pour limiter les variations incontrôlées de son milieu et ainsi être à même de mesurer l'énergie qu'il dépense, l'organisme humain s'est doté d'un espace construit. Les dotant du sens d'une mesure, cet espace construit permet de réguler les échanges de l'être humain avec son environnement.

Dans cette contribution en l'honneur de Thomas Sebeok, j'évoquerai les fondements de la sémiotique de l'espace, une sémiotique non verbale qui règle dans sa forme même le sens des rapports de l'être vivant avec son environnement. Je me demanderai ainsi en quoi la sémiotique de l'espace est une sémiotique qui se démarque des autres, en quoi elle en dérive, ou au contraire en quoi elle en est la prémice, en quoi elle les englobe ou les subsume. Je me demanderai en quoi l'espace est une condition même de notre relation au monde naturel et en quoi il en produit ou en reproduit le sens.

Je partirai pour cela de la proposition de Kant selon laquelle l'espace est la forme a priori de nos sens externes. Je rappellerai à ce propos que, dans la lignée duquel Thomas A. Sebeok se situe², Charles S. Peirce a lui-même repris la démarche kantienne dans sa recherche d'une méthode expérimentale, en en corrigeant les détails qui découlent du présupposé erroné de la conception possible d'une chose en soi. L'espace comme forme est ainsi relation autant qu'intervalle, mise en correspondance autant que séparation, et cela non seulement entre deux objets de nos sens externes, mais aussi et d'abord entre nous-même, notre corps propre, et notre environnement, nos objets.

Le lecteur se rappellera ici que les notions peirciennes de fondement (qualité d'une substance), de corrélat (relation à une substance comparable) ou d'interprétant (représentation d'un renvoi comme à une représentation semblable)³ sont des notions qui entendent interroger les références selon lesquelles nous concevons (nous réduisons et unissons dans une connaissance) les impressions de nos sens externes. Sans s'attacher à telle ou telle impression, ces notions cherchent à indiquer comment nos impressions externes se mettent en forme dans une conception interne plus ou moins médiate ou immédiate.

Le lecteur notera dans le texte qui suit que, pour élaborer une sémiotique de l'espace qui tienne compte des acquis de la recherche contemporaine, j'ai moi-même quelque peu modifié la terminologie peircienne. J'ai d'une part réservé le terme de référence à l'interprétation (si aucune chose ne peut être saisie en soi la référence est la représentation d'une mise en relation de deux représentations) et j'ai d'autre part repris le terme de centration des travaux de

psychologie génétique de Jean Piaget (à l'opposé d'une représentation, une structure de transformation avec la réversibilité des opérations demande la décentration et la réciprocité des points de vue)⁴ et le terme d'objet de l'épistémologie de Gaston Bachelard (l'objet est objet d'une action, rien est donné, tout est construit)⁵.

Dans ce texte je propose donc une théorie de la sémiotique de l'espace humain. Organisme évolué l'être humain élabore à partir de ses modèles de l'environnement des règles de comportement qui lui permettent non seulement d'interpréter des événements en cours, de prévenir des dangers du monde présent, mais aussi de faire des hypothèses sur des événements à venir et de proposer une vision de mondes possibles où ces dangers seraient écartés, une vision où les variations de forme pourraient être rapportées à l'aune des formes invariantes.

Ces mondes possibles sont projetés à partir d'une interprétation des événements traversant les sociétés existantes; ils sont esquissés dans une préfiguration où l'être ensemble ouvre le sens d'un au-delà. Le danger est sublimé dans des rapports projetés entre l'identité et la différence, il est contrôlé dans des rapports institués entre l'ici et l'ailleurs. La sémiotique de l'espace humain, telle que je la conçois, s'inscrit donc bien, comme le voulait de Saussure, dans une psychologie sociale. Elle montre comment cette psychologie est territoriale.

2. L'espace et le sens des lieux

J'ai, dans mes travaux sur l'identité territoriale et l'unité sociale, cherché à montrer en quoi l'espace peut constituer une forme d'universalisation ou de particularisation des acteurs sociaux et des institutions qu'ils bâtissent pour organiser leurs relations⁶. Dans la formation des sociétés, pour organiser les rapports à l'autre comme au même, l'espace a été mis à contribution de plusieurs manières, selon les structures sociales qui s'édifiaient et selon les époques de leur emprise. Après avoir distingué de sa matérialité l'espace comme forme du territoire, la première difficulté à surmonter dans mon entreprise fut de saisir en quoi la forme spatiale n'est pas réductible à d'autres formes d'ordonnement de la réalité sociale; notamment en quoi elle n'est pas réductible à un ordre hiérarchique, à une forme de classement.

La logique des classes se construit sur la manipulation de l'opposition entre identité et différence. Le sens commun croit voir dans la réalité des choses le fondement de leur identité; alors que celle-ci est précisément le produit d'une compréhension du monde et du classement des réalités qui le composent. Seules les différences sont dans la réalité matérielles des choses⁷; identifier une chose consistant à ne retenir que certaines parmi les caractéristiques qu'elle possède,

les caractéristiques pertinentes pour le but de l'action que l'on entend mener sur elle, comme la valoriser ou l'échanger dans un certain contexte. La logique des classes procède du genre commun et de la différence spécifique, le genre commun regroupant dans une classe englobante des individus distribués dans plusieurs sous-classes, la différence spécifique marquant la distinction entre un individu et d'autres individus appartenant à une même classe.

C'est la logique de la hiérarchie en arbre, efficace dans son mode de décomposition du réel, mais limitée dans son mode de composition, puisqu'elle ne peut que difficilement saisir les rapports qui s'établissent entre des classes qui ne s'emboîtent pas directement dans une classe englobante de niveau hiérarchique immédiatement supérieur. Il y a bien une syntagmatique de la composition des classes⁸, mais celle-ci n'est autre qu'une économie des classes, une économie de leur combinatoire articulant extension et compréhension. Visant à saisir la construction d'une langue, elle en saisit la structure et comment sa diachronie dérive de la parole, comment les transformations de structure procèdent d'un travail sur les mots et comment leurs composants se proportionnent les uns aux autres et s'agglutinent dans de nouvelles formulations. Cette économie est très précisément celle de la structuration d'une langue, mais elle ne rend compte que de façon limitée de l'économie de la parole et du texte.

Pour pallier à cet inconvénient, certains auteurs ont cherché, d'une part, à définir des niveaux d'organisation de la saisie du réel et, d'autre part, un mode de passage de l'un à l'autre de ces niveaux⁹. Au niveau profond ils mettent des catégorisations générales, telles que l'être et le paraître, ou encore leur modalisation, comme la modalisation de l'être par le pouvoir ou le savoir. Au niveau intermédiaire, ils situent une forme discursive qui enchaîne une succession de catégories générales dans un parcours structuré, un parcours visant à liquider un manque initial; notamment le parcours qui vise à éclaircir une situation ou résoudre un problème.

Et puis, comme terme du parcours discursif, ils mettent en exergue un troisième niveau, celui de la manifestation des catégories dans une substance, notamment dans une substance textuelle; c'est le niveau de la forme d'expression, d'une forme qui peut à tout moment faire émerger à la conscience d'un destinataire l'état des transformations en cours dans le parcours génératif d'un discours. Mais il y a quelque problème à réduire l'expression à la manifestation de transformations par ailleurs jouées.

Certains s'en rendent compte et cherchent alors à comprendre comment les formes d'extériorisation que sont les formes d'expression ont des implications sur les formes du contenu¹⁰. Ils travaillent alors pour ce faire à une sémiotique de l'espace qui veut confronter la théorie de l'énonciation à celle de l'énoncé; ils postulent la préséance logique de l'étendue et comprennent l'espace comme découpage de cette étendue amorphe et première, séparation initiale entre un intérieur et un extérieur.

Reprenant les problèmes que ces auteurs ont traités et les perspectives qu'ils ont esquissées, j'ai cherché moi-même à montrer comment cette séparation est à la fois et en même temps une découpe profonde du réel, de son contenu le plus essentiel, l'être face à l'autre, mais aussi face au néant; et comment elle est son expression, son *existence* au sens premier, tout comme sa manifestation dans une substance¹¹. L'extériorisation de l'être et l'intériorisation de ses actions, de l'impression qu'il produit sur son entourage sont les deux processus fondamentaux qui font qu'il devient ce qu'il est.

Si le principe d'individuation est la matière¹², c'est une matière désignée, saisie dans certaines de ses dimensions. L'être, composé de matière et de forme, est alors universel dans la mesure où il n'est pas présentement dessiné dans une matière particulière, mais pris dans l'absolu d'une matérialité indépendamment de ce qu'elle peut être présentement. La matérialisation d'un espace universel n'est pas ce territoire particulier, mais le territoire en ce qu'il peut recevoir les déterminations de l'espace humain; non pas cette pierre ou ce bois, mais ce que l'on peut faire de la pierre ou du bois dans l'architecture des édifices en général. Ce qu'est ce territoire ou cet édifice, n'est ni une matière, ni une forme seule, mais l'une et l'autre, l'une marquée par l'autre dans une manifestation singulière, l'une rapportée à l'autre comme l'une de ses conditions de possibilité, dans l'universalité des formes de spatialisation.

Hjelmslev avait proposé d'admettre que la sémiologie se produit dans un rapport de rapports¹³; elle décompose l'expression et le contenu en forme et substance, puis les rapporte l'un à l'autre. La substance de l'expression est alors, dans les langues parlées, la substance sonore; la substance du contenu, l'ensemble des habitudes matérielles d'une société. Hjelmslev admet ainsi plusieurs niveaux de substance, depuis la matérialité physiologique jusqu'à la normalité sociologique, en passant par l'intentionnalité psychologique¹⁴. Les rapports entre formes et substances sont donc complexes. D'une part, la manifestation d'une forme dans une substance ne peut être significative sans être rapportée à la manifestation d'une autre forme dans une autre substance; d'autre part, plusieurs substances peuvent manifester une même forme et plusieurs formes articuler une même substance.

À cela s'ajoute le fait que, dans une sémiotique spatiale, l'expression s'articule à la substance du contenant et l'impression qu'elle produit à celle du contenu. Et la forme du contenu ne suit pas nécessairement point à point la forme du contenant. Le contenant ne dévoile pas toujours le contenu. Des figures s'interposent entre la forme du contenant et celle du contenu¹⁵. La figure déplace ses traits pour renforcer ou estomper toute correspondance entre contenant et contenu. L'impression reçue de la projection d'un objet dans l'espace vécu dépend de l'aspect de cet objet, de son emballage, de son habillage. Il y a donc dissociation possible entre la forme comme apparence et la forme comme con-

tenance. L'apparence donnée par la forme à la substance du contenant peut révéler la consistance de la forme du contenu ou n'y pas correspondre du tout.

La persistance d'une forme d'expression ne signifie pas toujours la permanence d'une forme du contenu; on a vu des palais habités par des brigands. Pour faire une autre image je dirais que la forme du contenant manifeste une substance souvent plus solide que ne l'est la substance du contenu; la substance du contenu est en quelque sorte plus liquide. La causalité physique qui détermine la permanence ou la déchéance de la substance du contenant n'y est cependant pour rien, pas plus que la causalité historique qui impose la constance ou entraîne les transformations de la substance du contenu; il s'agit de forme et la forme est arbitraire dans la signification qu'elle porte. La détermination est un fait de substance, la signification une relation de formes. La détermination implique les substances dans une relation de cause à effet. La signification, elle, rapporte les formes les unes aux autres dans un effet qui n'a pas de cause, sinon une intention ou une habitude de faire sens.

En d'autres termes, le contenant peut être un instrument dont l'utilité varie selon l'usage que l'on en a; le contenu est alors l'acte qui, tout en étant supporté par le contenant, le met en œuvre, lui donne un sens. Mais le contenu n'est pas seulement un espace servi par un instrument quelconque, il peut être également un espace servant; par exemple l'antichambre qui sert de seuil à la chambre et qui est contenue dans un certain type d'habitat. De même, il n'est pas seulement un espace porté, il peut aussi être un espace portant; par exemple les caves qui forment le socle de l'immeuble et dont les murs portent les murs des étages supérieurs. Le contenu a une forme qui n'est pas réductible au décalque de la forme du contenant; il arrive que la forme du contenu s'écarte de la forme du contenant, l'inverse, l'ignore ou la transgresse.

Il y a cependant des continuités qui permettent de passer de contenant à contenu, par emboîtement ou par intersection, et de portant à porté, par empilement ou par chevauchement. L'emboîtement, l'intersection, l'empilement ou le chevauchement sont des formes, des manières de retenir des qualités de substance. Les continuités sont des qualités de substance retenues dans la forme. La substance est une offre de continuités multiples que la forme retient ou rejette. L'enchaînement des formes dans une composition spatiale s'appuie sur une étendue continue jusqu'à l'infini. L'espace présuppose l'étendue. La composition spatiale enchaîne des exclusions successives. La forme opère des discontinuités dans l'étendue, elle retient des traits de substance pour en faire les limites d'un espace. L'exclusion de ce qu'elle ne retient pas est le mode opératoire de la forme.

C'est pourquoi l'espace peut être générique. L'espace générique est un écart fondateur. Ce qu'il fonde, c'est l'extériorité de l'objet; c'est la condition même de l'autre en tant que non moi. Contrairement à ce qui constitue la logique formelle,

où l'espèce est partie intégrante des formes qui composent le genre et se distingue des autres par différence, l'espace générique ne comprend pas l'espace spécifiant, mais est traversé par lui. L'espace spécifiant qualifie le même comme autre; opérant parmi les semblables, il en spécifie un des termes en le rapportant à un terme extérieur au genre. Par exemple, un village qui, parmi d'autres villages d'une région se reconnaissant semblables, est spécifié par ses relations particulières à une ville qui lui est plus proche qu'aux autres.

Dans une logique aristotélicienne, le genre est une totalité sans forme définie, un tout qui se conçoit comme pris de la matière; et l'espèce un tout comme pris de la forme, une forme qui se dégage dans un genre. Dans le domaine de l'espace humain, par contre, le genre est doté d'une forme, puisqu'il exclut la référence spécifiante à l'extérieur de l'espace générique. Et l'espèce est une autre forme, qui entretient un rapport d'intersection et non d'inclusion avec le genre. Dans l'espace, le genre et l'espèce ont chacun une forme; et l'espace générique donne forme à une substance autre que celle à laquelle l'espace spécifiant s'articule. Dans l'exemple précité l'espace générique manifeste la substance d'une économie rurale, alors que l'espace spécifiant celle d'une économie urbaine.

Ceci étant l'espace générique est d'une autre portée que l'espace spécifiant¹⁶. L'espace générique, comme générateur de ressemblance, est universel, il comprend sa propre fin et son propre début. Dans une architecture de l'espace générique, le rapport des parties entre elles est proportionné selon la même unité de principe que le rapport des parties au tout¹⁷. L'espace spécifiant, lui, comme révélateur de différence, se dispose selon le quelque chose dont il est la forme, il en subit les altérations de la matière particulière. Dans une architecture de l'espace spécifiant, le lieu spécifié porte la particularité de l'édifice qui le relie à une référence extérieure et se transforme en suivant les altérations de son contexte¹⁸.

L'espace générique est une force formelle¹⁹ opposée à une force matérielle; il est la structure de la cohésion d'une société et le garant de l'unité territoriale de ses composants. L'espace spécifiant est une force formelle qui s'oriente selon les flux de substances qui parcourent une société et l'alimentent, au risque de la faire éclater. L'espace spécifié présente un aspect propre à une société donnée; il montre en quoi celle-ci comme totalité est une réduction des parties qui la composent. Leur *société* est la qualité de cohésion des parties d'un espace générique. Mais les espaces spécifiques qui actualisent une société ne peuvent qu'échapper à son pouvoir de totalisation, puisqu'ils ne sont spécifiques qu'en étant spécifiés par leur inscription dans un espace qui dépasse les limites d'une endogenèse, un espace qui est spécifiant par son inclination exogène. Ainsi, dans une société comme totalité, le tout est toujours moins que la somme des parties²⁰.

Les partitions de l'étendue qu'opère l'espace social ne sont pas toutes inscrites sur la même isotopie. Les isotopies s'entrelacent suivant des lignes de

force tendues par des échanges entre lieux. L'énergétique sociale trouve sa régulation dans une économie spatiale qui distingue et articule à des espaces du centre des espaces de périphérie, à des espaces collectifs des espaces individuels, à des espaces publics des espaces privés. Que ce soit par la centralité de certaines de ses composantes, par la densité de leur peuplement et la privacité de leur propriété, les partitions de l'étendue sont rares; l'étendue est la visée d'un accaparement et d'un échange entre acteurs, elle est objet de leurs désirs et pas seulement moyen de leurs actions. La répartition des partitions de l'étendue est gérée dans des processus de création et des procédures de liquidation du manque d'espace.

3. L'espace, coupure, composition et articulation

La matière étendue est telle que deux corps distincts ne peuvent occuper en même temps le même lieu, sinon à se confondre dans une fusion intime. L'économie spatiale des partitions de l'étendue ordonne leur juxtaposition²¹. Elle les organise de telle sorte qu'elles se répondent; elle offre aux corps la possibilité de se succéder dans une temporalité où l'énonciation joue avec l'énoncé. Il y a une organisation narrative propre à l'économie spatiale des partitions de l'étendue. Cette organisation oppose et rapporte les uns aux autres des espaces modalisés selon la position du sujet, acteur économique d'un échange symbolique. Ces espaces modalisés sont des espaces objets de l'échange, des espaces termes de référence de l'échange et des espaces de centration de l'échange sur le point de vue de celui qui émet les valeurs symboliques (ou qui les reçoit)²².

L'espace objet est celui qui permet au sujet d'agir sur la réalité objective et de connaître le rapport qu'il entretient avec une réalité empirique. L'espace de centration est l'espace de la projection des intérêts du sujet sur l'objectivité de la réalité empirique. L'espace de référence est un espace qui condense la valeur de la réalité du sujet pour les autres et qui, pour ce faire, se débarrasse de hiérarchies incompatibles. Ainsi non seulement l'espace est constitutif de la coupure entre sujet et objet et du commerce que le sujet entretient avec ses objets, mais il est aussi le mode selon lequel le même se distingue de l'autre et l'ici de l'ailleurs. Le même peut être espéré dans l'ailleurs et l'autre rejeté dans l'ici. Articuler le même à l'ici et l'autre à l'ailleurs dépend du mode de centration du sujet, de sa mobilité ou de sa fixation.

Dans une société rurale l'espace de centration est l'espace collectif du village, l'espace objet de l'action est l'espace privé de l'agriculteur, l'espace de référence est l'espace du rapport à l'ailleurs spécifiant la singularité du point de vue de la communauté villageoise²³. Dans une société urbaine, l'espace de centration est l'espace individuel le plus restreint du sujet. L'espace objet de l'action est d'abord le lieu de travail. Quant à l'espace de référence, c'est l'espace public

extérieur affirmant l'universalité du point de vue de l'acteur urbain; c'est un espace générique. Société rurale et société urbaine s'opposent ainsi terme à terme dans les modalisations contraires qu'elles imposent à la collectivité et à l'individualité, à la privacité et à la publicité, à l'universalité et à la singularité.

Modalisés selon la position du sujet, mais aussi modalisant les positions possibles qu'il peut prendre, ces espaces offrent des modes de spatialisation aux actions du sujet comme aux valeurs auxquelles il se réfère²⁴. Ces modes de spatialisation sont de quatre formes: la forme topique (inclusive et exclusive), iconique (de similitude et dissimilitude), quantique (numérique et métrique), organique (formelle et fonctionnelle). L'espace topique engendre des ensembles selon des formes de composition et de décomposition ou de fusion et de fission. L'espace iconique articule un ensemble émergent aux ensembles existants selon les formes de la ressemblance et de la dissemblance. La forme iconique leur donnant une valeur comparative, les objets de la spatialisation, peuvent ou non être mis ensemble ou à l'écart par ressemblance ou dissemblance.

La dissemblance comme la ressemblance sont d'une extension souvent plus grande que les espaces qui constituent les ensembles de lieux qu'elles comparent, puisqu'elles vont de la surface au fond et de la présence à l'absence. Les formes topiques leur sont appliquées pour les confiner dans des découpages actualisables. Les formes iconiques présupposent ainsi les formes topiques et celles-ci rendent possibles les formes quantiques, numériques et métriques. Les quantités ne sont applicables que pour autant que les éléments et les ensembles qu'elles quantifient soient repérables dans des positionnements (formels ou fonctionnels), sur un réseau de places et de relations organiques. La localisation des places et la disposition des relations supportent l'inscription dans un contexte, la référence à un lieu, l'anaphore et l'index, la deixis spatiale.

Elles organisent le référent selon des ancrages déictiques et des relations syntagmatiques situant les processus génératifs (construction de l'espace) et narratifs (exposé d'un fait dans l'espace). Le geste et la parole mettent en mouvement un parcours et des positions acquises²⁵. Les positionnements ne sont pas toujours statiques; ils peuvent être aussi dynamiques, et s'enchaîner dans des déplacements; les déplacements qu'ils effectuent se déroulent selon des modes de mise en relation. Ce sont des relations fonctionnelles qui peuvent déstabiliser un ensemble de départ ou d'arrivée, ou au contraire le stabiliser; dans ce cas, se dégagent des procédures de distribution visant à une répartition du contenu des ensembles concernés.

Il y a là une sémiotique diachronique de l'espace humain qui ne se limite pas aux processus d'agglutination et à la création analogique que l'on peut observer dans les langues parlées²⁶, mais les subsume. Certes, dans l'espace, l'agglomération de parties incluses par la forme d'un composant, ou l'anaphore de rapports existants entre des parties composées sont des processus diachroniques qui

solidarisent de nouveaux composants de l'espace humain. Mais d'autres processus sont à l'œuvre pour transformer l'espace; tous les modes de spatialisation peuvent produire de nouvelles configurations à partir des configurations existantes. Que ce soient l'exclusion d'une partie d'un ensemble, le proportionnement, la mesure d'une partie rapportée à celle d'une autre, ou encore la focalisation d'une partie sur une autre.

Bien plus, ces modes de spatialisation sont sources de parole et d'écriture; dans la grammaire qui compose la phrase, dans l'économie du texte, dans le parcours du discours, dans les tropes dans lesquels se forment renforcements et transgressions, comme dans le travail poétique de la langue. À tel point qu'il nous paraît sensé d'affirmer que la sémiotique de l'espace, s'articulant avec la sémiotique du temps, est au fondement même de toute sémiotique. La séparation, base de tout espace, précède l'ordre, base de tout argument; la composition, unification du divers, préexiste à l'inférence, calcul sur le multiple. Si l'un n'est pas, rien n'est²⁷. Il s'agit toujours de produire du nouveau à partir de l'existant; et rien n'existe sans espace.

NOTES

- 1 SEBEOK, Th. A. — *A sign is just a sign*, Indiana University Press, Bloomington, 1991.
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INDECENT EXPOSURE. THE ACTOR'S BODY AS A SIGN

The principal subject of this article is the actor as a sign. However, it seems to me that the specific nature of the actor, and especially the actor's body is inextricably bound up with the time-space structure of the theatrical event.

In order to point out the importance of the body's inscription in the time-space coordinates, let us begin with a state in which we as bodies occupy and share the same space and are freely moving around not hindered by any borders or boundaries. Such a state is partly, but only partly, realized in our life world. Of course, certain parts will be off limits to us, because hierarchies of power and relevance exist. We will, however, have access to a common public space within which everybody is free to move.

We ourselves may, however, divide this space into two (or more) sections of which each serves a different function implying that transgressing the borderline between them means risking to being ascribed a specific function, a specific time- and/or space-bound role.

The division of public space may happen spontaneously. In a schoolyard two boys may start fighting, and the other boys may form a circle around them, thus creating an ephemeral arena within which some earnest action is going on, while the boys forming the circle enjoy something spectacular which is worth while watching. Let us call this phenomenon a spectacle.

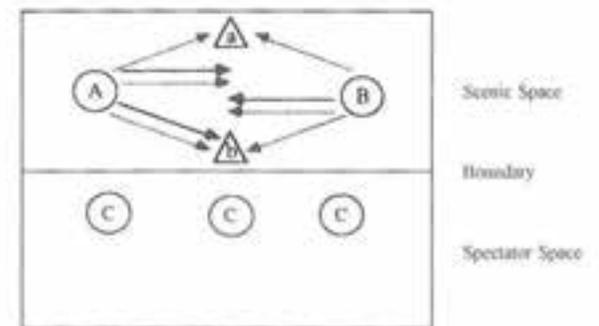


Fig. 1

This partition of space is clearly functional. There is the space for doing something, the actional space, and the space for watching. Such a division becomes institutionalized in such spectacles as the circus, the bullfight, and sports event, the soccer match and other games.

Becoming an institution means, among other things, fencing in public space, i.e., a framing in the most concrete sense, and thus we get the circus tent with its arena, the bull-ring, the field and the track. Furthermore, instead of the schoolboys fighting *con amore*, as it were, we get the proofs, for instance the professional boxers; and get the paying audience.

From a certain perspective what has been institutionalized is the act of watching. Now, since during hours of leisure watching isn't compulsory for anybody, stimuli must exist that make us do it on our own accord. Generally speaking the promotings are easy to point out: We are willing to pay for watching what we find admirable, impressive, and exciting. In other words, we watch actions that appeal to our emotions, whether they touch the sublime or the ludicrous, the frightening act which we do not dare to do ourselves because of the real danger involved or the vile or lustful thing that we refrain from doing because of dignity or decency. Most often watching involves our admiration for total mastery of the body exercised by other people or animals or the pleasure of loosing control and transgressing behavioral conventions, whether it means letting loose the body or breaking rules of interaction with others.

An important part of what is going on in the spectacle is the display of both the bodies mentioned by Bakhtin in his study of Rabelais: the new bodily canon according to which "presents an entirely finished, completed, strictly limited body, which is shown from the outside as something individual. That which protrudes, bulges, sprouts, or branches off [...] is eliminated, hidden, or moderated. All orifices of the body are closed. The basis of the image is the individual, strictly limited mass, the impenetrable facade" (Bakhtin 1968 (Russ. 1965): 320). This body image is contrasted by that of the grotesque body which "ignores the closed, smooth, and impenetrable surface of the body and retains only its excrescences (sprouts, buds) and orifices, only that which leads beyond the body's limited space or lead into the body's depth [...]. The grotesque image displays not only the outward but also the inner features of the body: blood, bowels, heart and other organs. The outward and inward features are often merged into one" (*ibid.* 317-18).

The circus act and the variety turn, the sequences of the bull-fight, the boxing match all appeal to one or more of the forms of excitement just mentioned. And, I would like to claim, a very substantial part of this appeal is due to mechanisms of identification with or to a desire for the performer.

Watching the tamer of wild animals, the clown, the beautiful female artist in total control of her body, and in a tight fitting costume, or the astonishing magician, means, among other things, sharing a sense of omnipotence through identification, gloating over and/or envying a ludicrous, but maybe self-assertive and subversive action, or lust for bodily grace and perfection.

Furthermore, in very many spectacles the danger involved points to the potential transformation of the the new (neo-classical and bourgeois) image of the performer' body into that of an grotesque body (the bull fighter goes by the horns, the circus artist being smashed by falling from the flying trapeze.

In this context I don't insist on the spectacle's power to fascinate us for its own sake, but because the theatre actor, it seems to me, possesses most if not all the features and all the charisma characterizing the artist of a spectacle.

Clearly, the spectacle fences in its own space, namely the space necessary to performing its turn. The division between arena, scene, ring, field, track, or whatever, then, is exclusively functional, and there is no difference in kind between performance space and audience space. A great spectacle like Tour de France stresses this point, since it is the public roads that are momentarily expropriated in order to serve the spectacle, and it is precisely on these public roads that the match is won.

As to the time of the spectacle, it takes place right here and now. One of its major points is its contemporaneity with the spectators, indeed, you might say that what a spectacle gives us is a heightened sense of being present, of the meaning of presence. The bull fighter may be torn to death by the bull, the trapezist may fall down, and the boxer become brain damaged, but these are extreme cases of a general feature of the turn or the match, namely that success and/or failure are decided right in front of us, in the instance of time, the now, shared by performers and audience.

In daily life, whether professional or personal, successes and failures transpire as slow, indefinite, and confused processes dependent on an incalculable number of factors. Although luck certainly plays a considerable part in the excellent performance of a turn or a match, the rules and demands are simpler, the basis of valuation is recognized, and first and foremost a decision is reached on the basis of a process, a series of actions and events, that is shown, exhibited in full to the audience in an autonomous and delimited time span which is not only the time of decision and fulfilment, but simply the whole and entire time containing the process in its totality.

Despite the fact that everybody knows that the acquisition of excellence takes time, i.e. it has a history, nevertheless, doing an admirable turn or fight so as to win a match represent a kind of pure presence cut off from a before and an after, the abstract and autonomous time of achievement.

Till now what has been discussed is spectacle as a game and entertainment. In this case a spectacle consists of different kinds of activities that, in a specific but strict sense, have no past and future. They realize an autonomous process based on rules and conventions that are only valid for these activities, and have no bearing on social reality, and thus they are complete in themselves.

Other kinds of spectacles exist, however, events in which an audience, at least in principle, is necessary for their very legitimacy. Trials and law-suits, on the one hand, and parliamentary debates and decisions, on the other, are examples of actions that — in a democracy — demand publicity to be lawful. In these cases a division of space also exists, a division between a scene devoted to the search for truth or for deliberations concerning the happiness of the people, or for warding off disaster. The public seats, where listeners can follow deliberations and negotiations concerning vital matters, are themselves vitally important, because they guarantee that no unlawful constraints are put to the search for truth and happiness.

These matters belong to the actual world of the community. Consequently, the division between the space of deliberation and decision and that of the audience is functional. Furthermore, just as it is the case concerning the functional space of entertainment, the demarcation line between scene and auditorium can be crossed. You may become a judge or a senator, just as well as you may become a bull fighter or tight-rope walker — not that I would recommend neither.

The time of the circus act or variety turn is the present; indeed, it is a specific kind of time slice, compacted and autonomous. The trial is concerned with the past; its objective is to establish what really happened, the facts, to get to the truth of the matter by judging the evidence and by balancing the force of the arguments to attempt a reconstruction and understanding of this truth.

Political debate is primarily concerned with the probable future, and it aims at taking measures that may ensure the desired outcome of a given situation with a view to the shared values of the community. In both cases time is divided into past, present, and future, and all three constitute a continuum, in the sense that both what has happened and what is likely to happen influence the present which is conceived as the point of decision.

A certain Aristotelean flavor to the above may have been noticed. In fact Aristotle's distinction between three kinds of oratory: deliberative, forensic, and epideictic, has been implied, and also the three kinds of spectator that he links to the three genres, namely the judges of the future, the politicians, the judges of the past, the judge proper and the jury, and the critic, the mere spectator who judges the skill of the performance itself.

Personally, I think that it might be fruitful to look at literature as a specific and highly developed kind of epideictic oratory, but in this context I would like to point out that although the circus number and the variety turn have very little to do with epideictic oratory, at least on the face of it, they have one important feature in common, they are exhibitions and celebrations of skills for their own sake. The courage, agility, liveness, and body control of the tight-rope dancer is exercised for no other reason than to impress and give pleasure to the audience as a number of critics. Any ulterior objective is foreign to the performance (but obviously not to the performer).

The court is the institutionalized space for establishing the truth and pass sentence on past actions. Through dialogue actions are reconstructed in speech, and through speech they are made intelligible. A trial may be viewed as a diegetic repetition of versions of what is supposed to have happened.

The aim of political debate is to create guidelines for and decisions about future actions that eventually are to be executed by others. It is an attempt to make the future intelligible and manageable.

In both institutions absent events and actions are made the object of interpretation: Their mode of being, signification, and significance are scrutinized. Consequently, the space of presence is in both cases inscribed in a non-present, but eminently important diegetic space contiguous to the space of presence and dialogue. This may be diagrammatized as follows:

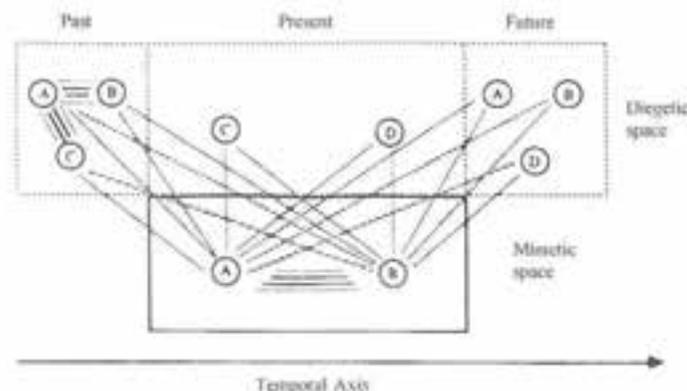


Fig. 2

The tight-rope dancer or the boxer are not scrutinizing either past or future, they are acting or fighting right in front of us. In stead of manifesting themselves through abstract deliberations they are displaying concrete bodily actions.

Until now I have tried to isolate two functional spaces that divide physical space into a scene and an auditorium. They agree in being continuous with our life world, because they have the same mode of being, but otherwise they are, or seem to be, opposed to each other. Court and parliament are physical frames for acts of imagination, reflection, and argumentation important to society. The arena, ring, or scene are the physical frames of physical actions that are designed to be a feast for the senses and drives of the audience.

We may try to pinpoint this difference by means of a set of oppositions:

past/future vs. present
 absence vs. presence
 intelligibility vs. perceptibility
 narrative vs. demonstration
 diegesis vs. performance (mimesis)
 interpretation vs. realization

and with a certain hesitation I would like to add two more oppositions, namely:

mind vs. body

and

reference vs. self-reflexivity

Obviously these two kinds of spectacles are cultivations and institutionalizations of modes of behavior between which we are constantly and instantly shifting in daily life.

The theatre and theatrical performances, in my opinion, are characterized by two things:

- a) the theatrical performance combines both kinds of spectacles described above, but
- b) it breaks the continuity with our life world, because its mode of being differs from ours.

As to the second point, the difference in mode of being, this is not only due to the fact that a fictional world is represented, although this is most often the case. However, also if a true story is represented, its very staging in the theatre will make the theatrical event a reenactment of something past, and the very illusion of contemporaneity, i.e. the mixing of past and present and absence and presence, will in itself change it into a fictional representation.

In principle, fictional time isn't different from life world time, since both are bound up with narrative, and narrative structures are indifferent with respect to the mode of being of the narrated. Consequently, we must look for

the differentia specifica of the theatre performance on the other axis of the time-space system of coordinates, namely space.

The physical space of the theatre doesn't distinguish itself from for instance the space of the music hall; the phenomenological space, however, is quite different, because the same physical space contains two spaces which are ontologically and phenomenally different.

The audience and the actors are both bodily present in the same room at the same time, and outside this room both parties share the same system of time-space coordinates, take the same busses and go to the same restaurants. The wonder is, however, that inside the room and during the performance they don't share this basic system of coordinates.

As physical space the stage is copresent and contiguous with the house. As the mimetic space of the play, however, it is placed in quite another context and not contiguous to the audience-space. The reason is that any space of physical presence, the performance space, is a part of a much wider diegetic space in relation to which the space of bodily presence is defined, i.e., the non-present space from which we tell that we come and to which we announce that we depart. And the characters of the play do not share the time-space coordinates of audience and actors. This double status of the theatre event may be represented in the following diagram:

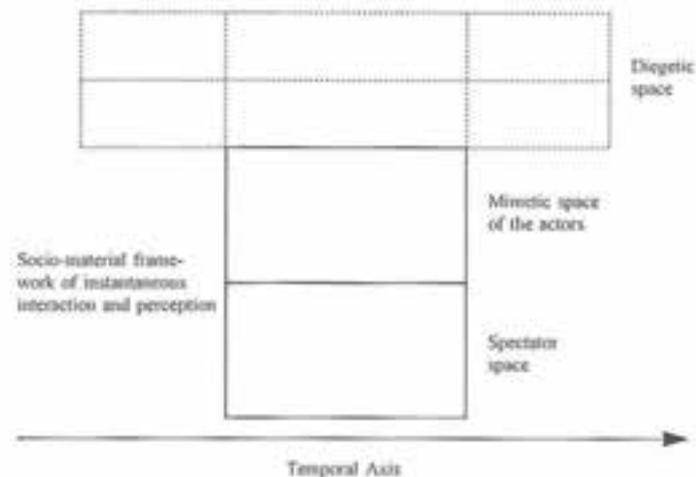


Fig. 3

The point is that the stage from a diegetic point of view belongs to a world not contiguous to that of the audience, but at the same time our senses, not only our imagination, persuade us that it is present right there in front of us.

The space on the stage is space representing something else. Whereas a bull-ring *doesn't represent* but *is* a bull-ring, and just as a court room is a court room, this is not true of theatrical space, because the stage represents the visible, or better perceptible, part of any diegetic space which has been imagined by an author and brought into being by a theatre company. Stage space, then, is *synecdochical space*, a *pars pro toto* of a lingually created world to which dialogue and action on stage refers. It is, however, the only part of this world which is realized as physical space and thus accessible to perception.

In our life world what is not present within our field of perception, but contemporaneous with us is supposed to exist in the same way as what we perceive. In the theatre, however, every time a character leaves the stage, he is stepping into another world, not to an outside contiguous to the scenery represented on the stage, but into the wings of the theatre.

It is sometimes claimed that the stage as theatrical space is a sign. It is essential, however, to be aware of the sense in which this is true. The physical reality of the space is not in question, neither would it make much sense to claim that a desk or a chair change their mode of existence and cease to be de facto desks and chairs in order to become signs of these material objects. Indeed, does it make sense to say that a character on stage is sitting on a sign of a chair instead of sitting on a chair? If not, then it seems false to say that the performance of a play is a sign referring to an object. It would make more sense to say that the stage is the object referred to by the text itself. When the stage direction says "she sits in a chair by the coffee table," then, when the actress is in fact sitting in a chair by a coffee table, it seems reasonable to claim that the stage is the realization of the verbal text.

There are two strange and interconnected features concerning the theatrical realization of the text's stage directions: One has to do with the kind of reference effectuated by the text, the other with the question as to what type of speech act a stage direction is.

The fact that the great hall of Elsinore Castle is equally well located inside the The Royal Theatre of Copenhagen and The Old Vic makes it clear that a play's reference is of a very special kind not being committed to our time-space systems of coordinates. Stage directions, then, are not assertions they are declarations to the effect that a certain state of affairs, described in the text, shall be realized on stage.

When Ibsen gives one of his detailed stage directions about the design of a bourgeois living room, it is a declaration, an order of command, that — in principle, but thank God not in reality — puts the theatre company under the obligation to realize it on stage. And, in fact not Ibsen, but Samuel Beckett once sued an American company, because he found the props and sets a mis-interpretation of and an insult to his text.

If this understanding of the speech act involved in stage directions is correct, then the setting is not a sign of an object, but an interpretant of a sign. Like this:

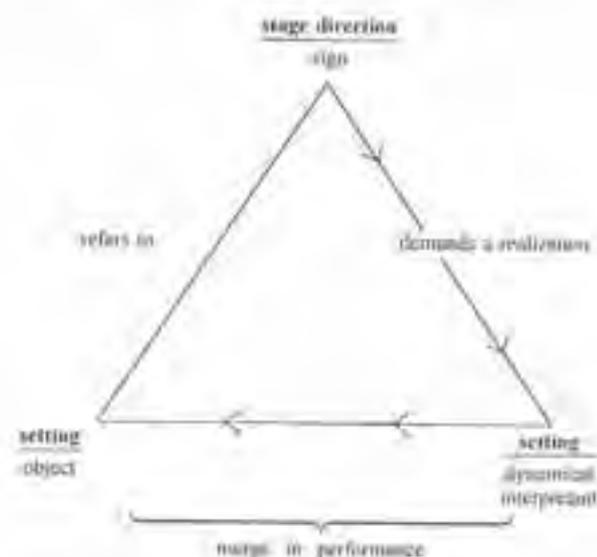


Fig. 4

The interpretant functions as if it were the object of the text. When a character says: "Hand me the bottle, please," this bottle is, of course, the object referred to by the utterance, but at the same time it is an interpretant of the stage direction.

This is not different from what happens, when we pass on green and stop on red. The traffic light certainly refers to an object, namely to a state of affairs which it, as an order of command, is instrumental in bringing about. When we interpret the traffic light properly, we do actualize the object referred to by the sign.

Consequently, as concerns declarations and orders of commands, object and interpretant are equivalent. The setting is both the context and object of theatrical dialogue and an important interpretation offered to the audience by director and scenographer. This is made evident by the fact that in comparing different stagings of the same play, we are treating them as interpretants whose merits or faults are decided in relation to the text of the play (and to our understanding of its subtext).

This merging of object and interpretant seems to be, if not the generic difference of fictional worlds in relation to our life world, then at least one of

their most important features. Obviously, a novel is just as well a representation of a mindscape as that of a landscape.

Reading literature, however, means creating mental icons, whereas watching a play means experiencing the merging of object and interpretant as perceptible events. The magic of theatrical performance is that it gives, in Shakespeare's parlance, to airy nothing a local habitation, since it projects plot interpretation into physical space.

At long last I come to the actor. In certain important respects he functions semiotically as sets and props do: It would certainly be awkward to define him or her as the sign of the character, because within the fictional world of the performance he or she does not refer to an otherwise existing character, he *is* this character, he *does not represent* him.

Looking at the total performance from the outside as a representation of a text, the actress isn't a sign of an object, just as the props she is an interpretant of a sign.

According to Peircean semiotics the performing actress would count as a dynamical interpretant of the character, i.e. an actual interpretation realizing a part — but only a part — of the potential significations and significance of the character as she is represented by the text of the play. A dynamical interpretant, however, is never totally identical to the sign it interprets, it is, according to Peirce, a realization of parts of the sign's potential signification in something foreign to it, such as a consciousness. On the one hand, a certain actress's interpretation realizes by necessity, as it were, less than the total number of possible text meanings. The interpretation will always be a selection among the possibilities offered by the text. On the other, a dynamical interpretant will always represent something which is neither clearly foreseen nor necessarily implied in the sign, although it is within its potential range, maybe even hinted at by the sign itself.

This lack of total identity between sign and dynamical interpretant cannot be neglected, when we compare the character's lines and the performance of the actress. The simple reason is that while she is speaking strings of words, she is herself, obviously, flesh and blood. She is, then, an embodiment of the words, she not only lends them her voice, her entire body interprets their possible meanings.

A dynamical interpretant may itself be a sign, pointing to the sign it interprets and in its turn receiving an interpretation which in this case will be that of the spectator. The question is what kind of sign the actress is? She cannot be a symbol (in Peirce's understanding of this concept), since she hasn't an arbitrary and conventional relation to the linguistic signs of the play. She cannot be an indexical sign either, because she is not really determined by the emotions she expresses, she imitates them, i.e. expresses their likeness, she

simulates or pretends to be in a certain mood or in a certain state of mind, although really she isn't, or only to a certain extent because of her play acting.

To be like its object in certain respects characterizes the iconic sign, and so the actress playing a character may be defined as an iconic sign. Bearing in mind that the actress was defined as a dynamical interpretant of the text, the next question is what kind of sign function does she fulfill? I would say that she refers back to and is determined by the text of the play by exemplifying it.

At one point Roman Jakobson mentions the fine art of ostension. Ostension, for instance, is the result of what a decorator does in a shop window by displaying the goods that can be purchased in the store in a tempting way. The actress is an example of ostension in another sense, namely of how to impersonate the character in question.

That such a semiotic definition of the actor or actress is reasonable seems to be supported by the fact that we compare different actors' representation of the same character. Which representation of Hamlet is the better, Olivier's or Jacoby's?

The valuation of different representations is not the issue here. Their very difference, however, points to the fact that the text of the play constitutes a collection of potential meanings (immediate interpretants) that allows different realizations which are theatrical exemplifications of the same meaning potential.

According to Peirce, interpretation is a kind of translation, and acting, I would add, is translation as embodiment. Furthermore, because no dramatic text is ever able to prescribe in details how such embodiments are to be realized, every actor's impersonation is an example of the innumerable ways in which this translation may be done.

The reason why I prefer to call this kind of interpretation/translation *iconic exemplification* has been sketched in the preceding, a few points should be added: Interpretation by exemplification is a general principle of explanation, the teacher explains the rules of grammar by examples, and the linguist attempts to substantiate his claim concerning certain mechanisms of a language by lining up an impressive number of examples. In both cases exemplification forms a part of argumentation, i.e. of discursive reasoning.

Another kind of exemplification is demonstration in the sense of showing by doing, i.e. by using one's body as a medium for accomplishing a certain action. This is, for instance, what a music teacher does, when he plays a piece and asks the pupil to imitate his way of playing. In doing this the teacher's own action establishes a norm for the playing of the piece in question (showing by doing has been treated by, among others, Wittgenstein and Nelson Goodman, for this see the enlightening article by Dinda L. Gorfée 1989).

In a similar way the circus artist and the bull fighter attempt to perform the act which has been handed down to them from tradition in a perfect way, or even sometimes to create a new improved version of it, to the effect that every other artist or bull fighter must, or rather ought to, follow the norm established by this particular performance.

The actor seems to share the claim to authenticity and authority for this or that particular way of doing the turn or act advanced by the performing artist. A claim to be exemplary in the normative sense is implicit in every actor's impersonation of a character.

The performing artist's claim to authority is founded on the flawless and exciting patterning and execution of the turn. It is inextricably bound up with the presence and self-representation of the performance and with the self-reflexivity of the act.

Näively, one might think that the actor's case would be the opposite, namely that his success would depend on on his self-effacement, on his becoming a diaphenous medium for a text, because his job is to impersonate, or as I prefer to say, to exemplify a character. This understanding misses the rather fundamental point that, at one and the same time, the stage has the double status of being contiguous with the world of the spectators and with that of fiction. The actor shares this double mode of being, he is both impersonating a character and a performing artist showing his skills. In other words, the theatre performance also includes that which characterizes the spectacle.

The actor's body is, at one and the same time, a medium of expressive imitation and for the accomplishment of a difficult task by a number of techniques and devices that may be appreciated by the *connaisseur*. The concept of iconic exemplification is designed to catch both the strange kind of imitation without a original — because the actor doesn't copy or imitates the text, he realizes it by adding what has never been there — and his exhibiting the art and techniques of acting. Theater goers are certainly very well aware of the double character of acting; indeed, until the advent of realism, it was quite normal that theater goers insisted on *da capos*. Although it certainly disturbs one kind of illusion, when the actress is forced by the audience to repeat Phèdre's avowal of her burning desire for Hippolyte (V,II), it does attest to their emotion and enjoyment.

This double nature of the actress's interpretative act doesn't exhaust the way she, and specifically her body, functions both during the performance and even outside the theatre. The fact that she as flesh and blood belongs to our life world means that her body becomes a model and an object of desire. Actors and actresses seem to be iconic exemplifications not only of the parts they play on stage, but also of ideal or grotesque human bodies (cf. Bakhtin), and generally of different types of human beings.

The spectator is, then, at one and the same time, watching a character who suffers or rejoices, an actress who by being in control of her body is able to use it as a medium for exemplifying the text, and a fellow being whose bodily presence arouses an emotional response over and above that which is aroused by the fate of the fictional character she impersonates. Indeed, her physical being becomes an object feeding the fantasmagoric web of the spectator's drive catechized images, and consequently an object onto whose surface his desires and/or fears are projected.

Let me conclude by an attempt to explain the title of my article. There is general reason for talking about "exposure" and even "indecent exposure" in connection with theatre. This indecency has to do with showing or exposing something that isn't usually made public, because it belongs to the expressions of private, even intimate emotions. Here I am not primarily concerned with the revelatory force of the story which is told, although an essential ingredient of drama is that it reveals what has formerly been unknown or hidden (cf. the Aristotelian *anagnorisis*). I am rather thinking of the exposure and revelation inherent in the relationship between play-acting and watching.

By the (temporary) renunciation of their own identity in order to exemplify that of the character actor and actress experience a freedom due to the fact that they aren't responsible for the actions they are doing or miming on stage, they are only responsible for showing them in an impressive way.

Furthermore, in exhibiting the actions and emotions of the characters they are, to boot, protected by the fact that they are doing a job and using techniques acquired through a training which involves an instrumentalization of their expressive potential.

Actors and actresses, then, are exhibiting a face and a body which in a double sense aren't their own, but which at one and the same time, exemplify the body and mind of a character and show their art. There is, however, a third party involved, namely the real body and mind of the individual actor or actress. This mind and body is the locus where the character is in fact acted by the skills of the actor. There is no denying, however, that this body, remain not only the Shakespearean "local habitation" of the character, but also the solid flesh of the actor. In several senses of the expression, the theatrical body is always, at the same time, the private body.

The private body is non-public, secret, and sexed, whereas the theatrical body is on display, revelatory, and — sexed, but in an abstract and conventionalized way. In practice, however, these two aspects of the concrete, individual body in front of us will always amalgamate, at least to a certain extent.

Consequently, the conventional distinction between what belongs to the behavior in public and what is done in private life is blurred by the concurrent

facts that the story itself transgresses this line, and that the actor's body always carries with it an air of intimacy, because theatrical representation is dependent on its individual physical reality.

The spectator is watching three interconnected things going on: A dynamical interpretation of the text (in Peirce's sense), a displaying of an art, and a fellow being whose body is on display. The spectator may identify himself with or lust for, or fear the character, he may admire or despise the acting as a good or bad performance, and he may identify himself with, lust for, or be disgusted with the appearance of the actor or actress as persons.

Furthermore, the spectator will often specifically envy the actor his threshold existence, his liminal being. The very fact that the actor while acting simultaneously belongs to two different worlds is enviable, because in a sense we all do, except that the private world of our fancy cannot really compare to the actor's bodily involvement in the realization in public of a collective fantasy. A fantasy which only commits him while it lasts.

Semiotically speaking, as a dynamical interpretant, the actor becomes an external sign of a life which isn't his own, while we ourselves aren't even able to act out our inner life, because, we are both the prisoners of our social identity, and because we cannot find a place for our bodies in the realm of fantasy. You could say that, for many reasons, we aren't able to become our own dynamical interpretants. It may be, then, that what we sometimes stigmatize as indecent exposure is an actualization as emotional and energetic interpretants of significations that normally are denied a body.

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TEXTE FILMIQUE, SCÉNARIO THÉÂTRAL: UN PARADOXE FÉCOND

Définitions

Une tradition empirique lie le scénario à l'art cinématographique; le terme désigne alors d'abord une forme littéraire, rassemble ensuite un appareil manifeste de techniques narratives et dramatiques réalisables, voire renvoie à une espèce d'ancre sémantique (verbale), contenant par avance les déterminations virtuelles de l'œuvre. Les thèses de Pasolini sont en l'espèce singulièrement exemplaires: "structure tendant à être une autre structure", le scénario se caractérise par sa nature verbale, technique, virtuelle et dynamique; il implique déjà le signifié du film et appelle chez celui qui en prend connaissance un travail de lecture supplétive, "d'achèvement visuel" que seul le film concrétisera ultérieurement.

Dans cette hypothèse, deux modes d'approche semblent s'imposer prioritairement et déterminer des attitudes pédagogiques (décrites par les manuels d'écriture): soit le scénario est réduit à la structure narrative, soit il est assimilé à une carte d'orientation, à des prédéterminations multiples qu'actualisera le texte verbal.

Théâtre et cinéma

Un rapprochement rapide fait songer aux thèses des sémiologues italiens des années 70 (par exemple Serpieri en 1978) évoquant l'importance de la deixis textuelle, censée contenir en germe les virtualités de la représentation scénique. Carlson parle, à son tour, de supplément de sens apporté par la scène au projet qui la sous-tend.

D'emblée, pareil appariement mérite examen. Peut-on admettre une parenté de nature entre scénario filmique et texte théâtral? Si l'on accepte la définition énoncée, les deux types de support se structurent de manière analogue: le scénario filmique associe une convention narrato-descriptive à des

dialogues; le texte théâtral comprend les didascalies (annotations de régie destinées au metteur en scène ou à l'acteur), un texte dramatique et un texte présupposé d'articulation (la tradition de la dramaturgie, le "common ground" de la socio-culture). Il arrive que dans certains cas de figure (par ex. chez Ionesco dans le cas des premières pages de *La leçon*) les didascalies soient "écrites" au point de passer dans le texte dramatique, transfert analogue à celui d'un "script" dont l'énonciation descriptive serait inscrite dans l'énoncé dialogué (cf. par exemple *Thérèse Raquin* de Marcel Carné en 1953).

Ce qui marque cependant la frontière entre le cinéma et le théâtre, du moins dans cette optique "prescriptive", c'est la convention selon laquelle l'écriture scénarique de film renvoie — hormis les exceptions citées — au cadre iconique, au champ à constituer, à la visualisation censée faire suite: elle porte la trace d'un passage et s'efface devant l'image; alors que tout texte de théâtre est conçu pour être à la fois lu et vécu/joué; au théâtre, malgré l'allégation de Barthes ou de Kowzan, nulle implication simple, nulle équivalence, antériorité ou postérité définitive ne régit exclusivement les rapports entre texte écrit et image scénique; la représentation théâtrale ne traduit/transmue pas un support écrit, elle construit une fiction; elle élabore le modèle réel et vivant d'une pratique imaginaire. La scène donne à vivre moins une lecture/transposition qu'une expérience événementielle ouverte. Anne Ubersfeld formule à cet égard une métaphore éclairante, celle du texte troué, que Jacqueline Viswanathan interprète à tort comme un retour à l'écrit: à aucun moment, le texte de régie ne prémédite un sens que le spectacle serait appelé à figer; la didascalie et le texte dramatique ne constituent que les composants d'un ensemble perméable: la texture théâtrale entendue comme combinatoire de structures; à ce titre, les énoncés apparentés au scénario seront traversés voire détruits par d'autres discours: celui du spectateur et/ou du comédien, celui de la tradition, des mises en scène antérieures et contemporaines, de la scénographie, des idéologies, du fantasme; mise en scène/mise en pièces: "D'où pour la représentation, la nécessité d'une pratique, d'un travail sur la matière textuelle, qui est en même temps travail sur d'autres matériaux signifiants".

Lorsque Rostand imagine dans l'acte II de *Cyrano de Bergerac* de réunir, par convention, l'ensemble des personnages chez le rôtisseur poète, il pose un problème scénographique; prenant en compte le poids de la tradition de la mise en scène, un comédien dont la socialité est reconnue (Coquelin à l'époque de la création) ou le metteur en scène pourront choisir de focaliser (par la lumière, l'occupation de l'espace, la gestuelle, les émotions, la diction, le rythme, etc.) l'attention du spectateur sur un seul personnage (Cyrano le fanfaron, ou le rôtisseur faiseur de vers); le spectateur, quant à lui, pourra refuser une lecture ainsi orientée et reconstruire du sens à partir d'autres focalisations imprévues. À chacun son imaginaire.

Au cinéma, même dans le cas du remake (du *Cyrano*-Belmondo au *Cyrano*-Depardieu), la réalisation a fixé un moment interprétatif auquel le spectateur se soustrait difficilement: Rappeneau fait éclater le lieu de l'acte 2 par souci de vraisemblance réaliste: il intègre des scènes de rue, visualise une rencontre avec Roxane, à peine suggérée dans le texte, alterne systématiquement scènes individuelles et scènes de groupe: il oriente ainsi la lecture vers une narrativité psychologisante induite par le conflit d'un personnage de séducteur que fait souffrir sa laideur physique.

Entre le seul texte didascalique et le scénario filmique, support d'un manque à voir, les convergences ne sont guère plus absolues.

Le punctum dolens, nous le disions, se situe dans la corrélation entre scénario et antériorité; selon la définition évoquée supra, le film suppose la fixation de la prise de vue, la médiation écranique, la préméditation d'un produit achevé; au cinéma, le scénario s'inscrit dans une construction fondée sur l'opposition entre le spectacle projeté sur l'écran et le blue print de l'avant-spectacle; en revanche, la représentation théâtrale ne dérive pas une fois pour toutes de la didascalie produite: elle offre un événement (à la fois performance et fiction) éphémère, vivant, et propose des significations que le spectateur peut détruire, refocaliser, défocaliser. Une première différence fondamentale entre le statut du scénario et celui de la didascalie réside dans l'appartenance de cette dernière à un collectif d'énonciation. Spectateurs et instances scéniques construisent dans l'instant une rencontre vivante dont chaque signe a valeur de régie. La représentation véhicule elle-même un supplément de sens.

Il en résulte que le scénario filmique a pour finalité de confirmer la contradiction diachronique texte écrit (déterminant narratif) vs image/son (déterminé); la didascalie théâtrale s'inscrit dans un autre réseau d'oppositions: elle renvoie à la dualité synchronique entre performance (l'image/le son scéniques dans leur dénotation plastique, dans leur présence physique) et fiction (le complexe verbo-iconique, les mots dans/derrière/sous l'image exhibée).

Le scénario lu dans le film

La première approche du concept de scénario, que nous venons de rappeler, a sans doute le mérite d'aider à poser quelques distinctions méthodologiques; il ne faudrait pas conclure, cependant, que le scénario se définisse uniquement par l'intérêt qu'il présente avant la réalisation du film; les développements récents de la recherche incitent à nuancer l'appréhension des problèmes.

Francis Vanoye souligne l'ampleur des mutations conceptuelles récentes qui ont affecté le vocable de scénario; à tel point qu'une mise en cause radicale semble frapper la relation entre scénario et forme esthétique: "Est-ce son étymologie (le mot scénario vient de *scenarium*, espace scénique théâtral), son histoire (il a désigné le décor et son organisation, puis le canevas des pièces de la *commedia dell'arte*, puis la mise en scène, enfin le plan d'un roman, avant de nommer la forme écrite du récit cinématographique), sa fortune médiatique liée à la popularité du cinéma? Toujours est-il que le mot scénario connaît actuellement une extension singulière." Il désigne en psychothérapie (scénario fantasmatique de Thoret), comme en sociologie ("frame" de Goffman), en intelligence artificielle ou en psychologie cognitive (Maranda) ou en théatologie ("cluster" de Balea) un modèle, un enchaînement de séquences, une suite d'opérations réduites pour les besoins de la compréhension.

Le scénario se mue en désignation d'un processus plutôt qu'en symbole d'un passage interesthétique.

Au-delà de l'élargissement du champ sémantique, une transformation fondamentale est ainsi opérée, relative non seulement au principe de la traduction du verbal en non verbal mais concernant surtout le rapport entre production et réception. Tant la forme dite préalable que la lecture se trouvent englobés en un même processus constructeur d'essais et erreurs.

Metz réfléchissant à propos du film, fait émerger le premier l'interrogation sur les clivages: au-delà de l'acception stricto sensu ("les feuillets écrits d'après lesquels le film a été tourné"), l'instance scénarique est définie comme une instance textuelle *parmi d'autres* dans le système global; "elle n'est plus référée aux codes d'expression qui la communiquent mais aux interprétations sur lesquelles elle ouvre". "Il arrive que l'on confonde deux choses différentes: sa place dans le texte, dans le film (instance manifeste de part en part), où il est le signifié apparent de signifiants, et sa place dans le système textuel, instance non manifeste dont il est le signifiant apparent".

Eco établit à propos du scénario une définition pragmatique et générale qui ouvre toute grande la porte entrebâillée par Metz: le scénario représente le cadre construit dans une stratégie de coopération textuelle; il ne concerne *pas seulement* le texte verbal; au contraire, il concrétise un dialogue, par compréhension textuelle et élimination d'hypothèses textuelles non pertinentes, entre la culture du lecteur (son "encyclopédie") et les suggestions d'interprétation.

En d'autres termes, processus interminable, inachevé, le scénario se construit aussi à la réception. Les modèles de lecture seront puisés dans un patrimoine constitué par les films finis et par leur transcription éventuelle.

La compétence de lecture acquiert en l'occurrence valeur créatrice au point qu'elle permet de poser un *distinguo*: "les scénarios dits "communs" proviennent de la compétence encyclopédique normale du lecteur, qu'il partage avec la majeure partie des membres de la culture à laquelle il appartient; les scénarios "intertextuels", eux, sont au contraire des schémas rhétoriques et narratifs faisant partie d'un bagage sélectionné et restreint de connaissances que les membres d'une culture donnée ne possèdent pas tous". D'autres types de blocs encyclopédiques peuvent être identifiés: les *fabulae* (règles de genre, propres par exemple au style policier), les motifs (schémas déterminant certains acteurs, actions ou décors, tels le séducteur, la séduction), situations (le duel par exemple), et *topoi* rhétoriques.

Lorsque Rappeneau propose son adaptation à l'écran de *Cyrano de Bergerac*, il opère un travail scénarique réparti sur plusieurs niveaux encyclopédiques; la compétence du lecteur sera déterminée par un certain nombre de contraintes:

— informations souvent redondantes débouchant sur une compétence opérationnelle, règles pour l'action pratique; référence historique et théâtrale générale du film;

— scénarios plus spécifiques au sein de la collectivité;

— *fabulae*: mémoire relative à la manière de narrer les histoires de cape et d'épée,

— motifs relatifs aux propositions thématiques (orientant le récit: la souffrance physique et la séduction)

— situations: duels, rixes, etc.

— *topoi*: couleurs (sombre) des costumes, véritables signaux de la psychologie humanisante de *Cyrano*, références aux tableaux de Velasquez, rupture des conventions théâtrales d'unités au profit de scènes en extérieurs, alternance rythmée de scènes solitaires et de groupe, etc.

L'instance scénarique, définie en termes d'énonciation, fédérant lecture et écriture, semble ne justifier guère une réflexion sur la distinction des genres esthétiques auxquels elle serait applicable. Pourtant, la relation entre scénario filmique et scénario relatif aux autres arts du spectacle mérite examen.

Dans le cas particulier du cinéma et du théâtre, certains secteurs encyclopédiques constituent un facteur commun de spécificité: les habitudes de fréquentation d'un répertoire constitué par les œuvres jouées influenceront les scénarios de construction, de représentation inscrits dans la mémoire du spectateur.

Ces mêmes facteurs peuvent exercer une influence discriminatrice: le fait que les comédiens de Vitez s'inscrivent dans un cycle, jouent simultanément plusieurs pièces de Molière, ou des pièces de Tchekov, peut susciter tant chez

le comédien que chez le spectateur une association, un collage intraculturel, que le canevas filmique, réalisé une fois pour toutes, ne permet pas.

D'autres paramètres différencient nettement les deux arts cette fois, telle la contrainte du scénario textuel verbal: il est possible que le discours filmique s'y réfère, court-circuitant le plaisir créatif du spectateur, amputant la lecture du processus de sélection relatif aux scénarios (non) pertinents; au théâtre, aucun montage n'est définitif, les suggestions de lecture proposées par la mise en scène constituent, *parmi d'autres*, des pistes pour le spectateur.

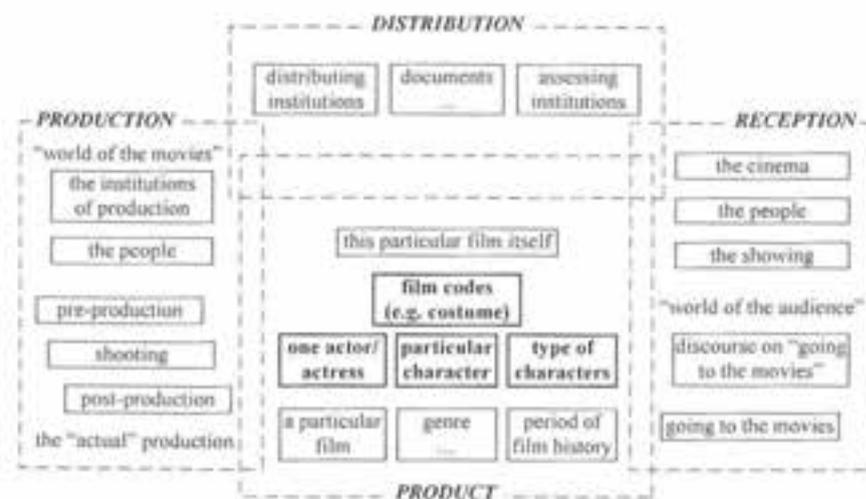
En dépit de son succès, le concept de scénario mérite examen. Le débat n'est heureusement pas clos.

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THE SAME DRESS – ANOTHER CHARACTER. COSTUME AS A SELF-REFERENTIAL DEVICE IN MOVIES

Since the early days of cinema there are self-referential movies, movies that refer to (certain aspects of) cinema – either on the level of the story or on the level of the discourse. Referring to cinema on the story level can be easily recognized: the movies tell us stories about their own world — about film-making (we watch the preparation or the shooting of a movie, sometimes one that really exists), about (fictitious or real) stars, about the events at a film festival, or about going to the movie theater, in other words, the referent can include all items listed under *production* and *consumption* in Figure 1 and some of those connected to *distribution* and *product*. Discursive self-referentiality, on the other hand, is slightly more complicated since both the referent and the act of referring can coincide in one element of filmic expression — the elements of the *filmic codes* (in a wider sense, including profilmic signs), such as composition of a shot; camera perspective or camera angle; montage (a particular



"style", or fade-in/fade-out, dissolve or iris); color; speed; titles or sub titles; decoration; props, dialog, music, and — *costume* and *makeup*. For instance using an iris-in at a time when this very element of filmic expression is no longer used (as done in Godard's *A bout de souffle* in 1959), is a reference to a certain period of film history with its particular aesthetic techniques, and a reference to cinematographic codes as such.

True, alluding to other films through the costume of a character is but one small domain within filmic self-referentiality, nevertheless, costume can be an effective device since looking at people's clothes is a decoding capacity we practice everyday. Compared to research on intertextuality within literary studies, the number of publications on similar phenomena in film is still relatively small. And I have not found a single article dealing explicitly with allusion to, or citation of, another film by costume or make-up. Thus, my contribution has to be considered a first attempt to look more closely at the particular use of costume as a means of reference. I will present a commented collection of examples and some observations concerning the functions and contexts of the *costume quotation*. The collection of examples is by far not exhaustive. A few examples are based on scattered clues as to costume in film literature or on published stills, but most of them I found when watching movies. The results of both approaches are purely accidentally, since they depend either on the chance to find remarks on costumes, or on recognizing the costume as one already seen in another context, in other words, on the subjective memory of movies.

Further difficulties arise with the definition of *costume quotation* and the typology of functions. As to film costume, a quotation in the strict sense will be the exception, since most of the times the costume is not the very same (or not even a precise copy of the original), but only a sufficiently similar one, and thus we have to talk rather of *allusion* to other films, movie characters, genre-specific codes of costume, etc. Concerning the various functions of costume quotation we can sometimes assign one and the same costume to different use categories.

In order to analyse the examples found, we can start from some questions (as already indicated in *Figure 1*) with regard to the persons involved, the evoked characters, and possible meanings of a costume quotation:

1. Is there any relation between the alluding costume and the original costume with regard to the actors/actresses (for instance his or her own dress from an earlier movie), or to other people involved in the production?
2. Is the source costume connected to only one particular character or to a type of characters? Is the costume specific to a certain genre?

3. What are the functions of a particular costume within the movie:
 - The actor/actress has to wear the same or a similar costume in order to match those shown in clips from other films, no matter whether the excerpts are cut-in for economical reasons (stock footage) or as unmarked filmic citations;
 - the costume allusion can be part of a disguise scene (sometimes with explicit reference to another movie character);
 - the costume can serve as a parody both of movie characters and of whole genres; and
 - the costume can be used as an homage (or at least allusion) to a particular director and his work, a certain film or a genre.

Before discussing the various examples according to patterns of allusion I have to explain several topical restrictions. For obvious reasons I have excluded all bio-pics and movies restaging the shooting of an actually existing film since none of them can do without duplicating the original costumes; I have also excluded short cameo appearances where an actor or an actress might refer to one of his or her characters; and I have not examined whether the costume designs of remakes in the strict sense are to some extent copying the original movie.

One costume — one actor/actress — two movies

What is true for the whole topic of costume quotation, is, necessarily, also true for this particular case: alluding costumes are not limited to certain genres and they are used for very different reasons. The play of reminiscence of movie characters can either concern a genre or a group of films with specific characters, or it can be oriented toward an actor/actress and the parts he or she has previously played. Or it can include both aspects, as it is the case with Yul Brynner in *Westworld* (USA 1973, Michael Crichton), a sci-fi movie about a high-tech vacation resort in the middle of nowhere which offers four different "worlds" (ancient Rome, the Middle Ages, the Orient, and the Wild West), each one amalgamating more the Hollywood images of these periods and places than presenting actual historical features. Yul Brynner as one of the robot gunslingers is dressed up just like his Chris character in *The Magnificent Seven* (USA 1960, John Sturges), from the black shirt to the silver-turquoise belt-buckle. In the specific context of the movie the costume is not merely a reference to one of Brynners previous roles, the Western in general, or the movie-based design of the resort, but, at least partially, an attempt to deal with the character type as such: the robot is one of the first who gets out of control, and, instead of being constantly "killed" in the show-down, starts to kill the guests.

The second example comes from a completely different genre. When on their *Road to Utopia* (USA 1945, Hal Walker) Bing Crosby and Bob Hope are crossing the frozen waste of Alaska they meet a colleague from previous movies of the *Road* series: Dorothy Lamour. Looking at her and her garment, they can only state quite astonished that she doesn't belong up here to Alaska, because she is dressed in a sarong. Starting from the 1936 movie *The Jungle Princess* (William Thiele), this sort of costume became almost her trademark, since she had to wear this garment in several films: *The Hurricane* (1937, John Ford); *Typhoon* (1940, Louis King); *Aloma of the South Seas* (1941) and *Beyond the Blue Horizon* (1942, both Alfred Santell); *Rainbow Island* (1944, Ralph Murphy) (for many of these movies, including *Road to Utopia*, the costumes were designed by Edith Head). A similar parodistic allusion to character and casting stereotypes can be found in a movie which is full of quotations and allusions: *Casino Royale* (USA/GB 1967, John Huston, Ken Hughes, Val Guest, Robert Parrish, Joe McGrath). When Deborah Kerr has to deliver a secret message to David Niven who plays the James Bond character, she appears dressed as a nun, and this was definitely not her first habit. Although it resembles the one she was wearing in *Heaven Knows, Mr. Allison* (USA 1957, John Huston), it also refers to her role in *Black Narcissus* (GB 1946, Michael Powell, Emeric Pressburger).

Costume quotation & film quotation

When re-using material from another film, the old and the new costumes have to be sufficiently similar. The reasons why a director quotes another film in the material sense might be different: either for financial reasons to lower production costs, or for aesthetic-dramaturgic reasons.

The first group of using old film material is typical for B-movies (cf. Cross 1981: 20). Instead of spending a lot of money on the shooting of new action scenes with many extras, the directors used stock footage from other movies which had higher budgets. But the secondary exploitation was not limited to prestigious films, it also happened within the same category. So Spencer Gordon Bennett had the leading actor of the Columbia serial *Riding with Buffalo Bill* (USA 1954) dressed in the same costume as the main character of the 1940 serial from the same studio, *Deadwood Dick* (James W. Horne), in order to insert clips almost unnoticed. Sometimes all actors of a B movie were dressed with stock costumes, even without the necessity of matching those from inserted clips, as it was the case with *The Black Arrow* (aka *The Black Arrow Strikes*, USA 1948, Gordon Douglas) which was shot on sets left over from the A movie *The Swordsman* (USA 1948, Joseph H. Lewis), reusing the costumes

from *Bandit of Sherwood Forest* (USA 1946, George Sherman & Henry Levin; cf. Cross 1981: 164)

Both examples for the aesthetic use of costume quotation and film quotation are disguise scenes and both are taken from a movie full of film quotations: Carl Reiner's homage to the film noir, *Dead Men Don't Wear Plaid* (USA 1982; the film is, by the way, the last one of the famous Hollywood costume designer Edith Head and dedicated to her). In these two cross-dressing sequences Steve Martin, the privat eye, has to play woman roles "together with" characters from other movies in perfectly matching shot-reaction shot scenes. In the first one, he has to contact a jailed captain, who is nobody else than James Cagney. In order to get in, Martin puts on the dress and the hat originally worn by Margaret Wychery as Cody Jarrett's mother in *White Heat* (USA 1949, Raoul Walsh). In the second scene he acts as a luring blonde, a part played by Barbara Stanwyck in the first place, who tries to seduce Fred MacMurray in a scene taken from *Double Indemnity* (USA 1944, Billy Wilder).

And once again: disguise

There are several other examples of evoking film scenes or characters in the mind of the audience via disguise. In *Sunset Boulevard* (USA 1950, Billy Wilder) Gloria Swanson makes herself up as Charlie Chaplin and impersonates the sad Tramp for William Holden. The already mentioned movie *Casino Royale* features yet another disguise scene. Peter Sellers, as the new James Bond-to-be, tries several costumes, among others he appears as Toulouse Lautrec walking on his knees, thus referring both to José Ferrer in *Moulin Rouge* (GB 1952) and to the director John Huston. Finally, when in *E.T. The Extraterrestrial* (USA 1982, Steven Spielberg) the little creature is taken out by the kids on Halloween, he is very happy to see at least one other extraterrestrial among all the human beings: Yoda, the wise old Jedi from the *Star Wars* sequel (*The Empire Strikes Back*, USA 1980). Unfortunately, this is, of course, not the "original" Yoda, but only a child wearing a mask. In this case, the costume functions as a reference to another blockbuster film of the same genre, and, in addition, as Spielberg's reference to the work of his Hollywood friend and colleague George Lucas.

Well-known characters — well-known genres

Apart from the garments of individually recognizable movie characters used for allusion, there are certain costumes that are closely connected to specific genres, such as the colorful bathing suits of Esther Williams and her

water ballet. In the inquisition sequence of his *History of the World Part 1* (USA 1981) Mel Brooks as Torquemada invents a particular way of torturing the prisoners: he has the nuns sent in. One after the other they open their habits and throw them away, but only to show the tight bathing suits they are wearing underneath, and then they start a perfect swimming routine as we know it from *Bathing Beauty* (USA 1944, George Sidney) or any other Williams movie. A reference to all kind of bad guys from various genres is made with the costumes of the volunteers hired by the heavy in yet another Brooks movie, *Blazing Saddles* (USA 1973): there are ferocious Bedouins, Mexican bandits, a gang of rockers, Ku Klux Klan members and Nazi soldiers. And finally, to stay with Mel Brooks, in his last film he refers both in the title and in the title song to an article of clothing specific to all those movies depicting the hero from Sherwood forest and his Merry Men: *Robin Hood: Men in Tights* (USA 1993).

In order to function already on the visual level, an impersonation of a star, a take off on, or a spoof of, a movie character, whatever it is called, has to draw on essential features of costume, hairstyle, and make-up. In the case of the parodies Carol Burnett presented regularly in her weekly TV show, the design of her appearance was already close to caricatures. Among the woman stars she portrayed in her own way are: Marlene Dietrich (*Der blaue Engel*; D 1930, Josef von Sternberg), Judy Garland (*The Wizard of Oz*; USA 1939, Victor Fleming), Lana Turner (here it is not *The Postman* but *The Murderer* who *Always Rings Twice*; USA 1946, Tay Garnett), Gloria Swanson (*Sunset Boulevard*), Maria Montez, Jeannette MacDonald, and Mae West (cf. the pictures in McConathy & Vreeland 1976: 292-297). Both Marlene Dietrich and Mae West have already been the target of a spoof in the early thirties, when the cute little Shirley Temple started her career with the one-reeler series *Baby Burlesks* (McConathy & Vreeland 1976: 136).

A sort of homage to a fellow comedian are the Groucho Marx moustaches Woody Allen has put on both his movie parents in *Take the Money and Run* (USA 1969). Another famous model is Rudolph Valentino's sheik character (both *The Sheik*, USA 1921, George Melford, and *Son of the Sheik*, USA 1926, George Fitzmaurice) whose lookalike reappears in a short sequence of *The Last Remake of Beau Geste* (USA 1976, Marty Feldman). And, since the scene refers to the cinema of the twenties, he appears not only in the flickering black and white of an old, scratched film copy, but he also "talks" in titles. Valentino is also the central referent of Gene Wilder's *The World's Greatest Lover* (USA 1977). Wilder plays the role of Rudy Valentine/Valentini, a would-be actor who, in the Hollywood of the twenties, takes part in a screen contest. In one scene he puts on a sheik costume in order to seduce his wife who has a crush on Valentino, and, already in a dream sequence at the beginning, when still working as a pastry cook, he is dressed in a similar costume as Valentino in

his famous tango scene from *The Four Horsemen of the Apocalypse* (USA 1921, Ren Ingram).

In the case of *Spaceballs* (USA 1987) we are not dealing with the parody of a single actor or one particular character, but of a series of movies: the *Star Wars* trilogy (plus many other sci-fi films). Almost all of its prominent characters are included in a somehow transformed way. Brooks himself plays the role of Yoghurt whose appearance is more than reminiscent of Yoda. Chewbacca, the faithful Wookiee becomes an equally hairy, tail-wagging "ming" (= half man, half dog) called Barf, and the bad guy, Dark Helmet, is dressed in black like Lord Darth Vader, only that he always tries to raise the visor of his helmet which constantly slips down over his face.

To serve as the origin for costume quotation a movie character need not be connected to a well-known star, only the appearance has to be sufficiently distinctive in order to be recollected. A particularly remarkable costume has the Scarecrow in *The Wizard of Oz* whose duplicate sheds tears at the final farewell in the over-all self-referential movie *Top Secret!* (USA 1983; Jim Abraham, David and Jerry Zucker). Equally spectacular is the golden body make-up of the dead woman in *Goldfinger* (GB 1964, Guy Hamilton), and, of course, the Bond spoof *Casino Royale* takes advantage of it: during the mayhem at the end even two golden ladies enter the scene, but both are still alive.

The final two examples, concerning rather make-up or hair dressing, are, again, connected to famous actors. Who would ever forget Robert Mitchum's sinister preacher and his play with the finger tattoos in *The Night of the Hunter* (USA 1955, Charles Laughton): on every finger of his hands he has one single letter, together they form the words H A T E and I. O V E respectively. Peter Ustinov as the Foreign Legion sergeant in *The Last Remake of Beau Geste* (USA 1977, Marty Feldman) outmatches this message with his tattoos, saying HATE and LOATHING. Billy Wilder certainly raised a laugh with the prom scene in *The Major and the Minor* (USA 1942, Billy Wilder), which is, by the way, not the only allusion to other movies that appears in this film. A sort of epidemic has broken out in the girls' school, one of the cadets of the military school explains to Ginger Rogers. And the next shot reveals the kind of "disease": all the girls sitting in one row, and waiting to be invited to dance, even the elderly principal, have the same blurred vision caused by Veronika Lake's "peekaboo" hairdo.

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As shown by the examples, costume quotation e.g. apart from the camouflage of inserted stock footage, serve various purposes. Self-referentiality is far more than just another post-modernist element. Like all other ways

of filmic self-referentiality, it can be used to introduce bits of an additional message that no other filmic means of expression is able to convey. And, like all other ways of filmic self-referentiality, it depends heavily both on the movie knowledge of the viewer and on her or his readiness to share the play and pleasure of allusion with the filmmaker.

By responding positively to filmic self-referentiality we not only receive more of the message encoded by the artists, but, in addition, we experience a different way of viewing films, since, in many cases, self-referentiality has a particular distancing or anti-illusionist quality: we are watching a movie, and, at the same time, we are made aware of watching a movie, thus we gain a surplus of intellectual pleasure.

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FROM *MASTERSINGERS* TO BORORO INDIANS: ON THE SEMIOSIS OF IMPROVISATION

My present efforts toward a semiotic theory have brought me to the threshold of a completely new kind of approach. This new approach, which I call "existential semiotics", arose in my mind coincidentally (and delightfully so) with some observations about improvisation. To illustrate, in Richard Wagner's *Mastersingers* we find a very apt characterisation of the situation in which semiotics now finds itself. We may thus take that opera as a "simulacrum" of the present phase of semiotics, if only we read and interpret his text correctly.

On the basis of the *Mastersingers* we can delineate three kinds of semiotics. First, the mastersingers themselves were "generativists", in their naive belief in rules that could produce "mastersongs". While displaying a mildly ironic attitude toward these enthusiasts of rules, Wagner also casts the young artist Walther von Stolzing, who creates by inspiration, in a somewhat parodizing light. If Beckmesser represents a ridiculously meticulous "academic" style, then von Stolzing illustrates a free, improvisatory way of writing, which easily leads to exaggeration (Wagner's performance indication is *anscheinend* in Walther's contest song). Stolzing typifies the music semiotician who creates only by means of the so-called modalities. Finally, the synthesis of these two characters is Hans von Sachs, who has found a good balance between rules and creativity, *langue* and *parole*, grammar and realization of rules.

One of the most important classics in the study of improvisation is undeniably Ernst Ferand's *Die Improvisation in der Musik* (1938). As an example of improvisation, Ferand specifically mentions the scene in Sachs's workshop, when the contest song is created and written: "Es handelt sich hier also um eine den organischen Gesetzen inneren Wachstums gehörende... aber doch durchgeformte, ja höchst formvollende Improvisation; dabei vollzieht sich gleichzeitig auch schon der Übergang zur Komposition, indem zwar nicht die Weise, aber doch der Text von Hans Sachs aufgeschrieben wird" (33).

Let us recall what this improvisation, staged by Wagner, is all about. First of all, it involves a situation in which the improviser, Walther, has a listener constantly by his side, who interprets and judges the result of his improvisation. What we see and hear is therefore a situation of communication, in which Walther serves as the sender and Sachs as the receiver. In terms of Greimas's mythical actantial model, however, Walther is situated as a subject-hero, who with his auxiliary object, the song, aims to win Eva, Sachs's daughter. Sender and receiver are themselves mastersingers, who have determined the rules of the contest and who also judge the competition. Sachs has taken on the task of being Walther's helper, in which role he encourages and instigates the unsure improviser. His opponent, of course, is Beckmesser. On the other hand, Sachs's role is contradictory in that, by helping Walther, he at the same time gives up his daughter. Nevertheless, he does so in order to avoid the fate of King Mark in *Tristan*.

Improvisation occurs here as a *particular form of communication*. Just as in communication the sender and receiver must have some codes in common, similarly Walther must follow the rules established by the mastersingers. Walther believes that he cannot formulate his "dream image" as dry rules, seeing the poetic inspiration and the rules generating the song as irreconcilable. Nevertheless, Sachs convinces him: "Sind Freunde beid, stehn gern sich bei." When Walther asks how he should start according to the rules, Sachs answers: "Ihr stellt sie selbst und folgt ihr dann." Make the rules yourself and let Hans Sachs take care of the rest!

Before the improvisation begins, they have a profound discussion about the essence of the generative rules of the songs. Walther asks Sachs how an ordinary, beautiful song differs from a mastersong. Sachs's account of this difference becomes almost prophetic, if one thinks of how computers can produce "original" Bach chorales, children's songs, fiddle music, and other kinds of music based on relatively clearcut rules, so that not even specialists can distinguish between a "fake" and an "original": He returns to youth, to "springtime", when, as if on its own, a fine song emerges from the glow of a strong feeling. But if one can still write a beautiful song when autumn comes, followed by winter, when one grows old and experiences fights and struggles, then that song is a mastersong. In other words, a mastersong is made according to rules but at the same time it is enriched by a certain life history.

The same could be said about music in general: tones and sounds which in their acoustic form carry the history of centuries-old technologies, are experienced as richer and more human than sounds produced synthetically. The latter always seem less actorial, to use a semiotic term. Sachs states that the "codes" or rules of a mastersong are learned only with time. Still, the rules do

not appear *ex nihilo*. Walther asks, Who then created these rules? Sachs answers that the creators were spirits worn out by the worries of their lives, who through song made themselves an image of the spring to delight their minds. A mastersong was thus a model, a product, which was detached from life, but with which one could recall a by-gone, golden time. Walther asks how this image might be kept fresh, after "spring" had passed; that is, how one could prevent the original spirit of rules from disappearing, how one could stop the fading of the image which the song was to convey. Even to this Sachs has a ready answer: "Er frischt es an, so oft er kann!" In other words, the rules have to be renewed as often as possible. In semiotic terms, the codes have to be checked always according to the context (an activity which Roman Jakobson called a metalinguistic function).

When the improvisation proper starts, Walther comes under the spell of his emotion; he lets his dream image transmit directly and take shape as a melody. Hans Sachs, in turn, articulates the melody in the traditional mastersong form: *Stollen, Stollen, und Abgesang*. Sachs interrupts the improvisation for awhile and gives orders about the continuation. When the melody is completed he judges it: "Nur mit der Melodei, seid ihr ein wenig frei..." But he does not regard this as a mistake properly speaking, though it might "irritate" the old masters. Thereafter Walther presents the second phrase in its entirety, which satisfies Sachs, though he still misses the sense of what Walther's dream image really was. At this point the improvisation is interrupted. Everyone familiar with Wagner knows the important role an "interrupted" function plays in his narration: the final resolution is saved until the end of the opera as its culmination. All told, this scene from the *Mastersingers*, with its oppositions between rules and free creation, makes an excellent starting-point for the semiotic study of improvisation.

In studying improvisation, semioticians and semiotically-oriented scholars have usually attempted to search out rules hiding beneath the surface. It is the deep level which can be applied in order to realize an improvised melody. Accordingly, the research has become fairly reductionist, in attempts to prove that improvisation is mere illusion, and that what is involved is a rigorous application of unconscious rules almost in the manner of deductive inference. For example, in Bach's time any organist could improvise a chorale tune; this fact led Italian musicologists Baroni and Jacoboni to find the rules that "generate" such chorales (1978). Heinrich Schenker argued that, from a fundamental contrapuntal structure called the *Ursatz*, the great composers improvised their compositions through three phases, which he called *Hintergrund*, *Mittelgrund*, and *Vordergrund* (1956). Inuit songs have also been reduced to their rules (Pelinski 1981). Johan Sundberg has written the deep level grammar for the children's songs of the Swede Alice Tegner (1976). Likewise, the rules for

Finnish fiddle music have been formulated (Pekkila 1988), as well as those of Argentinean tangos, and so on. Consequently, what at first seemed an endlessly rich and varied improvisation and an inexhaustible ability of discovery, has been revealed to be an activity guided by stringent rules. With a machine one can produce "improvisations" that precisely follow a style. But can we call these synthetically-produced melodies improvisations? Do they not lack something essential?

The crucial difference, the *presque-rien*, is the process of creating, mentioned by Sachs. No machine has been capable of inventing those rules nor of providing them with historical significations from which their pertinence emerges. Further, rules do not take into account that improvisation concerns not only a product (object, text) but involves the act of improvisation, the activity itself. When we speak of improvisation it is essential to notice which of the two is intended. If the product is meant, then we demand properties such as irreversibility and unpredictability — the "imprévisible" as the French philosopher Vladimir Jankélévitch calls it (1974). Insofar as the activity itself is concerned, our attention is caught above all by the improviser, the subject of the improvisational act. The French narratologists make the distinction, inherited from the Russian formalists, between two instances of narration: the enunciate (*énoncé*) or utterance, and the enunciation (*énonciation*) or act of enunciating. Correspondingly we have two different subjects: the subject of the enunciate, which is the subject *in* the text; and the subject of enunciation, who by his or her activity *produces* the utterance. We thus speak either of the composition, poem, dance and their inner subject; or of the composer, writer, dancer himself.

In some studies dealing with improvisation this distinction is made without awareness of its methodological consequences. For example, in his treatise *Improvisation: Its Nature and Practice* Derek Bailey has the jazz musician and composer (Gavin Bryars) say:

"One of the main reasons I am against improvisation now is that in any improvising position the person creating the music is identified with the music. The two things are seen to be synonymous. The creator is there making the music and is identified with the music and the music with the person. It's like standing a painter next to his picture so that every time you see the painting you see the painter as well and you can't see it without him. And because of that the music, in improvisation, doesn't stand alone. It's corporeal. My position, through the study of Zen and Cage, is to stand apart from one's creation. Distancing yourself from what you are doing. Now that becomes impossible in improvisation."

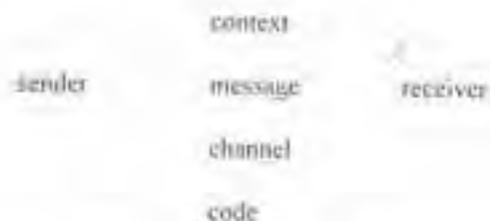
On this view, improvisation is unsatisfactory because the enunciation, the producing, the physical action of the performer is so strongly foregrounded. Someone else might contrarily be content with and even aim for this situation. In any case, this quotation serves as a good inverted proof of the crucial role of these two aspects in improvisation.

Both these viewpoints are also clearly present in the aforementioned scene from the *Master Singers*. The musical utterance, Walther's contest song, has been surrounded by the activity producing it and with many evaluative and reflective comments external to the message itself. Such an approach to improvisation proves to be much richer than the mere analysis of a product. In film theory, the music included in the plot of a film is called diegetic. In the opera Walther's contest song is such a diegetic event, as is the contest itself in the finale. What is involved is a communication of communication, representation of representation on stage.

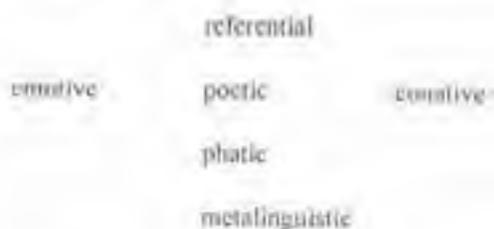
Semiotics might provide theoretical tools for describing both of the above-mentioned aspects. Umberto Eco has divided semiotics into two halves, semiotics of *communication* and of *signification* (1979). The former investigates the whole situation of communication, in all its dimensions. The latter examines the problem of how meaning at all is possible, how a sign is structured. This basic distinction was emphasized by Thomas A. Sebeok in his memorable lecture series on semiotics at the University of Helsinki in the Fall of 1993. Through further discussions with him I became convinced that this dichotomy were fundamental also in the study of improvisation. When we study approach improvisation as communication, we scrutinize expressly the improviser and improvisation as a special activity. If we explore the improvisation as a *sign*, we pay attention to the result, the product of this activity. Improvisation as a sign? A sign of what? Generally speaking, the mention of "sign" precludes its basic definition which we have inherited from medieval Scholastics: *aliquid stat pro aliquo*. The sign represents something, refers to something — and of course to somebody.

Improvisation is a sign of a certain existential situation. Heidegger's term *Geworfenheit*, by which he portrayed a man who tries to define himself amidst the world or *Existenz*, also suits the occasion of improvising. It is a sign of the courage to enter a communication without certainty about whether the improvisation — on whatsoever level, be it an action or a particular product of this action — is received, understood, and accepted. In improvisation the existential, temporal, and spatial situation of the improviser always comes to the fore. Improvisation is a particular way in which signs exist. In linguistic terms, improvisation as an utterance is always diegetic, that is, an act that points to the moment and place of uttering. Improvisation is a *trace* of a performance situation in the performance itself.

From these preliminary definitions one might already conclude that improvisation always belongs to the semiotics of communication rather than to that of signification. Let us clarify what this means. So many schemes and models have already been introduced in linguistics, information theory, cybernetics, and studies of mass media about the structure of communication, that it is probably sufficient to evoke the classical diagram by Roman Jakobson (1963: 214):



According to Jakobson, the communication may emphasize any factor mentioned above, when any one of them becomes a pertinent aspect ruling over other viewpoints:



For example, in the just-discussed scene from the *Meistersingers*, we notice how the dialogue between Walther and Sachs continually shifts from one "function" to another. The poetic function is involved when they deal with the musical form of the message, Walther's contest song. The conative function operates in the scene in which Sachs as the receiver is moved by the high qualities of the song, and also when he says that the melody might irritate the old masters. The phatic function is foregrounded when Sachs urges Walther to take up his pen and paper or when in the music the preluding based on arpeggiated C major chords "prepares" the beginning, making it easy for Walther and opening the channel, so to speak. The emotive function is most important, among other places, when Walther sings "Ich liebe" and thus

Music example 1: Richard Wagner: *Meistersinger*, dritter Akt, erste Szene.

emphasizes the emotional state of the sender. Moreover, Sachs's story of the golden youth of the mastersingers is emotive in character. The metalinguistic function is employed in Walther's questions about the rules. Together with Sachs he ponders the codes of mastersongs. The referential function is saved for the triumphant Midsummerfest of the finale of the last act.

Can Jakobson's theory serve as a basis for a "general theory" of improvisation? In semiotics one strives to create general models. Can improvisation, linked with whatsoever moment of communication, occur in any part of the above model?

(1) "A sender improvises". This expression sounds almost tautological, but essential to this aspect is that the main emphasis lies precisely on the improviser him/herself. It does not matter whether the result sounds as if it were improvised. The improviser may realize his improvisation using certain generative rules to such an extent that the result appears like a completed composition. For example, an organist improvises a fugue.

(2) "A message is an improvisation". In this case again, decisive is that the result sounds like an improvisation. In the history of Western art music there are numerous illustrations of such "traces" of improvisation in written compositions, one example being the notated cadenzas of concertos.

As said above, the contrast between sender and message is the same as between enunciation and enunciate. Oftentimes a musical enunciate, for example a passage that sounds improvised, a *topos* in art music, has been created through transference of a sender's activity to the message itself, by notation of the same. In such cases one might also speak of improvisation as a *gesture*. The English-horn solo "Hirtenweise" from Wagner's *Tristan* can serve as an illustration. The same holds for the clarinet solo that opens Sibelius's First Symphony and of which the Finnish musicologist Ilmari Krohn says (1947: 37):

"Einleitung vertritt den epischen Erzähler, der ausserdem durch die Bogenform des Strophenbaus und durch die einsam tönende Klarinette charakterisiert ist — die tiefe Frauenstimme eines Klageweibs, wie es noch jetzt in Fernkarelien begegnet... Das Klagemotiv des Hauptstollens ist eine künstlerische Nachbildung der karleischen Klagelieder, die bei Todesfällen oder anderen traurigen Ereignissen von bejahrten frauen anestimmt werden. Auch die zu ähnlichem Zweck im alten Griechenland (und Orient) gebrauchten Klagegesänge (Threnoi) sollen sich in gleicher Weise wie hier von hohem Anfangston allmählich abwärts bewegt haben."



Music example 2: Sibelius: 1st symphony, clarinet motif from the opening of the 1st movement.

Of course this does not represent a literal imitation of an *itkuvirsi* (lamentation), but rather a symbolic reinterpretation of a folkmusical "gesture". In Heitor Villa-Lobos's *Choros*, we encounter an equivalent transition from folk music to art music, from a sender to a message, from an enunciation to an enunciate. In these pieces, the improvisatory formal outline, which the composer himself called *une nouvelle forme de la composition*, was based on the nocturnal serenades given by street musicians of Rio de Janeiro known as *choros* groups, which were popular in this town at the turn of the century. If one compares original *choros* music, with its virtuosic solos, to, say, Villa-Lobos's *Choros* No. 2 for Flute and Clarinet — in the second part of which he imitates the technique of the famous *choros* improviser Calado, with melodic leaps of eleventhths — this connection becomes quite obvious.

(3) "A receiver improvises". This is undoubtedly a somewhat mystical-sounding case, but can be understood as those situations of avant-garde performances in which the art work consists of the reaction of the audience to it. Such is the case in Satie's piece *Vexations* and in certain other performances. The aim of all modernists was to incite the listener, either by excessively scanty messages or by an overabundance of signs, to a kind of spontaneous, improvised reaction.

(4) "A context becomes the object of improvisation". This would mean social situations that directly instigate certain improvisatory behaviours. Here we meet performances of an extemporized nature, as in a train, on a trip, at a festival, or other unusual conditions that precipitate the improvisation. In a broader sense we may have entire style periods and cultural contexts that are somehow oriented towards improvisation, as in French aesthetic culture of the 1910s and 1920s, where the concept of *jeu* or play and playfulness was central.

(5) "A channel is under improvisation". This can happen, for example, in a theater performance or spectacle, in which any kind of tool can serve as a requisite of the event, as in a Sambar carnival any object can be used as a percussion instrument.

(6) "A code is improvised". In such a situation the whole communication is questioned, since without a certain common minimal code, one cannot even talk about communication. In some cases of avant-garde music, the composer uses graphic notation, whose codes the player must improvise differently each time. In a sense, ambiguous musical situations, which operate with several

superimposed levels of meaning, require active code changes from the listener, almost discoveries of new codes, and thus improvisation in this respect.

Altogether it is possible to approach improvisation as a *communication*. In addition to the above-mentioned aspects one may speak about "noises" of communication. All musical interpretation which takes place spontaneously at the mercy of the situation is a kind of disturbance, if music is taken as a kind of unilinear communication of an idea, from composer to listener. Nevertheless, it is also somewhat positive noise, which has, however, not been much favored in music history. The virtuoso vocal cadences of Italian nineteenth century opera, during which the "normal" course of the music is interrupted, illustrate such a "noise". One may also look at a cadence improvised by the famous Finnish-Swedish soprano Jenny Lind in the last century, transcribed by her husband:

The musical score consists of several systems. The top system is a vocal line with a *Cadenza (b)* marking and a *Oh* vocalization. The second system is a piano accompaniment with *accel.* and *f* markings. The third system is a vocal line with *rall.*, *p*, *pp*, and *miò riu - sor!* markings. The fourth system is a piano accompaniment with *Allegro moderato*, *Symphony*, and *Beatrice* markings, and a measure number of 10. The fifth system is a vocal line with *più allegro*, *Coro*, and *18* markings, and the text *pe - na in lor pium - bo*. The sixth system is a piano accompaniment with *Cadenza (c)*, *rall.*, *f*, *pp*, and *impres* markings. The seventh system is a piano accompaniment with *pp* and *rall.* markings.

Music example 3: Jenny Lind's improvisation. Transcription by her husband Otto Goldschmidt (cadenza for 6th cavatina, Bellini: *Beatrice di Tenda*) (quoted from Holland & Rockstro 1891, Bilaga p. 2)

What about improvisation as *signification*? The basic unit of signification is naturally a sign. However, there are many theories about how this sign exists, what is its structure, how it functions. European semiotics — if one dare generalize — believes in the dichotomic nature of a sign, dividing it into signifier and signified, expression and content. On the other hand, the American philosopher Charles S. Peirce believed that at least three units are needed to define a sign: the sign itself or "representamen", object, and interpretant. Correspondingly, one obtains three species of signs according to whether one pays attention to signs in themselves, in relation to their objects, or to their interpretants. The best-known of all these distinctions is certainly the category signs-in-relation-to-their-objects, which further leads to three classes: *icons*, in which the sign is similar to its object; *indexes*, in which the signs are in a relation of contiguity to their objects; and *symbols*, in which the relationship is conventional. Peircean semiotics has many other categories as well, but as an illustration of how to use his theory in the study of improvisation, I shall utilize only the aforementioned classes of sign. I believe that using Peirce's ideas we may be able to classify and analyze almost all signs involved in improvisation whether they are encountered in the famous comic-piano improvisations by Victor Borge, improvisations of TV-actors in front of a jury, and many other types of performance situations.

What do we mean when we speak about *iconic*, *indexical*, or *symbolic* improvisation? In these cases improvisation is interpreted as a certain sign complex, a series of several signs, a whole text, which becomes meaningful and assumes its improvisatory character through its particular relationship to its "object", let us say, to some earlier composition, musical genre, or the like. Improvisation in this case is improvisation from "something", that is, from a given object. The relationship to this object is that between a sign (representamen) and its object, and thus iconic, indexical, or symbolic in nature.

A good illustration of what an iconic improvisation would mean can be found in the musical practice of the concertos of the eighteenth and nineteenth centuries. Carl Czerny's *Systematische Anleitung zum Fantasieren auf dem Pianoforte Op. 200* (1836) contains many examples of such improvisation. In fact almost all cases listed by Czerny deal with improvisation from a given theme or constitute iconic improvisations. Therefore, if one starts from some theme-object, then Czerny also provides ready models, "legisigns" (Peirce's term) in which categories a theme can be treated. Among others, Czerny lists *allegro*, *adagio* (in serious style), *allegretto grazioso* (in galant style), *scherzo presto* (in capriccio style), *rondo vivace*, *polacca*, *theme and variations*, *fugue* and *valse écossaise*, *march* and other style genres. His cadenza to the first movement of Beethoven's C major Piano Concerto is a model of how the theme-objects of the exposition are used as iconic signs, along with the performer's virtuosity, and as unifying elements of the whole. If it is juxtaposed

with Beethoven's own cadenza, which is totally different, one notices that the same "objects" can, within certain limits, have various iconic signs in the "improvisation".

On the other hand, when one goes from a theme to a thematic development in the proper sense, the relationship of similarity between theme-object (the original motive) and its iconic elaboration becomes so vague that iconicity as an immediate First disappears. In some musical works such a gradual transformation and dissolution of iconicity forms the very "idea" of the whole piece. This is the case of Henri Pousseur's *Voyage fantastique*, in which one little by little and almost unnoticedly "improvises" from Wagnerian style to that of Richard Strauss, and from him on to early Schoenberg, atonality, serialism, and so on. These examples often operate according to the principle of *ars combinatoria* — the combining of ready-made elements in a prescribed order. The view of some scholars about folkmusical improvisation resembles this situation. There is in the mind of a singer/player a certain repertoire of "elements" from which he/she then, following certain simple syntactic rules, produces new and "improvised" but still style-obedient products (as Pekkilä's studies [1988], among others, have shown).

Indexical improvisation means a situation in which the relationship between the improvised sign and the "object" wherefrom it emerges is only that of contiguity. Thus sign and object need not be similar. One could hardly imagine a better example than Walther's improvised contest song, mentioned above, which emerges as an outburst of a dream image or emotional state. Yet even in folk music one finds many examples of improvisation that stem from a strong feeling, as its spontaneous, indexical sign (here I follow Karbusicky's [1986] definition of indexical signs).

I mentioned above Krohn's interpretation of the clarinet solo from the beginning of Sibelius's First Symphony as an imitation of a Fennougric funeral lament. I should now mention three related examples of indexical improvisation: (1) the funeral lamentation of an old Finnish woman, Donna Huovinen from Ingermanland (recording from 1956); (2) the funeral song by a Bororo Indian from Mato Grosso (recording from the Museu Indio in Rio de Janeiro); and (3) the lament of a Japanese Buddhist priest, in which the text is a fixed unit where the more or less musical recitation evokes an improvised performance. What is astonishing in these cases are the similarities of the acoustic form of the indexical signs or "signifiers" in spite of great differences in cultural contexts. One might be tempted to think that certain ritual situations would launch similar reactions in the lamenters in their mythic-existential context. In literature we have an excellent example of such a ritual improvisation in the final scene of Hermann Hesse's novel *Glasperlenspiel* (*The Glass Bead Game*). The scene takes place at sunrise, when young Tito dances across the alpine landscape a spontaneously improvised dance, without knowing that Joseph

Knecht is observing him. This precisely represents an archetypal behaviour which is only apparently improvised. Basically it is a phenomenon perhaps strongly determined by some deep psychic code. On the other hand, we know that improvisation in the Indian ragas, according to a certain moment of the day and its atmosphere, also belongs to a kind of indexical musical practice.

Symbolic improvisation would in turn be a case in which the starting point is some rule, idea, or thought which the improvisation symbolizes. To the degree that Walther's contest song obeys mastersingers' rules, it could be taken as a symbolic improvisation. However, sign classes can also intermingle; hence nothing would prevent us from speaking about a symbolic-indexical improvisation. A pianist who improvises, say, according to Czerny's style categories, but who alters each time the musical substance (theme-object to be dealt with), would doubtless be exercising symbolic improvisation.

All the aforementioned sign classes become mixed in various *intertextual* situations, in which there are several sign categories functioning side by side and of which only one may be improvised, with the others pre-established.

Let us illustrate this with a case in which music joins with certain forms of expressive movement. In Finland in the 1950s and 1960s a particular system of female gymnastics, developed by Hilma Jalkanen, was at the peak of its popularity. A group from the University of Helsinki travelled around the world giving performances which were said to be reincarnations of the ideals of Antiquity. The movements in such female gymnastics, according to Jalkanen's system, were completely preordered, yet relying upon certain "natural" principles as a contrast to the continuous tension in the motion-language of ballet (cf. also Isadora Duncan's ideas). The music, however, was always improvised particularly for each performance. In a sense, music was then a symbolic improvisation, but was iconically and indexically connected with certain key moments of the parallel gestural language: iconically insofar as music could imitate the rhythm of a march, the bow of swinging arms or jumping; and indexically in such a way that music exactly determined the moments for a leap or fold of the body. A counter-example is provided by the system of motion elaborated by two Americans, Alexandra and Roger Pierce (1991) in which the music is determined — Chopin, Handel, or written by the authors — but the movements are facultative. Here the movement imitates music through an iconic-indexical improvisation. Moreover, a good illustration of an "improvised" expressive movement to ready-made music (Beethoven's Pastoral Symphony) occurs in Walt Disney's animated movie *Fantasia*.

What kind of *inference* applies when improvisation stems from some given basis, be it a theme-object, emotional state, or abstract set of rules? Peirce (1940) speaks of three categories of logical reasoning: *deduction*, *induction*, and *abduction*. Following Czerny's advice one comes fairly close to a deductive reasoning, which always ends with correct results, and whose only

fault is that they are tautologies or trivialities. Neither does the "improvisation" exercised by computers, from a generative grammar which is fed into a machine, leave any place for freedom, but brings about infallibly "correct" copies, tokens from given types. Inductive reasoning, in turn, is basically just as foreign to a genuine improvisation. In the *Mastersingers* Walther comes into conflict with the unsuccessful improviser, Beckmesser, who proceeds strictly by induction. He tries to compile a mastersong from fragments which he recalls from others' songs, but without success. This would typify an "inductive" improvisation. Walther represents the third category of reasoning, abduction, in his own improvisation. After each *Stollen* he asks with uncertainty whether it was correct regarding the rules of inference or tries to confirm the correctness of his unsure reasoning, and thus finally comes to the right resolution, a mastersong. It may be that a successful, genuine improvisation can be determined precisely in a Peircean way as an abduction (I am indebted for this remark to the Brazilian music semiotician José Luiz Martinez).



When we examine improvisation as a *signification* we do not need to resort only to Peircean semiotics. Other theoretical alternatives are available, such as those of A. J. Greimas's "Paris School" (see, for example, Greimas and Courtés 1979) and his view on the generation of signification. Starting from Greimas's theory I have myself elaborated a model of music analysis, which starts with *isotopies* (fundamental levels of meaning) then progresses to the next phase, in which the process of meaning is articulated according to time, place, and actor. This is followed by the level of *modalities* ('being/doing', 'can', 'know', 'will', 'must', and 'believe').

How might improvisation be shaped as an utterance, enunciate, text, or sign in the light of this theory? Improvisation constitutes its own isotopy, in which its own laws prevail; that is quite clear. In musical practices, improvisation is often clearly marked and distinguished from other situations. Just as often, improvisation represents a kind of sphere of chaos or disorganisation, a "carnivalized" domain in the Bakhtinian sense (1968). Every receiver understands that the isotopy of improvisation is most frequently a sphere of particular liberties that would not be permitted elsewhere. Many adherents of creativity doctrines agree that a creative act is a kind of improvisation, which cannot be subordinated to any rules or boundaries. Improvisation is like a territory or reserve, where otherwise banished forms of conduct are tolerated and even favoured. But it is an entirely different matter when, for example in a modern avant-garde performance everything really is permitted and free. In

that case the end result is stereotyped and unimaginative, such that all contemporary performances remind one hopelessly of each other.

On the next level, the "semiosis" of improvisation starts to take a clearer shape. One might even argue that improvisation is basically a *temporal* category, which operates with Jankélévitch's concepts "unpredictable" and "irreversible". Improvisation is namely characterized by the fact that it arises as if from spontaneous caprice, without any anticipation, and that its result cannot be repeated as such. Should it recur it would no longer be an improvisation. This is what happens with Walther's contest song at the end of the opera, once we have heard it at the beginning of the third act at the moment of a "genuine" improvisation. Therefore there is nothing more paradoxical than a notated or recorded improvisation, where we hear or see only the other half of the improvisation: we receive it as an utterance or enunciate, no longer in the act of utterance or enunciation.

In the *spatial* sense improvisation appears, as stated above, in a certain place, such as the cadenza of a concerto and the embellishments of an aria. In the *actorial* respect improvisation may be joined either to a certain theme-object (or perhaps rather to a theme-actor, in Greimasian terminology) on the level of the utterance or enunciate, and also perhaps to the subject of the enunciation. If we listen to, for instance, Isaac Albéniz's improvisation on a historic recording in 1903, to which aspects do we pay attention, what interests us in this performance? Probably precisely the fact that improvisation sounds expressly as "Albéniz", his style and manner of playing, insofar as we can know anything about it and expect anything from it. In any case, the object of our interest is actorial, that is, related with a certain person.

What about *modalities*? All the usual modalities appear in improvisation in various forms. One may scrutinize in the following an improvisatory cadence for a solo concerto in the light of our theory, or improvisation in a certain limited area (the virtuoso solo concertos have been thoroughly dealt with by Tomi Mäkelä in his brilliant treatise *Virtuosität und Werkcharakter* [1989]). Then:

- (a) the modality of 'know' increases in relation to other textures, since the improvised part usually offers something new in information value, even when it functions iconically; it is something non-redundant;
- (b) 'must' decreases, since one is free from rules dominating the other textures;
- (c) 'can' naturally increases, since often improvisation emerges precisely from the instrumentality or vocalicity, that is, from technical aspects of the performance;
- (d) 'will' decreases: the improvised area is less goal-directed, less teleological than other parts of the musical work; improvisation detaches the

listener and performer from their "normal" kinetico-energetic background, and in the tonal respect the tension, the 'will' towards a tonic is as it were interrupted on the six-four chord, from which one then continues to the right resolution to the dominant only when the improvisation has finished;

(e) 'believe' or the persuasiveness of the improvisation, its 'truth' value, is at its smallest in this section.

Most frequently improvisation attempts to appear as something other than what it really is. Following the Greimasian categories, one may talk about improvisation as "lie" (it seems what it is not) and as "secret" (it does not seem to be what it basically is). Composers may sometimes, with an improvisatory style, mask the fundamental code of their music-narrative program into a shape that conceals the importance of this code in such a way that the listener does not take the improvisatory device so "seriously". The prelude introduction to Chopin's G minor Ballade can well illustrate this. The listener considers this beginning as an introduction to the "event" proper, without knowing that the whole nuclear code of the piece is hidden therein, to be revealed only in the tragic return to G minor at the end of the piece. A similar case is that of the listener who hears Sibelius's Fourth Symphony for the first time, and thus cannot anticipate that its tritone motive will be the kernel of the whole work.

From these observations, it seems that even the Greimasian concepts are apt when we investigate improvisation as a signification.



At the beginning I spoke about a particular existential semiotics, to which the study of improvisation quite naturally seems to lead us. By existential semiotics I understand simply such semiotics in which all the "classical" innovations remain valid. However, they are joined with *one* factor more: the aspect of the situation, the time, history, and future of the object under examination. In a word, we shall take into account its existential being.

Generally speaking, semioticians are accused of being able to reveal only the timeless, ahistoric, as it were tasteless and odourless, strangely pale-looking functions of signs. Nevertheless, the essential is that any scholar's viewpoint constantly varies in the temporal process. The human situation in communication and existence differs from the models that "objectify" it. Existential semiotics rejects a violent analysis that damages the phenomena (an ethico-moral principle); the universality of phenomena consists of seeing them as something, in some light; what is said or expressed, may be less important than in which sense or mode it is said; accounting for temporality:

the meaning grows denser, completed in the moment we know we have to give it up. These are the new theses of what I call "existential semiotics". In improvisation these aspects are automatically included since according to its name, a player, actor, reciter, dancer abandons him/herself there, at the mercy of the situation, in the hope that "genius" will not desert such a daredevil.

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COLOR Y SEMIÓTICA: UN CAMINO EN DOS DIRECCIONES

Generalidades sobre color y semiótica

¿Qué puede ofrecer a la ciencia del color la perspectiva semiótica en relación a las perspectivas física, fisiológica y psicológica? La tesis es que la semiótica, como disciplina que está en la base de todos los sistemas cognitivos biológicos, humanos y no humanos, engloba y provee el marco epistemológico adecuado para todas las otras perspectivas. Si consideramos el color como signo, estamos incluyendo todos los aspectos, ya que un signo no es una cosa definida previamente, sino una consecuencia de varios factores y del contexto en que es tomado como tal. El color puede funcionar como signo para un fenómeno físico, para un mecanismo fisiológico o para una asociación psicológica.

El signo, siguiendo la concepción de Charles S. Peirce (cf. CP: 1.541, 2.228, 2.230, 2.274, 2.303, 4.536; SW: 389, 404)¹, es algo que está por alguna otra cosa y que es entendido o tiene algún significado para alguien. Un signo se utiliza como sustituyente de otra cosa para transmitir algún concepto acerca de la misma. Un *signo* sirve para representar o sustituir a *algo* que no está presente para algún sistema que sea capaz de *interpretar* tal sustitución. Peirce denomina *representamen* (o signo propiamente dicho), *objeto* e *interpretante* a cada una de las tres categorías intervinientes. El *representamen* es el signo sustituyente, el *objeto* la cosa sustituida y el *interpretante* la idea que transmite acerca de esa cosa.

El signo no sustituye al objeto en su totalidad significativa sino que solamente recubre algún aspecto del mismo y por lo tanto el interpretante que produce nunca agota la posibilidad de conocimiento del objeto. Este interpretante no debe ser confundido con el intérprete, que es el ser viviente u organismo que recibe el mensaje. El interpretante es también un signo, es la idea producida por el representamen acerca del objeto, pero podría decirse que es un signo más elaborado que el que le dio origen.

Charles Morris (1938), utilizando esta concepción triádica del signo, pero introduciendo el factor del intérprete (a veces considerado como un cuarto fac-

tor, pero en general colapsado en la noción de interpretante, como el agente o ser viviente donde se produce el signo interpretante) ha planteado tres niveles o dimensiones de la semiótica: (1) la dimensión *sintáctica*, donde se consideran las relaciones de los signos entre sí; (2) la dimensión *semántica*, donde se consideran las relaciones de los signos con los objetos denotados; y (3) la dimensión *pragmática*, donde se consideran las relaciones de los signos con los intérpretes.

Sintáctica del color

En los estudios en el nivel sintáctico — donde se requiere la identificación de las unidades elementales, sus reglas de transformación y organización y sus leyes de combinación para formar unidades mayores con sentido “gramatical”— es donde la teoría del color alcanza sus mayores logros. Aquí podemos considerar los numerosos sistemas de orden de color desarrollados (que son algo más que “diccionarios” de colores), las variables para la identificación y definición de todos los colores posibles, las leyes de combinaciones e interacciones de los colores, las armonías en las agrupaciones cromáticas, y cada aspecto que hace posible hablar de una gramática del color.

Los sistemas de orden del color como como diccionarios, pero poseen una organización que opera no solo en el plano de la expresión sino también en el plano del contenido. El ordenamiento de un diccionario conlleva una similitud en el plano de la expresión entre los vocablos consecutivos, es decir, las palabras consecutivas son lexicográficamente y fonéticamente similares, pero sus significados pueden ser completamente diferentes. En los sistemas de orden del color, los colores se disponen según sus similitudes de tinte, claridad y saturación, pero esta organización produce adicionalmente que los significados asociados con los colores también se relacionen. Entonces, mientras que los diccionarios lexicográficos están solamente organizados en el nivel sintáctico, los “diccionarios” de color, además de lo sintáctico, también conllevan un ordenamiento en lo semántico.

Uno podría pensar que esto se debe al hecho de que, mientras que las palabras actúan principalmente como símbolos, en los que la conexión entre la expresión escrita o hablada y el objeto representado es usualmente arbitraria y convencional, los colores actúan como iconos, existiendo una conexión entre ellos y los objetos que representan basada en alguna similitud. Por cierto, esto es así en algunos casos: por ejemplo, en cualquier sistema de orden de color, el amarillo, naranja y rojo están próximos entre sí a causa de un parecido en tinte, mientras que el azul, turquesa y verde están cercanos por la misma razón, encontrándose completamente separados del amarillo, naranja y rojo. El

primer grupo de colores es asociado icónicamente con lo cálido, mientras que el segundo con lo frío. Pero existen muchos otros casos en los cuales los colores operan como símbolos, siendo tan arbitrarios y convencionales como lo son las palabras, e incluso en estos casos sus posiciones en el sistema de orden de color y sus significados se relacionan.

Para el lenguaje verbal existen reglas gramaticales bien establecidas y, dado un enunciado verbal, uno puede decir si el mismo es gramaticalmente correcto o no. Normalmente se asume que una gramática de los lenguajes visuales en el mismo sentido es algo imposible. ¿Cómo podría alguien diferenciar entre “oraciones” visuales gramaticalmente válidas o inválidas? pregunta Saint-Martin (1987 [1990: 2]). No es muy difícil demostrar que esta clase de pregunta puede ser contestada afirmativamente una vez que se tienen los instrumentos teóricos apropiados para describir enunciados visuales. De hecho, cualquier persona acostumbrada a ver obras artísticas percibe intuitivamente, por ejemplo, que una cierta configuración o combinación de colores no pertenece al estilo de un cierto autor. Poseyendo las herramientas para explicar en qué clase de operaciones espaciales y cromáticas consiste un estilo, resulta fácil determinar si una configuración espacial o combinación de colores dada encaja dentro de las reglas de ese estilo o no. Para uno de los elementos de las representaciones visuales, el color, ya existen reglas gramaticales bastante desarrolladas. Las mismas suelen conocerse como armonías del color y podrían ser comparadas con las reglas que gobiernan la composición musical.

Para Wilhelm Ostwald, un notable teórico del color y Premio Nobel de química, solo pueden ser armoniosas aquellas combinaciones de colores que mantienen una relación simple, directa, entre sus atributos, siendo éstos — para él — el contenido de tinte, contenido de negro y contenido de blanco. Esta idea es claramente análoga al concepto tradicional de armonía musical, según el cual los acordes consonantes son aquellos donde la división entre las frecuencias de los sonidos da razones simples. En el *Color Harmony Manual*, Jacobson, Granville y Foss (1948) explican los doce principios de armonía según Ostwald, los cuales pueden dividirse en cuatro grupos: armonías de grises en intervalos equidistantes, armonías del mismo tinte, armonías de tintes diferentes con igual contenido de blanco y de negro, y combinaciones de los dos últimos principios.

Ya en 1921 había sido publicado *The Grammar of Color* de Munsell. Sus nueve principios de equilibrio del color pueden ser considerados como reglas gramaticales genuinas. La gramática es principalmente el producto de una serie de convenciones, y así resulta ser con respecto al color, dependiendo de criterios estéticos a los cuales puede adherirse o no. Pero las reglas de combinaciones de color de Munsell, basadas en el principio de equilibrio alrededor del gris medio, tienen también una justificación fisiológica: ya a fines del siglo

XIX, Ewald Hering (1878 [1964: 106-122]) había explicado que frente a un estímulo gris, el consumo y la restitución de la sustancia óptica conocida como púrpura visual o rodopsina se produce en cantidades iguales, de manera tal que la masa total de este agente permanece invariable y el ojo se encuentra en un perfecto estado de equilibrio fisiológico, lo cual no ocurre al mirar otros colores.

Johannes Itten (1961 [1970: 32-63]), a partir de su maestro Adolf Hölzel, describe siete principios de contraste del color como recurso fundamental de diseño. Ellos son: contraste de tinte, contraste claro-oscuro, contraste frío-cálido, contraste de complementarios, contraste simultáneo — ya estudiado por Chevreul más de un siglo antes (1839) —, contraste de saturación y contraste de extensión.

El objetivo de cualquier gramática es establecer los límites entre expresiones correctas e incorrectas de un lenguaje, de manera tal que la comunicación sea posible evitándose enunciados carentes de sentido. Pero todo esto descansa en convenciones. ¿Sobre qué bases puede decirse que una composición de color es correcta o incorrecta? Permítasenos contestar con un ejemplo. En la mayoría de las pinturas de Rafael Sanzio uno encuentra un equilibrio entre las áreas ocupadas por los tres tintes principales: rojo, azul y amarillo, y es posible apuntar este hecho como un rasgo general de su estilo. Entonces, si uno encuentra una composición de color que no concuerda con esa regla uno puede decir que en términos de la "gramática" de Rafael esa composición es incorrecta. Pero la gramática del color no es solo una cuestión de estética, es también importante en la vida diaria. Las combinaciones de color que no siguen las convenciones aceptadas fallan en la comunicación del mensaje. Si se aplicaran sin previo aviso otros colores que verde, amarillo y rojo en las luces de tránsito, ocurrirían infinidad de accidentes, ya que la gente no sabría cómo responder a las mismas. En una imagen con un propósito referencial, un cambio en las relaciones cromáticas debido a una iluminación diferente de la luz blanca podría tomar objetos familiares en cosas irreconocibles.

Semántica del color

En la dimensión de la semántica, donde los signos son considerados en su capacidad para representar o significar otras cosas, para transmitir información o conceptos que están más allá de los signos en sí mismos, también se han hecho varios trabajos en el campo del color. Una palabra clave para este aspecto es *sustitución*, es decir, el color es considerado como un signo que puede sustituir a otras cosas. Aquí se exploran las relaciones entre los colores

y los objetos que ellos pueden representar, los códigos y asociaciones establecidos mediante colores, y las maneras en que los significados del color cambian según el contexto de aparición y en relación a factores humanos tales como cultura, edad, sexo, etc.

Anders Hård, Lars Sivik y Charles Taft, del Instituto del Color sueco y la Universidad de Gotenburgo, han investigado sobre los significados de las combinaciones de color. Su modelo descriptivo utiliza el Sistema Natural del Color como base. Estos estudios han literalmente hecho un mapeo del mundo del color con respecto a cómo las asociaciones con varias palabras varían sistemáticamente a lo largo del dominio cromático. Estos investigadores seleccionaron 130 palabras mediante un método de escalamiento diferencial semántico y los sujetos juzgaban las imágenes de color con respecto a cuán bien encajaba la palabra con la composición cromática en cuestión. El propósito fue obtener una cantidad pequeña de variables que fuesen razonablemente representativas de todas las variables descriptivas del color (Sivik 1989: 131). Mediante estos métodos se estudió la estabilidad y variabilidad de las asociaciones del color a lo largo de distintas épocas y culturas.

Kobayashi y otros (1993), han desarrollado un método para clasificar colores individuales o combinaciones de tres colores mediante imágenes asociadas a ellos. A través de este análisis, utilizando los ejes cálido/frío, suave/áspero y límpido/grisáceo como coordenadas, pueden mostrarse diferencias climáticas y culturales en la semántica del color.

En una sección posterior, al tratar de la función simbólica del color, tendremos oportunidad de mencionar algunos otros trabajos en el campo de la semántica del color.

Pragmática del color

También han sido investigados algunos aspectos de la dimensión pragmática del color. En este caso se toman en cuenta las relaciones que existen entre los signos y sus intérpretes o usuarios. Entre los temas que pueden entrar en este nivel de investigación podemos considerar: las reglas por las cuales los colores son utilizados como signos, el funcionamiento del color en el ambiente natural y cultural, las maneras en que los organismos se valen del color para su supervivencia y la importancia que el mismo tiene en la obtención de alimento, los efectos fisiológicos y psicológicos del color y su contribución al bienestar humano, y la influencia del color en la conducta. A modo de ilustración, mencionaremos solamente tres ejemplos de investigaciones realizadas en este campo específico.

Maurice Dérivé (1958) ha escrito un libro analizando el color en relación a las actividades humanas. En él describe, por ejemplo, de qué manera se utilizan los colores para incrementar la productividad de los trabajadores en las fábricas.

El libro de Jack Hailman (1977: 270-300) ofrece abundantes ejemplos de cómo actúa el color en la conducta animal. Podemos ver que en actividades tales como intimidación, apaciguamiento, atracción del sexo opuesto, elección de pareja, preparativos sexuales, copulación y cuidado de la prole, los signos cromáticos son a menudo utilizados por los animales con el objeto de obtener los beneficios deseados.

Pretorius y Molnar (1993) han estudiado el efecto del color en la comprensión lexicográfica. Un hallazgo curioso es que blanco sobre negro favorece la memorización de la información, mientras que verde sobre negro — los colores estándar en los monitores de computación tradicionales — favorece la comprensión.

El color como signo

Hemos asumido hasta aquí, sin ponerlo en duda, que los colores pueden funcionar como signos. Retomando la noción de signo, la pregunta sería: ¿es capaz un color de representar algo que está por fuera de sí mismo?; por así decir, ¿el rojo implica solo rojez o puede ser asociado con otros conceptos? No se necesita razonar demasiado para ver que los colores sí funcionan como signos y que mediante colores se pueden representar muchas cosas ajenas a ellos. Sin ir más lejos, a menudo recordamos algo y lo identificamos a través de un color. Cuando queremos referirnos a una prenda de vestir en particular, de la multiplicidad de signos que podríamos utilizar como sustituyentes (su material, su tipo de tejido, alguna característica de su forma, su textura, etc.) generalmente tomamos el color como signo más saliente. Así, por ejemplo, en vez de hablar de “el pullover de lana”, o “el tejido al crochet”, o “el de cuello redondo”, o “el de trama cuadrada”, solemos preferir decir “el pullover verde”. Aunque a veces se utilizan varios tipos de signos en conjunto, cada uno haciendo referencia a alguna particularidad, los signos cromáticos casi nunca están ausentes. Parecería que el color generalmente impresiona en la memoria de manera más vívida que otros tipos de signos.

Por otro lado, son muy conocidas las asociaciones que despiertan los colores, tal como la de relacionar el verde con la esperanza, el rojo con la pasión, el negro con la muerte, el amarillo con el odio, etc. Por supuesto que

este tipo de asociaciones depende totalmente del contexto social y cultural, pero ello no invalida que los colores estén funcionando efectivamente como signos. Magariños de Morentín destaca la función semiótica del color:

“El estudio del color, en cuanto portador de la función semiótica, se diferencia del estudio psicofísico o neurofisiológico, en que mientras estos últimos identifican y analizan el color por sus características mecánicamente medibles y dependientes de circunstancias físicas del sujeto y/o del ambiente, el enfoque semiótico considera al color como elemento objetivamente *apto para sustituir* a entidades de otro universo y para organizarse en conjuntos significativos.” (1981: 61)

La sustitución más simple es la que hace que mediante el color podamos diferenciar los objetos; un fruto maduro se distingue del que no lo está por su color. El color es lo que configura nuestro mundo visual; los objetos que distinguimos por medio de la visión son diferenciados porque percibimos límites, y estos límites están constituidos únicamente por diferencias tonales. Cuando queremos representar una escena del mundo por medio del simple dibujo delineamos los perfiles de las cosas, pero esto es una construcción bastante artificial; en nuestra percepción directa del mundo no existen tales líneas, solo hay zonas de distintos colores, y es allí donde termina un color y comienza otro que percibimos un límite. El color cumple entonces una función altamente informativa, sin él seríamos prácticamente incapaces de movernos por el mundo con cierta seguridad, como les sucede a las personas ciegas.

El color es un signo capaz de indicar ciertas propiedades físicas, así como la composición química de los materiales. Los astrónomos pueden conocer de qué tipo de materia está constituido principalmente un planeta o una estrella distante — o la atmósfera que lo rodea — a través del análisis espectral de la luz que nos llega de ese astro. A veces, para un organismo, el color puede establecer la diferencia entre la vida y la muerte: el animal que es capaz de camuflarse, mimetizándose con su entorno por medio de adoptar el mismo color que aquello que lo rodea, no es visto por su predador. Esto no significa que el predador literalmente “no vea” a su posible presa — puede suceder que realmente pose su vista sobre ella —, pero no es capaz de diferenciarla del entorno sino que la ve como parte y prolongación del mismo. Magariños (1981: 93-94) relaciona esto con la idea de que en un primer momento del desarrollo evolutivo, el objeto y su color eran una sola cosa desde el punto de vista cognitivo; fue el hombre quien, paralelamente a su descubrimiento del lenguaje, también “descubrió el color separándolo de la cosa.”

“Quizá la sangre y las arcillas hayan sido los primeros colores; esto quiere decir que, cuando importaban como color, dejaban de importar como sangre o como arcilla. El hombre había conseguido tener, por una parte, las cosas y, por otra, los colores de las cosas; había logrado duplicar el universo (como también lo duplicó con las palabras ...).” (Magañanos 1981: 94)

Es, entonces, al separarse de la cosa que el color se constituye como signo.

Además de la importante función informativa que cumple el color en la naturaleza en general, también está la función estética que tiene en la sociedad humana, donde es utilizado como un elemento para la composición formal y la creación de armonía visual en el entorno habitable.

El color es también un instrumento del marketing, pudiendo ser utilizado como un signo para representar valores deseables de los productos para un determinado grupo de consumo (valores que pueden ser prestigio, durabilidad, utilidad u otros). Las modas con respecto al color en la vestimenta, los bienes y los productos de consumo, responden a transformaciones colectivas, sean naturales o inducidas, de los valores que representan los colores².

En suma, todo lo que es capaz de representar otra cosa, dijimos, es un signo. Ahora bien, ¿qué clases de signos pueden ser los colores? ¿Funcionan siempre de la misma manera o pueden involucrarse en modalidades diferentes de semiosis? Para analizar esta pregunta deberíamos ver en primer lugar qué tipos de signos pueden considerarse en general, es decir, cómo suelen clasificarse los signos.

Existen varios tipos de clasificaciones de los signos según los criterios que se adopten para hacerlas. Un criterio puede consistir en clasificarlos según el canal físico por el cual el signo es transmitido desde la fuente y/o el canal sensorial por el cual llega al destino. En el primer caso podemos tener signos acústicos, térmicos, lumínicos, etc.; en el segundo caso, signos auditivos táctiles, olfativos, gustativos y visuales. Vemos claramente que, dentro de esta clasificación, el color se encuentra dentro de los signos lumínicos y visuales.

Otro tipo de clasificación puede atender a las relaciones entre los signos y los objetos a que ellos se refieren. Aquí estamos, como vimos, dentro de la dimensión semántica de la semiosis, y podemos tener las clases de signos conocidas como ícono, índice y símbolo. Un *ícono* es un signo que se refiere a su objeto en función de alguna similitud con el mismo; un *índice* es un signo que se refiere a su objeto en función de estar necesariamente ligado a él, de una contigüidad o una relación física con el mismo; un *símbolo* es un signo que se refiere a su objeto en virtud de alguna convención establecida. Entonces, el ícono implica la noción de similitud o semejanza, el índice la de contigüidad y el símbolo la de convencionalidad. ¿Pueden los colores funcionar como íconos, índices y símbolos? Analicemos cada uno de estos casos.

Iconicidad en el color

Cuando la asignación de significados a los colores se hace por medio de asociaciones psicológicas, las relaciones suelen basarse en similitudes, tal como la asociación de los colores naranjas, rojos y amarillos con el fuego, el sol y el calor. Es por este tipo de asociaciones, y no debido a que los colores arrojen diferencias de temperatura³, que tales tonos son tipificados como colores cálidos, mientras que los azules y verdes azulados como colores fríos. En estos casos tenemos que el color funciona como signo icónico.

Déribéré (1958 [1964: 134-136]) nos informa de situaciones y experimentos que demuestran que las sensaciones de frío o calor derivadas de encontrarse en entornos azulados o rojizos respectivamente (sensaciones que los individuos experimentan como reales), se producen fuera de todo cambio térmico real, tanto en la temperatura del ambiente como en la temperatura corporal de los individuos. Se trata por tanto de un efecto puramente psicológico producido por una asociación.

Peirce (CP 1.313) menciona el ejemplo de un ciego que pensaba que el color escarlata — del cual supuestamente habría recibido una descripción verbal — debía ser algo similar al sonido de una trompeta. Este ejemplo muestra específicamente cómo un sonido puede funcionar como signo, representando un color por medio de una asociación icónica; pero el caso podría darse también a la inversa: si un sordo que no conoce el sonido de la trompeta recibe una descripción verbal del mismo y cuando ve un color escarlata lo asocia con aquel, tenemos entonces que el color escarlata es un ícono del sonido de la trompeta. La relación entre color y sonido es en general una asociación de tipo icónica, ya que se basa en paralelismos perceptuales entre ambos fenómenos. Del mismo tipo es la asociación entre el color y la cualidad de las vocales del lenguaje (véase Yilmaz 1967: 817).

Los sólidos de color con una disposición que responde adecuadamente a la variación de valor o claridad, tal como el sólido de Pope (1949: 13), si son divididos por un plano horizontal que pase por el punto medio de su altura, dejan a los colores oscuros — que son asociados con la sensación de pesadez — en el sector inferior y a los colores claros — asociados con la sensación de liviandad — en el sector superior. Estas asociaciones pueden considerarse icónicas ya que se dan a través de la homología perceptual por medio de la cual un color oscuro da la impresión de ser más denso, y por lo tanto más pesado, mientras que un color claro da la impresión de ser más disipado, y por lo tanto más liviano, como si el color oscuro tuviese mayor concentración de materia que el color claro — teniendo en cuenta que esto funciona pues el correlato físico se hace en términos de igualdad de volumen y material.

En este sentido, Déribéré (1958 [1964: 137]) describe situaciones registradas en fábricas donde los obreros que debían manipular diariamente elementos pesados pintados en colores oscuros se quejaban de dolores renales, y relata cómo los problemas se solucionaron y el trabajo pareció más aliviado cuando los mismos elementos fueron pintados con colores claros.

Indicialidad en el color

Es sabido que el color no está en la materia física ni en la radiación lumínica; es una *imagen* (ahora podemos decir un *signo*) producida en la mente de un organismo equipado con un sistema sensorial (la visión) que reacciona a determinada porción de esa radiación. Esta imagen o signo es la reproducción que el sistema visual hace de la radiación proveniente de las fuentes de luz o de los objetos que reflejan o transmiten esa radiación. Esta es la función de signo más primaria que cumple el color, es decir aquella por la que se constituye en un sustituto de la radiación física para llevar al cerebro información útil acerca del mundo externo. Y se trata de un signo indicial. ¿Porqué decimos esto? Porque es evidente que entre la imagen sensorial (el signo color) y el fenómeno físico (la radiación) no existe ningún tipo de similitud ni homología, solamente una conexión física, construida a través de millones de años durante el proceso evolutivo de los sistemas de visión (Kuehni 1991), que hace que, por ejemplo, el sistema visual humano reaccione a una radiación de alrededor de 700 nanómetros de longitud de onda produciendo como signo sustitutivo el color rojo.

Un índice es un tipo de signo que funciona debido a que entre él y lo que representa existe una conexión real, física, concreta, que tiene lugar en determinado tiempo y espacio. Por eso es que la característica de los índices es la contigüidad entre el signo y el objeto. Una veleta que nos permite saber la dirección en que sopla el viento es un índice, pues la posición en que se encuentra ha sido causada directamente por aquello que está representando, es decir, la dirección del viento. De la misma manera, el hecho de que el color amarillento en la piel de una persona sea tomado como un signo de enfermedad es establecido por una conexión indicial, ya que es la enfermedad la que ha provocado esa pigmentación en la piel.

Naturalmente que esto tiene sus sutilezas, pues alguien puede pintarse la cara de amarillo para fingir una enfermedad que no tiene; en este caso la conexión indicial no existe, pero el receptor (la persona engañada por el ardid) piensa que sí. El emisor está utilizando el color como un ícono, para *parecer* un enfermo, mientras que el receptor lo interpreta como un índice; la mentira se da porque él cree que la enfermedad *existe* realmente. El color ha sido utili-

zado desde siempre con la finalidad de ocultar, fingir o engañar; piénsese sino en el camuflaje y el maquillaje, donde generalmente el rol principal lo juega el color; véase, por ejemplo, Luckiesh (1922 [1965: 210-247]).

La indicialidad se hace también presente cuando el signo está en una relación de parte por el todo con su objeto (Sebeok 1991: 132). En este sentido, podemos mencionar el uso de muestras de color en transacciones comerciales y especificaciones en la industria, donde un pequeño trozo de material coloreado está para indicar la terminación deseada o la apariencia del producto entero.

Magariños subclasifica los signos indiciales en tres tipos: señales, indicios y síntomas⁴. La *señal* es un signo que antecede a su objeto; por ejemplo, cuando un peatón ve la imagen roja del hombrecillo en el semáforo, sabe que inmediatamente se pondrán en movimiento los autos que estaban detenidos; el color gris plomizo en el cielo es señal de que va a llover. El *indicio* es un signo que sucede a su objeto y permanece con posterioridad al evento que lo causó; por ejemplo, luego de que un líquido se derramara sobre una tela, la mancha de color oscuro que queda es un indicio de lo que ocurrió. El *síntoma* es un signo que ocurre simultáneamente con el evento que constituye su objeto; el color rojo en las mejillas es signo de turbación, vergüenza o sofocación; cuando la causa cesa el síntoma cesa, al desaparecer la turbación el rostro vuelve a su color habitual. El conductor de un vehículo se guía por *señales* de tránsito que le anticipan situaciones; el investigador policial se guía por *indicios* para conjeturar situaciones que ocurrieron, y esos signos, si perduran en el tiempo, pueden ser utilizados en un juicio como elementos probatorios; el médico se guía por *síntomas* para diagnosticar una enfermedad que está afectando a un paciente. En todos estos tipos de signos indiciales, el color suele tener un papel primordial.

Simbolicidad en el color

Un símbolo es un signo que tiene una relación especial con los objetos que denota. Esta relación es descrita por Sebeok (1976: 134):

"A sign without either similarity or contiguity, but only with a conventional link between its signifier and its denotata, and with an intensional class for its designatum, is called a symbol.

[Un signo que no tiene similitud ni contigüidad, sino solo una conexión convencional entre su significante y sus denotata, y que posee una clase intensional para su designatum, es llamado un símbolo]."

La condición de formar una clase intensional, es decir la clase definida por el hecho de que sus miembros poseen la propiedad connotada por el término, es importante para distinguir claramente entre un símbolo y un nombre. El nombre, siendo también convencional, tiene una clase extensional para su designatum (Sebeok 1976: 138), siendo clase extensional aquella definida por medio de listar los nombres de los miembros o señalando a cada miembro en forma sucesiva (Reichenbach, citado por Sebeok 1976: 138). En resumen, el símbolo define universales mientras que el nombre se refiere a particulares.

Los significados son a menudo asignados a los colores independientemente del objeto sobre el cual el color es visto. Por ejemplo, las asociaciones *verde* = seguridad, avanzar, *amarillo* = precaución, extremar los cuidados, *rojo* = peligro, detenerse, son aplicadas en varias situaciones más allá de los semáforos y las señales de tránsito. En el contexto de los partidos de fútbol, una tarjeta amarilla mostrada a un jugador significa una admonición (advertencia, sea cuidadoso) mientras que una roja significa "detenga el juego, usted está expulsado". En la arquitectura industrial estos significados son también observados y hay un código establecido para los colores de seguridad (Dérivé 1958 [1964: 213]): verde = seguridad (asociado con la forma rectángulo o cruz en los puestos de socorro), amarillo = peligro posible, precaución (asociado con la forma triángulo), rojo = ¡alto!, prohibición, peligro inminente (asociado con la forma círculo), material contra incendio (con la forma del material).

Mientras que algunos de estos ejemplos — tal como los colores en la señalización de tránsito — pueden ser considerados como pertenecientes al tipo de signo técnicamente definido como señal, es decir un signo singular que desencadena alguna reacción por parte del receptor (Sebeok 1976: 121), debemos recordar que los signos no pertenecen definitivamente a una u otra clase sino que varían de acuerdo al contexto en que aparecen. Así, el signo *verde* puede ser una señal en un contexto pero un símbolo en otro. Como recalca Sebeok, (1976: 122):

"one must constantly deal with aspects of signs: to repeat, a verbal command is very likely to have both a symbol-aspect and a signal-aspect, and the sign in question will oscillate between the two poles according to the context of its delivery.

[uno debe constantemente tratar con *aspectos* de signos: reiterando, una orden verbal es muy probable que tenga ambas cosas, un aspecto-símbolo y un aspecto-señal, y el signo en cuestión oscilará entre ambos polos de acuerdo con el contexto de su enunciación]."

Un caso interesante de arbitrariedad y convencionalidad, características de los símbolos, en los significados de los colores es el caso del blanco y el negro asociados con el nacimiento y la muerte. En la cultura occidental los pares son: *blanco* = nacimiento, bautismo, *negro* = muerte. Pero, como Arnheim nota (1957 [1987: 299]), el blanco tiene un significado doble y opuesto: la pureza y la inocencia del comienzo de la vida por un lado y la vaciedad de la muerte por el otro. Ausencia de tinte significa ausencia de vida; en las culturas orientales el blanco definitivamente significa muerte.

John Hutchings (1989, 1993) ha venido haciendo una encuesta internacional para estudiar los simbolismos del color en las diferentes culturas y tradiciones, indagando principalmente sobre los usos del color en las vestimentas, las decoraciones y las comidas en ceremonias de casamiento, durante el luto y en otras ceremonias familiares, religiosas o públicas. Como curiosidad, podemos citar que, así como en occidente y en algunos países de oriente como Japón el color de la vestimenta de las novias es el blanco, las novias hindúes y las de la tribu Han en China usan el rojo, las de la tribu Dong en China usan el negro y las novias chinas que viven en Singapur usan el rojo o rosa con el dorado.

El color púrpura ilustra el caso de un índice transformado en un símbolo. En el pasado, cuando el púrpura era muy costoso y difícil de obtener, fue usado como el color de la realeza. Hoy en día esta conexión indicial ha desaparecido, pero el púrpura aún conlleva significados de magnificencia, pompa, dignidad, nobleza y rango elevado; los cardenales de la Iglesia todavía usan este color. La regla general que se verifica es que el repertorio de símbolos en una cultura crece a expensas de otros tipos de signos, por ejemplo de signos icónicos y signos indiciales (Peirce CP 2.302, véase también Short 1988). Es decir, un signo que en determinado contexto comienza siendo tenido en cuenta como un ícono porque existe alguna relación de similitud entre el mismo y lo que representa, o como un índice porque existe alguna conexión física real entre él y lo que representa, con el tiempo y con el uso reiterado se transforma en símbolo, pues la costumbre hace que se conserve la relación en forma arbitraria, independientemente de la conexión original.

Si atendemos a la ubicación de los colores en el círculo cromático y comparamos la posición relativa de los tintes con los significados asociados a cada uno de ellos, nos daremos cuenta de que conceptos opuestos coinciden con tintes opuestos. Esto se verifica para el azul como símbolo de fidelidad y decencia, opuesto al amarillo como símbolo de traición e indecencia; también para el rojo = peligro, detenerse, opuesto al verde = seguridad, avanzar. Esto es válido no solo con conceptos asociados por relaciones simbólicas con los colores, sino también con conexiones icónicas e indiciales.

El color como elemento simbólico suele formar parte, junto con otros aspectos como la forma y la textura, de símbolos visuales más complejos, por

ejemplo banderas, alegorías, emblemas, escudos de armas, marcas comerciales, logotipos, isotipos. Los códigos sobre los que se construyen estos símbolos, por así decir más sofisticados, obedecen por lo general a los códigos de los elementos visuales que los componen (Caivano 1990).

La teoría del color como contribución a la semiótica visual y la semiótica como paradigma para el estudio del color

¿Cuáles son los beneficios de poner juntos color y semiótica? Por cierto, las contribuciones van en las dos direcciones: de la teoría del color a la semiótica visual y de la semiótica general al estudio del color.

La teoría del color, tal como ha evolucionado a partir del trabajo de innumerables teóricos, puede exhibir, si uno la enfrenta desde un punto de vista semiótico, todos los rasgos que se requieren para la construcción de un sistema semiótico sumamente elaborado. Tal desarrollo teórico ofrece justamente un modelo para la elaboración de una semiótica visual, un paradigma que resulta más apropiado que los modelos usualmente importados de la lingüística tratando de aplicar o transponer directamente las concepciones de la semiótica verbal. Estos intentos de tratar de encorsetar los signos visuales dentro de los modelos construidos para el análisis de los signos verbales han sido bastante criticados en los últimos tiempos. Fernand Saint-Martin (1987 [1990: x-xi, 1-5]) brinda un buen panorama al respecto.

Por el otro lado, la perspectiva semiótica provee el mejor y más completo marco epistemológico para el estudio del color ya que, para los organismos vivos, el aspecto importante es que el color funciona como un sistema de signos; y la semiótica del color — que puede ser establecida como un campo sumamente sofisticado por derecho propio debido a los ya maduros desarrollos de la teoría del color — puede considerarse como un excelente paradigma (especialmente en lo que respecta a sus rasgos sintácticos) para el estudio de los otros sistemas de signos visuales.

NOTAS

¹ La sigla CP designa los *Collected Papers*, de donde las referencias se hacen por número de volumen y párrafo; la sigla SW designa los *Selected Writings*, donde la referencia es a las "Cartas a Lady Welby" del 12 de octubre de 1904 y 23 de diciembre de 1908.

² Leonhard Oberascher (1993: 139) señala que, según observaciones y estudios de preferencias de color realizados durante un período de 20 años en una zona de Alemania, se ha podido detectar un patrón cíclico en los cambios de los colores de moda. Es obvia la utilidad que esto tiene para los fabricantes que desean poder anticipar las futuras tendencias. Según este estudio, un ciclo de color comienza con colores altamente cromáticos (fase cromática), seguidos luego por

colores más oscuros (fase oscura), una transición a colores amarrados (fase marrón) que luego se vuelven más claros tendiendo hacia los beige y los colores pastel (fase clara). Los colores claros se hacen más desaturados hasta que llegan a dominar el blanco y los grises (fase acromática). Luego de un tiempo, los colores acromáticos son combinados con colores altamente cromáticos (fase acromática-cromática) y con tonalidades púrpuras (fase púrpura). Finalmente, los colores acromáticos desaparecen y quedan los colores cromáticos, comenzándose un nuevo ciclo.

³ Lo que se conoce como "temperatura del color" no tiene que ver con medición de radiación calorífica en los colores, sino con una analogía que se utiliza para describir la cromaticidad de una fuente luminosa. La temperatura de color de una fuente de luz es la temperatura a la cual un cuerpo negro — o en términos más precisos un radiador total — emitiría radiación en la región visible de la misma cromaticidad que la radiación de la fuente de luz. La temperatura del color se mide en grados Kelvin y así, por ejemplo, la luz solar corresponde aproximadamente a una temperatura del color de 6000 °K, lo cual significa que un radiador total cuya temperatura se elevara a 6000 grados emitiría luz del mismo color que la luz solar. Sobre este tema véase, por ejemplo, Evans (1948: 22-24) y Optical Society of America (1953: 194-195). Como el mismo Evans refiere, es una experiencia familiar que si un trozo de metal es calentado lo suficiente, en un determinado momento se pondrá rojo; a medida que se aumenta la temperatura irá pasando al naranja, amarillo y blanco, y teóricamente a temperaturas aún más altas emitiría luz azul. Como vemos, esto incluso resulta inverso a la asociación — puramente psicológica — de que el azul es más "frío" que el rojo.

⁴ Esta clasificación ha sido tomada de una clase teórica dictada por Magariños.

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REPRESENTATION AND SIMULATION IN GRAPHIC LANGUAGES*

1. Introduction

The semiotic approach to architecture depends on what can be considered as text, object of semiotic reflection. The different analyses can be classified in three general categories in relation to the aspect of the architecture they deal with. Such as:

i. the object studied is the architectural *construction*, as bearing significations related to constructive technologies, including social and aesthetic. Said considerations — first dealt by Barthes (1967) and Eco (1968) started towards the end of the 60's — were developed together with semiotics itself to the point of considering the building as a text in relation to its context. This kind of semiotic analysis aims at the characterization of architecture as a *social fact*. Therefore architecture is hereby presented for an *interpretant-spectator*.

ii. the object studied is the *symbolic way of inhabiting* materialized in a determined construction. The analyses of this type tend to be productive in the determination of *social values* (Broadbent, 1973) mainly communicational, in relation to the architectural construction. According to Peirce, space is considered as *ground*, of a sign whose *interpretant* is the inhabitant.

iii. the subject is the *design practice* itself. Design is always present in every architectural-habitable-construction, but it is independent enough, so as to exist without the needs to be materialized in a construction liable of habitation. This type of analysis attempts to explain the *way to produce architecture* from the very design practice. Graphic languages constitute the starting point of design. Architecture is seen here as from an *interpretant-producer*.

* This article is based on a paper presented at the V International Congress of the IAASS-AIS, Berkeley, June 1994.

The above explanation is merely analytical. Very often, in actual semiotic research aspects tend to interact. Summing up, we may state that in the first case, space is occupation and correlation with other spaces; in the second case, space is regulation or establishment of social relations, and in the last case, space is the very matter of design.

This paper — as all the research done since 1980, together with the late Cesar Jannello — corresponds to this last perspective: semiotics applied to space as a matter of design.

2. Geometry and graphic languages

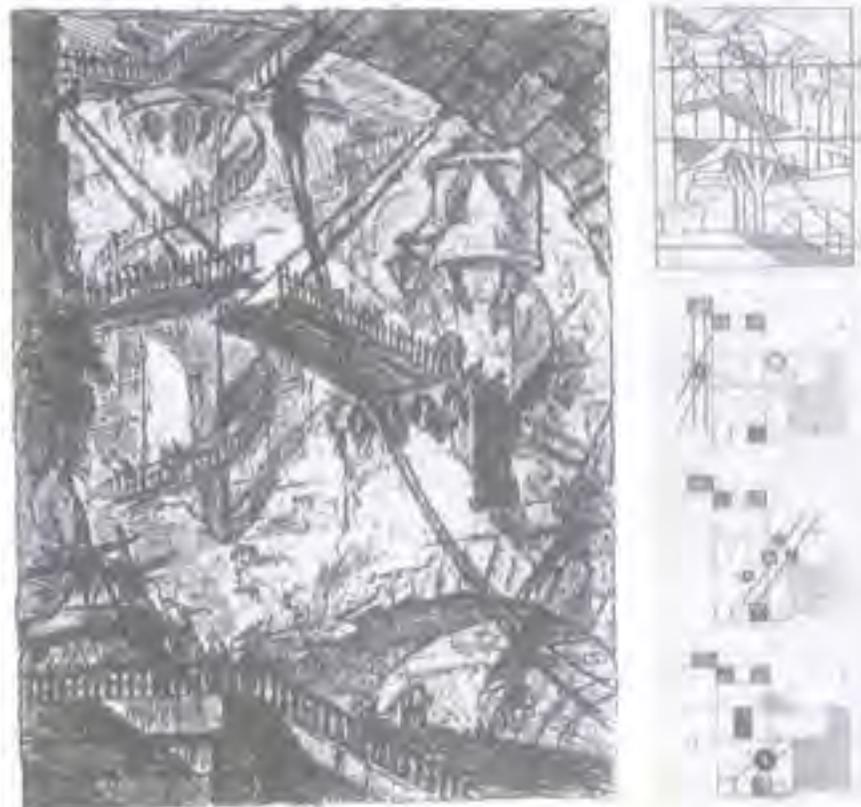
Geometry lends the starting point for graphic languages from which we may design. Not having been described as *language* until 1977¹, geometry enabled the construction of two different types of design texts: *Perspective* and the *Monge System*². These texts have a central characteristic already been described by semiotics, graphic and image semiologie: they are *analogical* insofar the referent (Jannello, 1980; Bettetini, 1991). The nature of analogical representation emphasizes the simulation nature implied in any representation since the perceptual features of the object are simulated.

For a long time the target task of semioticians consisted in stressing the fact that the 'natural' vision of the occidental spectator is absolutely conventional. Numerous analyses tend to demonstrate the conventional character of perspective. The adequacy of what perspective represents from the object is based on two ideal situations: a motionless and unique point of view and a one-eye vision. The simulated object represented by perspective therefore simulates an object statically beheld. Such *conventional* nature does not exclude the *analogy* of perspective since it simulates being as exact as reality itself.

The Monge System also produces analogical texts, although in another sense. There is a functional process of abstraction and simplification in them to show the *diagrammatical constitutive relations*. The analogy with the referent is of a different type. What is represented is not the 'referent as it is seen', but the 'referent as used'. The Monge System implies the use of a horizontal or vertical section with respect to normal vision, to enhance the material data and the functional relations of the referent.

It is important to emphasize how both graphic languages 'pick' different aspects of their object. Therefore they appear as texts simulating different referents and/or different aspects of the object.

This main difference originates another difference between Perspective and the Monge System: the Monge System when representing functional relations submits them to a high degree of abstraction mainly placing itself on the side of denotation: thus denoting material construction. At the same time, coming into relation with the cultural codes or cultural data it renders connotative signification about the way of inhabiting: this means, connoting habitability.

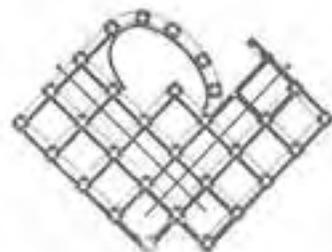


1. Giovanbattista Piranesi, "Carceri", engraving, 1761.
2. Perspective reconstruction, taken from *La storia e il tabernacolo* of Mamberto Tafari, Torino, Einaudi, 1999

Perspective generally develops a monosemic text of a term-to-term relation with the object. But, in as much as this relationship is based on an optical point of view which is artificially constructed — that is, motionless and unique — it can be falsified and in this way it may develop texts in which there is an interaction of simulation and falsehood.



3. Giovanni Battista Piranesi, "Gruppo di scale ornato di magnifica architettura", engraving, 1743.



4. Plan reconstruction, (from M. Tafuri, op. cit.).

This is the case with Piranesi. In the XVIII century Piranesi designed "Carceri" and "Gruppo di scale ornato di magnifica architettura", both proposals considered as utopic since architectural design results from the alteration of the normal use of the rules of perspective stating a Space which is unthinkable as from the traditional, current codes.



5. M. C. Escher, "Relativity", litografie, 1953.



6. M. C. Escher, "Belvedere", litografie, 1958.

Something similar happens in Escher's engravings: the beholder experiences "ostranenie". The strictly respected rules of perspective though used in its ambiguous possibilities have created an impossible space, impossible to the

occidental convention. Both examples illustrate the same concept: they show the conventional limit of perspective in relation to the constructive principles and expand the expressive possibilities of design.



7. Maquette made by students of architecture from Escher's engraving "Belvedere". Though the object does not answer to the usual canons of architecture it is eventually possible.

8. Photograph of the same maquette according to Escher's proposed point of view.

Piranesi and Escher's experiences cannot — can not? — become an inhabitable construction. However, these experiences, as design experiences, stretch falsehood to its limit... and with it the very practice of design.

3. Simulation

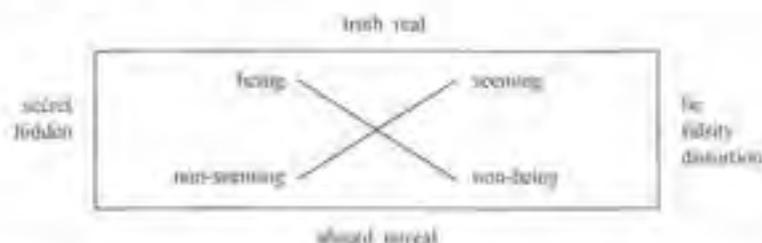
Perspective and the Monge System as analogical and iconical graphic languages both participate in the field of significant-simulation described by Bettetini.

"Should the signical activity be impossible, and therefore simulation in respect to reality, deceit and trick should also be impossible; or at least solely by virtue of resource to 'force' and in particular to the 'violence' of the impact of things." (Bettetini, 1990, 69)¹

Such simulation, according to Bettetini, is always functional for semiosis and therefore for the cognoscitive process in action. Every semiosis, states Bettetini, is a cognitive instrument in as much as the knowledge is the presence of the known object inside the intellectual domain of the knowing subject. In this sense the simulation stated by perspective and the Monge System produces knowledge together with action in relation to its referent.

In his article, Bettetini uses the semiotic square by Greimas (1979, 32) in order to analyse the correspondences between the construction produced by the significant material and the aspect of the referent itself highlighted in each case.

When applied to graphic languages, Greimas's square becomes useful to show the relationship between each graphic language used in the process of design and its referent. It also shows the design possibilities of each graphic language and what they denote and connote for the designer. In order to illustrate what has just been mentioned I suggest the use of Greimas's square⁵.



In relation to analogy in graphic languages, the correspondence between the text and the object shall be called *truth or real*⁶, that is between the *being* and the *seeming*; the opposite side of the square defined as *non-seeming/non-being* shall be called *absurd or unreal*. As regards appointing this side as 'false', I agree with Bettetini in his criticism of Greimas and Courtés. On attempting to *seem-not* what *is-not*, the action may be qualified as poetic, unqualifiable, absurd... but never false. *False* is what *seems* but *is not*; therefore, it belongs on the side delimited by these vortices. The opposite side is the place of *secret* since *being* and *not seeming* define themselves as *hidden*, or not seen.

Thus Perspective and the Monge System insofar they build views, facades and ground plans belong on the side of *truth*, as they resemble their referent in some aspects. Texts produced with perspective, as has been said, are similar in their sensory and perceptual aspects. The Monge System texts are similar to the referent in their functional-constructive relations. Each provide different informations and cognitions about the object in the act of design:

i. Perspective points out aspects of sensorial experiences of what the work once built will look like:

ii. the Monge System gives information about construction details, such as wall-width or door-height, and insofar dwelling codes it connotes information about the dwelling conditions and mores.

Perspective and Monge System make texts that simulate the above mentioned relations with the referent towards a **cognitive** and **instrumental** aim. In this sense they belong to the side of truth with its pragmatic implications.

Simulation appeals then to other mechanisms in the other three sides of the semiotic square, that is, what is *false*, *absurd* and *secret*, making operations that bring forth the activity of design, as the traditional relation with the referent, whenever we assume the above mentioned analogical relations of Perspective and the Monge System as traditional or habitual.

Piranesi's designs and Fischer's engravings falsify reality in relation to a possible-true-referent. In other words they free themselves from having to respect the real-possible referent developing other uses of language that contradict the canonical use of that language. Piranesi and Fischer clearly show how perspective depends on the point of view.

The side of *not being/not seeming* can be illustrated with another work by Piranesi: "Campo Marzio", which is a project for the reconstruction of Rome. In his work, only the presence of the river Tiber represents the 'real' Rome; the city itself does not exist. Piranesi redesigns it, paying no attention to the referent. He distributes the buildings to please his own design. The text generates a new reference almost as illusory as that of an ideal city. The new



9. Giovanni Battista Piranesi, sector from "Il Campo Marzio dell'antica Roma", 1762.

project does *not seem* to be Rome. It is undoubtedly *unreal*: it opposes truth as an adequacy and precisely because it lacks any relationship to reality, creating its own.

As I have already mentioned analogical simulation is a pragmatic pattern for cognition and action: Perspective and the Monge System placed on the side of truth produce texts in which the design process is enabled. The three last examples show another action of the designer: simulation within simulation. In other words, another action is added to the analogical simulation of the system: an individual action on the part of the designer who simulates within simulation.

Therefore, in design, we have two conceptual possibilities in the use of graphic languages. First, we have the traditional or canonical use, which implies a first level, or external simulation of the system. Second, we have a second level of simulation, where we manipulate the inner design possibilities of the graphic system itself, rendering knowledge on the very graphic language used.

The side of secret in Greimas's square represents the operations of design which are *hidden, being/not-seeming* and that, nevertheless, sustains the structure of design.

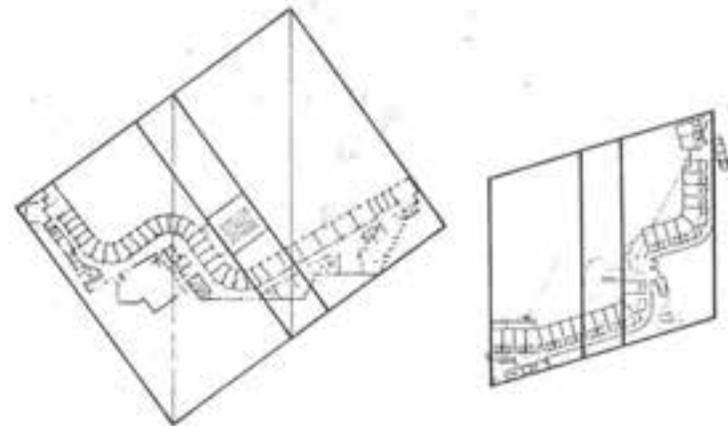
Let me illustrate this concept with an example of intertextuality. As a rule it is agreed that the architectural work is not a merely result of the vision of the artist, but a creation based on other works. Design processes in which patterns are reproduced or transformed implicitly or explicitly, take place inside the work.

The perspective or the ground plan of a building show the superficial aspects of such intertextual processes. But there is already a third type of text: the *Theory of Spatial Delimitation*⁷ — T.S.D. — (Jannello, 1988, 483-496; Guerri, 1988a, 347-356). This system or graphic language manifests itself with a specific type of drawing: the *tracing* and the *tree-hierarchical-structure* (Guerri, 1988b, 405-411).

In a compilation of works by Richard Meir, Joseph Rykwert shows the plan of the dormitory for the Olivetti Training Center as well as Alvar Aalto's M.I.T. senior dormitory. The description given by Rykwert does not go beyond that which can be inferred from a direct observation of the plans, the text is as follows:

"... the serpentine dormitory block, like the analogously planned student housing at Cornell University, inevitably recalls the plan of Aalto's student housing for M.I.T. in Cambridge, Massachusetts; but apart from the *obvious similarities* of massing, the building... (is)⁸ very different from Aalto's..." (Rykwert, 1984, 17).

Meier *architecturally* quotes Alvar Aalto by using forms *analogical* to an "S". He dismisses the problem of the architectural form by means of an adjective: obvious.



10. Alvar Aalto, M.I.T. senior dormitory, Cambridge, Massachusetts, 1948, plan and tracings.
11. Richard Meier, dormitory of the Olivetti Training Center, Tarrytown, New York, 1971, plan and tracings. Tracings done by Liliانا Gutierrez.

Rykwert sustains that Meier's construction is similar to that of Aalto's, without adding many details.

The application of the tracings unveil, on the other hand, other elements that correspond to the *'deep structure'*, to the structure of *'pure design'* (Jannello, 1980, 5-6). It is possible to discover that the tracings of both constructions, even though perceptually analogous, have a different *pure design configuration*. While Meier's is a configuration of interpenetrated parallelograms that of Alvar Aalto is a configuration of interpenetrated rectangles. Thus showing a difference in the history of the design structure: rectangles in the 40's and parallelograms in the 70's. Both configurations pivot around a central element. While the nucleus in Alvar Aalto is constructed as a material volume, in Meier's the volume is annulled but maintained in the structure of design⁹. With the tracings of the T.S.D. the design value of Meier's architectural proposition is unveiled.

It can be understood now, that each graphic language — perspective, Monge and T.S.D. — operate to reveal aspects hidden by the others. Because each language seems to speak of a different referent, when taken together, comparatively, they belong on the secret side. Now, if we take T.S.D. alone, we are able to locate it on the side of truth: because a tracing — a complex configuration — simply shows its own pure design structure.

When designing, the whole square, finally reveals the process of simulation.

The *seeming* diagonal determines two zones which refer to different kinds of simulation: first, the dark side of the square (figure 12) corresponds to those texts that relate — really or conceptually — to design action in constructive, habitable or aesthetic terms. Second, the white side of the square corresponds to those texts, which do not have a direct action on design practice or reality but implies a reflection on the graphic language's intralinguistic possibilities.



12. The *seeming* diagonal

4. Conclusions

It is through the usage of the semiotic square that we have been able to classify graphic languages in relation to its differential capacity to produce semiosis whether to think/analyze or produce/project different aspects of space insofar design and architecture. The model used, even when it has a 'semiological' origin, enabled to shed a light on specific and differential features of graphic languages originated in the 'ideological' systems of each intralinguistic structure.

There is no linguistic system without simulation. Graphic systems have more direct relation with simulation than other languages because of their analogical characteristics. However, the concept of simulation in graphic languages goes beyond the field of the analogical representation.

The paper has aimed to develop three kind of relations of graphic languages with simulation:

i. insofar representation based on an approach to the referent Perspective and the Monge System produce texts instrumentally adequate for the design task: an instrumental analogical relation.

ii. when used other than in a conventional way, Perspective and the Monge System produce texts which are instrumentally unfit for the design task, but most efficient to facilitate reflection upon the limits and possibilities of each system, at a poetical level.

iii. there is a third kind of simulation instrumentally fit for the task of designing, simulation, understood as an imitation conscious or otherwise of somebody else's style. The quotation has so far been manifested through constructive aspects and traditional languages, but style is not mere construction. T.S.D. as a new available graphic language allows for a technological approach to the notion of style in relation to form.

Style is the particular manner in which each author displays the elements but, insofar he is part of history every style is built upon the style of the others. Julia Kristeva (1969) says in reference to the literary text that every text is a mosaic of quotations. This expression can be extended to the architectural text.

As we have seen, T.S.D. can supply new theoretical and practical components to the notion of style as quotation or differentiation as never before by means of the traditional graphic languages.

Since every graphic language represents the same object in a different way, when juxtaposed, every graphic language acts insofar the other as the unveiler of that which the other has concealed.

In this interaction of interpreting one another, T.S.D. clearly manifests itself as a specific and differential graphic language. The scope of T.S.D. is not ended with this use. I trust it shall enable the development of future research.

NOTES

¹ A first approach to a systematization of geometry for its use in design can be found in "Para una poética de la proyección" by Cesar Llanillo in *Sinuosidad* 9-10, July-August 1977, p. 24-28.

² To be exact, the expressive possibilities of geometry in relation to design go beyond Perspective and Monge System. They have been selected to represent the whole field due to their value within the design practice.

³ About this subject see other reconstructions of Lissier's engravings realized by the graphic designer Shigeru Fukuda, who as an artist has realized numerous "abstract" works that make sense only if seen from a specific point of view.

⁴ The translation is a free version from Spanish.

⁵ There is a little reformulation I will explain in due time.

⁶ The concept of truth is taken here in the sense of adequacy to the referent. I do not believe it necessary to emphasize the relativity of the concept according to what has been expressed before.

⁷ Although we believe that the name assigned to this language contains some imprecisions, it has been kept in memory of its creator.

* Boldface and brackets are mine.

²¹ About this subject see Claudio Guetti's paper for the XIX Convegno dell'Associazione Italiana di Studi Semiotici, Urbino 1991, "La stile in architettura: simulazione, mimetici, citazione". Probably published in *Carte Semiotiche*, 1, 1994, *Sizua Prato*.

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PROXEMICS REVISITED — LOOK AT THE BODY

1. Introduction

1.1. The problem

The problem of this investigation was to study on an empirical base the perception of the other person in the framework of proxemics, the semiotic discipline explaining the meaning of distances in human encounters.

1.2. Background of the problem

1.2.1. Four varieties of human encounter

Human encounters from a perceptual point of view remind me of the famous Russian puppets. If the partners of an encounter are close, they see each other large. The more the distance between them increases the smaller the one perceives the other to be. The anthropologist Edward T. Hall (1964, 1966), on whose basic assumptions I draw heavily in my work, has found four types of encounters with characteristic distances varying from culture to culture and each with a far and a close phase:

- Intimate encounters such as in love making, nursing but also in wrestling
- Personal encounters such as between acquaintances in a friendly conversation or in a doctor's visit
- Social encounters as between participants in a common task or in a party
- Public encounters as between students and teacher in a class room, or between public and actors in the theatre

Describing human encounters means accounting for the mutual perception of partners in these four different types of situations.

1.2.2. Mutual perception — an ecological approach

What is meant by mutual perception in these situations? The theory which seems to me most adequate to solve our problem has been called an ecological approach to perception (Gibson 1979). It is ecological in the sense that it treats perception as tool for action in everyday environmental situations unlike the classical theories treating it as a behavior of its own and to be investigated mostly in laboratory experiments. Therefore it is not surprising that one of the tenets of the ecological approach to perception is that we see what we must see in order to act successfully in everyday pursuits. In this sense we must see landscapes, buildings, people, tools, and what may be called information surfaces such as pictures, printed pages, signs on computer screens etc. Our question with respect to encounters must then be rephrased: What must we see (and hear) in human encounters at various distances, in order that these encounters may develop successfully. And we can easily see, that successful encounters have to do mostly with the functioning of communication.

2. A methodological problem

The bulk of research carried out on mutual perception in encounters at various distances has used techniques of inference which must be used in ethology. Since the researcher cannot see what an animal must see in order to behave successfully in its environment, elaborate experimental designs are necessary to infer what an animal must have seen under a given condition in order to behave as it does.

Investigators using the same methodological approach with human subjects look from the outside on an encounter and infer what the participants in the encounter must have seen in order to behave as they do or, especially, to communicate as they do. With this methods, at the beginning of research on encounters, Schefflen (1965) studied the behavioral interaction between psychotherapists and their clients. When the therapist adjusted his neck tie this was interpreted as a preening behavior initiating a flirting sequence of the therapist with his client. Whether the client saw himself what the observer saw and whether he or she felt that the therapist initiated a flirt remains a matter of inference.

In order to get away from this methodological problem we have used the method of participant observation, putting the observers in a direct contact with what was to be observed in an encounter, i.e. the other person, and asking to report what he or she were seeing. This methodological ploy does away with the detour of "objective" observation via inferring the behavior of the participants in an encounter.

3. Two studies

3.1. Study 1: Mapping out the visual field

3.1.1. The first study was an attempt to map out the visual field of partners in an encounter. How large, how wide, how high was the visual field encompassing the other person in an encounter? This question may be resolved in an abstract way by calculating under the assumption of given angles at the retina the horizontal and the vertical extension of the field covered by each of the two eyes allowing for an average distance of 7 cm between the pupils.

Another method is used in medicine by perimetry. In perimetry the impairment of the retina of a patient is mapped out by having each eye in separate turns fixate the pole of a constant size hollow hemisphere. The head is fixed in a headrest. A light dot is projected into various points of the hemisphere and the patient reports whether he sees it or not. The perimetric charts of each eye are then partially superposed according to the distance between the two eyes and thus the visual field of both eyes results.

Our approach was different. From an ecological point of view it is not adequate to hold the head in a firm position and to let the eyes fixate an abstract point in a hemisphere. We see with our whole body by moving around with our feet, our trunk, our head and our eyes.

3.1.2. Method

Our observers were placed at various distances in front of a wall covered with a grid of 10 × 10 cm squares. Each of them was asked to look at the grid at their eye level from the distances of 7.5, 30.5, 61.0, 99.0, 167.5, 289.5, 564.0 and 720.0 cm. These distances corresponded to those proposed by Hall (1966) for the close and far phases of the 4 types of encounters. The light dot of a flash light used for pointing at details in a slide projection was moved from above in the direction of the eye level of the observer and the number of 10 × 10 cm square was counted between the square where the light dot was first noticed and the eye level.

It was thought sufficient to map out the upper limit of the two-eyed field of vision since the lower and the side limits would probably be wider and the extrapolation of the visual field would err on the conservative side if it was based on 2 circles with the distance between the upper limit and the eye level as their radius for each of the two eyes 7 cm apart. 30 Observers took part in the study. The data were processed by averaging the distances over the observers. The data of persons wearing eye glasses were treated first separately and then pooled.

3.1.3. Results of study 1

The results of this study are shown in fig. 1.

Abb. 1

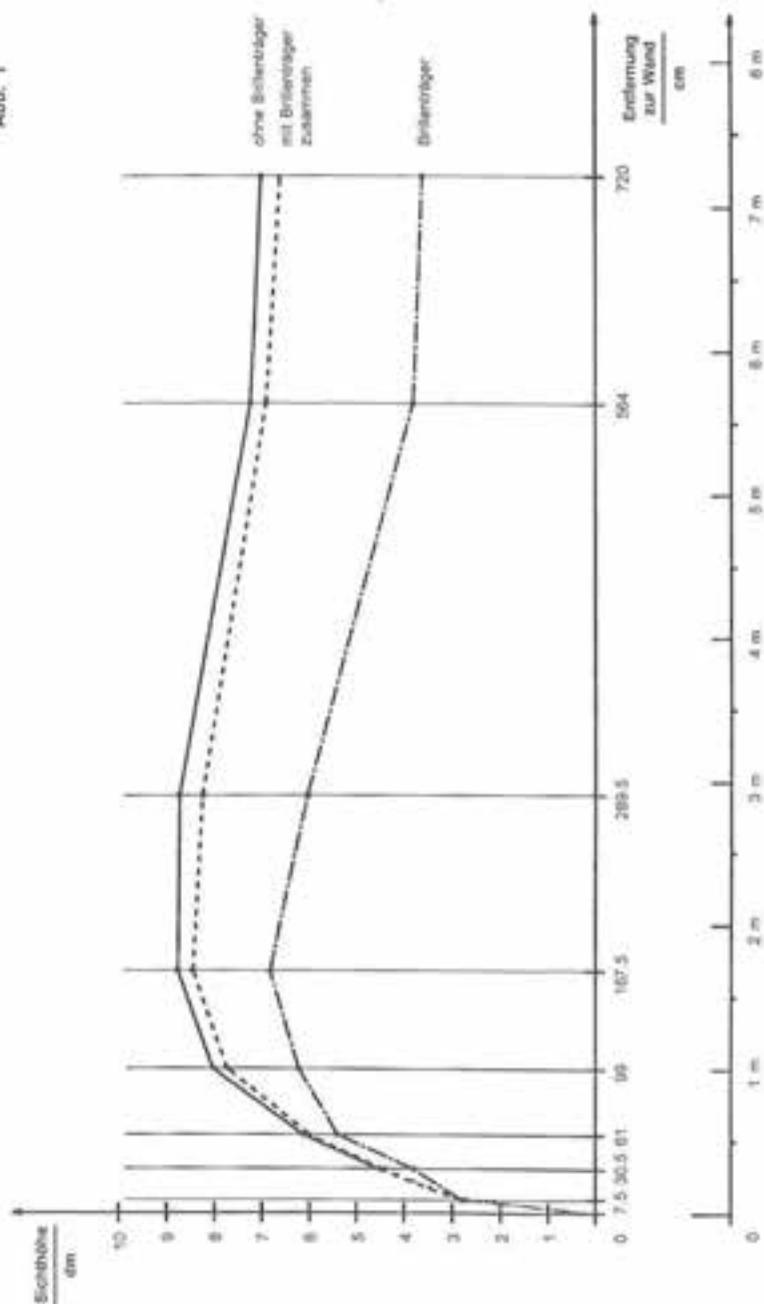


Fig. 1 — Average distances between upper limit of the visual field and eye level at 8 distances corresponding to the close and far phases of distances in encounters

Fig.1 shows that the size of the visual field at first increases slowly from the far phase of the public encounter to the close phase of social distance and then decreases drastically along the two phases of personal and intimate encounters. The visual fields may be frontally portrayed as in Fig. 2.

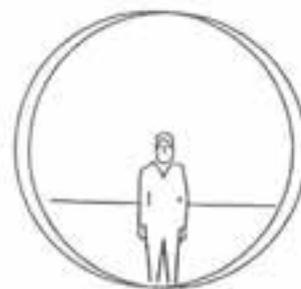


Abb. 2

Öffentliche Distanz: weite Phase 720,0 m

Durchschnitt 6,6 Kästchen zu 10 cm; mit Augenabstand 7,0 cm

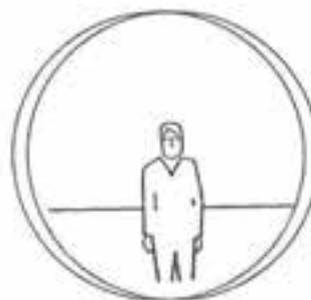


Abb. 3

Öffentliche Distanz: nahe Phase 564,0 m

Durchschnitt 6,9 Kästchen; mit 7,0 cm Augenabstand



Abb. 4

Soziale Distanz: weite Phase 289,5 m

Durchschnitt 8,2 Kästchen; mit 7,0 cm Augenabstand

Fig. 2 — The visual field portrayed frontally along the 8 phases of encounters



Abb. 5
Soziale Distanz: nahe Phase 167,5 m

Durchschnitt 8,4 Kästchen;
mit 7,0 cm Augenabstand



Abb. 6
Persönliche Distanz: weite Phase 99,0 m

Durchschnitt 7,7 Kästchen;
mit 7,0 cm Augenabstand



Abb. 7
Persönliche Distanz: nahe Phase 61,0 m

Durchschnitt 5,9 Kästchen;
mit 7,0 cm Augenabstand



Abb. 8
Intime Distanz: weite Phase 30,5 m

Durchschnitt 4,4 Kästchen;
mit 7,0 cm Augenabstand



Abb. 9
Intime Distanz: nahe Phase 7,5 m

Durchschnitt 2,7 Kästchen;
mit 7,0 cm Augenabstand

Fig. 2 — Continuation

Fig. 2 indicates that the regard during encounters successively blends out the context of the opposite person, concentrating more and more on the person and losing itself finally in a scrutiny of details.

3.2. Study 2: What is really seen?

3.2.1. The classical studies of person perception

Given an estimate of the size of the visual field at different distances from the target of an encounter the question to be answered remains what is really seen of the other person at different distances. There is a large amount of literature on body posture, gestures, facial expression and eye contact, some of it pretending even to represent a semiotic approach to person perception (e.g. Exline & Fehr 1978). The tendency is to treat posture, gesture, facial expression, eye contact as semiotic systems in their own right. The study of these "codes" is very valuable except that it tends to miss the basic idea of proxemics that all these codes are working in concert along the various distances of encounters where some of them fade out making place for others to function in the process of communication.

Facial expression, for example has been studied in an authoritative way by authors like Ekman & Friesen (1975,1978). But they fail to mention that facial expression is visible in encounters only along a limited range of distances.

Likewise, gestures cannot be seen at an intimate or personal distance as long as the face or head and shoulders are being looked at. We therefore undertook a study asking observers to describe by means of a questionnaire what they saw of different persons at various distances simulating different types of encounter. The hypothesis was that with decreasing distances and narrowing field of vision the perception of the encountered person's body segments would lose its importance and fade out in favor of skin and facial surface detail.

3.2.2. Method of the study

The observers in this study were each directly faced with 3 target persons, a young woman, a young man and an older man (the author of this paper) which might be called "actors". They were placed in front of the wall covered by the grid of 10 x 10 cm used during the previous study on mapping out the visual field.

What was to be observed at the 8 distances representing the close and far phases of the 4 types of distances in encounters was prescribed in a questionnaire under the three following headings:

- What is visible of the person?
- Please, pay attention to movements!
- What is the detail you see?

Below each of these headings particulars for the observation were given which had to be answered in the affirmative case by a check mark. A total of 27 particulars were proposed for observation. The number of observers participating in this study was 30. The data were processed by averaging over the affirmative answers for each of the observed particulars.

3.2.3. Results of study 2

3.2.3.1. What is visible of the person?

In the far and close phase of public distance in an encounter the whole person is seen with its surrounding environment. In the far and close phase of social distance in an encounter the whole body of a standing person without its surrounding or a standing person from the knees upward is visible. In the far and close phases of personal distance head and shoulders of the encountered person can be seen. In the far and close phases of intimate distance the face or only part of the face are perceived. Interestingly enough, the bodily parts being visible at the various distances correspond to the different types of shots used in film making: Long shot for public distance, Hollywood shot (knees upward) and waist shot (medium shot) for social distance, Head shot for personal distance and tight head shot for intimate distance.

3.2.3.2. The movements visible

The perception of movements is most pronounced under the conditions of public and social distance when aside from head movements visible from very far already facial movements (lip movements, movements of facial muscles, twinkling of the eyes) and mainly arm gestures are visible. Arm movements fade out in the personal and intimate distance where only "adaptors" (e.g. face scratching) can become visible. The perception of movement is so pronounced because it can also be detected by the peripheral receptors of the retina.

3.2.3.3. What detail is seen

With decreasing distance from the encountered person more and more detail of the face is revealed, while body attitude and the arms are mostly visible in the far and close phases of public distance. In the far and close phases of social distance facial expression and mood of a person, wrinkles and the state of the teeth are visible. The pores and fine hair of the facial skin, the color of the eyes, the eyelashes, little veins in the sclera and changes in the pupils are visible only in the far and close phases of personal and intimate distance, when gross details are fading out.

4. Conclusions for a sketch of media theory: The simulation of encounters

4.1. Photography

The media of visual communication are often used to simulate encounters. Photography, for example, is at its best simulating a personal encounter. The portrait, a head shot or head and shoulders are even used by authorities to identify another person in a document. Photography, however, blends out movement of facial muscles and gestures. It can therefore portray facial expressions and gestures only in a frozen state. Nevertheless, a portrait may awaken all kinds of associations from the repertory of our whole life's experience with faces at a personal distance.

4.2. Video and television

Facial and gestural movements are preserved in video and television. We sit in front of a television set at distances of between 1 to 2 m depending on the size of the screen. We confront what is put on the screen at a the far phase of personal to the near phase of social distance. Television directors have not yet realized (or only in an intuitive fashion) that they can best simulate encounters at these distances. Television is a chamber medium. It should focus on facial expression instead of projecting movies with herds of dwarfs riding along the horizon.

4.3. Cinema

Movies instead allow for the portrayal of full size persons within their context in a long shot. But we may be approached by the actor all along from the public to the social distance, seeing less and less of the context while

focusing more and more on the actor as an individual person. The cinema is thus capable of freeing associations in us which are connected to the many encounters we had in situations of public and social encounters. But the cinema may make us see even more than we ever can see in natural everyday perception: An enormously blown up face or an eye filling the whole screen of, say 3 x 2 m. The size of the enlarged human face or facial detail have a powerful effect on our emotions, since it amplifies the intensity of our associations connected to encounters at the intimate and personal level.

4.4. Theatre

Theatre allows best for the outside observation of simulated encounters, in smaller theatres perhaps for the experience of social encounters in their full phase. Strangely enough, facial expression plays a role in acting only as far as it may be observed at these distances. As the masks of antiquity seem to suggest we are able to differentiate only between gross mimical expressions like joy or sadness. But bodily movements and stances must sustain the main weight in parallel with the voice. The theatre puts us in the position of ethologists observing the behavior of single actors or of couples of them. We are not confronted directly with them if they do not step out of the scene and speak to the audience.

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SEMIÓTICA: PROCESSOS DE COMUNICAÇÃO HUMANA E NÃO-HUMANA

SEMIOTICS: HUMAN AND NON-HUMAN COMMUNICATIVE PROCESSES

**ORIGEN DEL LENGUAJE, COMUNICACIÓN
Y ESCRITURA ***

El campo de aplicación del término "lenguaje" se presentaba a Saussure bastante heterogéneo. En cambio, usaba el término sólo para referirse al campo de lo signico verbal, aunque pensaba en la posibilidad de constituir una ciencia, la semiótica, que estudiase también los signos no verbales, que el hombre utiliza para comunicarse. Todavía más heterogéneo es el campo de los interpretantes de "lenguaje", si englobamos en él no sólo los signos que forman parte de la semiosis verbal, sino también los de la semiosis no verbal, y no sólo los que se producen para comunicar, sino también los que carecen de cualquier intención comunicativa, y si consideramos que la utilización de signos no se limita al sólo mundo humano. También normalmente, en la forma común de expresarnos, hablamos de "lenguaje fotográfico", "musical", "lenguaje de gestos", "lenguaje de la moda", "lenguaje del ordenador", "lenguaje onírico", etc. Marx ha revelado un "lenguaje de la mercancía", independiente de la voluntad de los que la producen y la intercambian, y Freud ha inaugurado la interpretación del "lenguaje del inconsciente". Todos nosotros, de pequeños, podemos afirmar, refiriéndonos a los cuentos, que hemos hablado el "lenguaje de los animales", y sabemos más o menos que los animales tienen "lenguajes" específicos, aunque sea con posibles variantes para cada especie; por no hablar de la, no poco difundida, creencia de que algunos animales pueden aprender nuestro lenguaje. Además el término "lenguaje" se usa para referirse a determinados sectores de una lengua, a algunos campos especiales o especializados de la misma, es decir en expresiones como "lenguaje periodístico", "lenguaje deportivo", "lenguaje burocrático", "lenguaje poético", "lenguaje filosófico", etc.

Se comprende fácilmente que no es posible utilizar sin equívocos el término "lenguaje", queriendo referirse únicamente a lo verbal, como a menudo

* Texto que con algunas variantes e integraciones ha sido tomado de PONZIO, A.; CALZAFATTO, P.; S. PETRILLI, S. — *Fondamenti di filosofia del linguaggio*, Bari, Laterza, pp. 55-63, 1994 (N. de la T.)

se sigue haciendo, incluso en contextos especializados. Cuando el sentido es este último, tenemos que especificar el término añadiendo "verbal". El lenguaje verbal incluye tanto el escrito como el oral.

En italiano, francés y español, a diferencia de otras lenguas como el inglés, el alemán y el ruso, tenemos dos términos diferentes "lengua" y "lenguaje", y es pertinente aprovechar esta diferencia. También en el lenguaje cotidiano, usamos "lengua" para referirnos a las lenguas "naturales" (históricas), como italiano, inglés; mientras que usamos "lenguaje" para referirnos a sectores de la lengua, "lenguaje periodístico", "lenguaje literario", o a sistemas signícos no verbales, "lenguaje de los gestos", "lenguaje fotográfico", "musical" etc. y, generalmente, no decimos "lengua periodística" o "lengua de la moda", como no decimos "lenguaje inglés". Por lo tanto es completamente inútil añadir "verbal" a "lengua", mientras que usando "lenguaje" es necesario aclarar de cuál de los muchos lenguajes se trata.

Por lo que se refiere al adjetivo "lingüístico", basta por sí solo para hacer entender que la referencia es a lo verbal, por ejemplo en "comportamiento lingüístico", "estructura lingüística", como por otra parte "lingüística" se usa para referirse a la disciplina que se ocupa del lenguaje verbal; por lo tanto es redundante decir "comportamiento lingüístico verbal", aunque lo es mucho más hablar de "lenguas verbales". En cambio, usado como sustantivo, para referirse a un conjunto de lenguajes, "lingüístico" hay que especificarlo en "lingüístico verbal" y "lingüístico no verbal". Permanece de todos modos, la ambigüedad de la calificación "lingüístico", visto que puede referirse tanto al lenguaje verbal como a la lingüística que se ocupa del mismo, en expresiones como "realidad lingüística": ¿del lingüista o del lenguaje? En francés la presencia de "langagier" elimina la ambigüedad: "la réalité langagière est différente de la réalité linguistique".

Proponemos usar el término "lenguaje" para referirnos al uso de signos, tanto verbales, como no verbales, típicos del mundo humano. En el caso de la comunicación en el mundo animal o en la intercelular o en el código genético (que a pesar de todo es, según Sebeok 1979, la que más se parece al lenguaje humano), es oportuno hablar sólo de "signos", de "mensajes", de "códigos", precisamente, de "sistemas de comunicación", de "semiosis", etc. Esta distinción terminológica queda justificada por el hecho de que es necesario reservar el término "lenguaje" para referirse a la semiosis específica de la especie humana (cfr. Sebeok 1991:22-35).

En todo recorrido interpretativo de la semiosis humana, donde se examinen también las partes implícitas que funcionan como referentes, encontramos, con funciones de interpretado y de interpretante, signos verbales, imágenes, objetos y fenómenos físicos no verbales. Hemos dicho ya, que ningún signo puede subsistir fuera de la conexión con otros signos. Añadimos ahora que

ningún signo — sea verbal o una imagen mental o un objeto material con función de signo — puede subsistir sin conexión, sea con signos verbales, sea con imágenes mentales y objetos o fenómenos signícos con función de signos. Tanto si esta conexión es explícita, o permanece implícita, sobrentendida, constituye la condición imprescindible por la cual algo, en la semiosis humana, funciona como signo. Dicho de otro modo, de un recorrido interpretativo, implícito o explícito que sea, por el cual algo tiene un significado y por lo tanto es signo, forman parte necesariamente tanto signos verbales como imágenes mentales, tanto objetos como acontecimientos físicos con función signíca no verbal. Ninguno de estos tipos de signos es autosuficiente. Y la referencia de interpretante a interpretante no puede limitarse a uno sólo de ellos; y si parece que es así, sucede porque los interpretantes heterogéneos con respecto a un cierto tipo de signo permanecen sobrentendidos, pero si se considera en profundidad un recorrido interpretativo y si se especifican los interpretantes de los interpretantes que nos hacen considerar algo como signo, se puede ver como en el proceso interpretativo colaboran, con función de signo, del mismo modo palabras, imágenes, objetos y acontecimientos físicos con el papel de objetos materiales. Una secuencia de imágenes oníricas recibe significado, también para quien las está soñando, gracias a que esas imágenes pueden ser interpretadas mediante palabras, objetos o fenómenos físicos. Ciertamente una secuencia verbal puede tener como interpretante otra secuencia verbal, y ésta a su vez otra, y así al infinito; pero su significado no depende sólo de la referencia de unas a otras: necesariamente entran en juego, con funciones de interpretantes, tanto objetos físicos que no son palabras, como imágenes mentales, incluidas las mismas imágenes de las palabras, aunque sólo sea para permitir la identificación, el reconocimiento.

Lenguaje y comunicación

El lenguaje humano comprende tanto el lenguaje verbal, como los lenguajes no verbales. El lenguaje verbal se distingue en lenguaje oral o vocal, es decir el habla y el lenguaje escrito. Normalmente, según una actitud "falocéntrica" (v. la crítica por parte de Derrida), se considera el lenguaje escrito como secundario con respecto al lenguaje oral, del que la escritura sería un revestimiento externo, su transcripción. Sobre la base de las consideraciones de Sebeok sobre el origen del lenguaje, resulta en cambio, que el mismo lenguaje oral, el habla es secundario: posterior con respecto al lenguaje, entendido como procedimiento de modelación primaria específico del hombre, al cual sólo sucesivamente, en el proceso filogenético, se añade el habla. El lenguaje verbal, oral y escrito, y por lo tanto las lenguas, y sus sistemas de transcripción,

en el caso de que estén dotadas de ellos, presuponen el lenguaje en el sentido arriba mencionado. Como también lo presuponen los lenguajes no verbales. Podríamos decir que en el proceso filogenético del hombre, el lenguaje como procedimiento primario de modelación especie-específico ha encontrado interpretantes tanto verbales como no verbales, que han aumentado sus posibilidades interpretativas. La red signica total empleada en la actualidad por el hombre, para significar y para comunicar, es la expansión de la constituida en origen por los interpretantes del lenguaje, como procedimientos primarios de modelación. Algunas partes de esta red pertenecen al lenguaje verbal, en su expresión oral, y al lenguaje verbal, en diferentes formas de escritura. Pero otras partes de la red signica humana están constituidas por signos — y sus correspondientes procedimientos, es decir, normas y formas de comportamiento — no verbales. El lenguaje, como es actualmente, puede ser por lo tanto distinguido en verbal (oral y escrito) y no verbal.

El habla tiene una función específicamente comunicativa, mientras que el lenguaje es en primer lugar un procedimiento de modelación que, sólo en un segundo momento cuando, con la aparición de la forma primitiva del *homo sapiens*, el habla permite su exteriorización, asume también una función comunicativa, ampliando cuantitativamente, pero también transformando cualitativamente las capacidades comunicativas de los procedimientos no verbales que el hombre poseía en común con otros animales. En consecuencia, la semiosis de los lenguajes no verbales, sea como comunicación, sea como significación, a pesar de presentar los mismos tipos de signos del comportamiento signico de los animales (señales, iconos, índices, símbolos, nombres, como ha demostrado sobre todo Sebeok), se diferencia del mismo, porque está “impregnada” de signos verbales, que han contribuido al injerto — han hecho de árbol de transmisión — del lenguaje, como procedimiento modelador especie-específico del hombre, uniéndose con los procedimientos de comunicación no verbales humanas, convirtiéndolos, a pleno título, en lenguajes. En otros términos, también la comunicación y la significación humanas de los signos no verbales se producen, a través del lenguaje verbal, según el modelo especie-específico del lenguaje, y por lo tanto son cualitativamente diferentes de los de los animales; diferencia que se puede evidenciar, usando también para ellos, además de para el verbal, el término lenguaje, pero no para el comportamiento signico animal: todo lo signico humano es lenguaje.

Existe, por lo tanto, una parte de verdad, por decirlo así, en lo que dice Barthes cuando observa que

“No es seguro que en la vida social de nuestro tiempo existan, fuera del lenguaje humano, sistemas de signos de cierta amplitud (...) Imágenes, comportamientos pueden significar, y efectivamente significan, pero

nunca de forma independiente: todo sistema semiológico tiene que ver con el lenguaje (...) En general, parece cada vez más difícil concebir un sistema de imágenes o de objetos cuyos significados puedan existir fuera del lenguaje: para percibir lo que una substancia significa, hay que recurrir necesariamente al trabajo de articulación que hace la lengua: no existe sentido que no sea nombrado y el mundo de los significados no es otra cosa que el del lenguaje” (Barthes, 1966: 14-15).

También es verdad que “dicho lenguaje no es el mismo que el de los lingüistas” (ibidem 14). Pero no se trata, como en cambio sostiene Barthes, del lenguaje verbal correspondiente a una u otra lengua (aunque sea considerado a nivel, no de monemas y fonemas, sino de “fragmentos más extensos del discurso, que hacen referencia a objetos o episodios”: ibidem.), sino del lenguaje como sistema de modelación primario. Con respecto al cual el lenguaje verbal, oral o escrito, es secundario y, en vez de constituir la base de los lenguajes no verbales, como dice Barthes, constituye solamente el “elemento mediador”, por usar otra expresión de Barthes, para que intervenga en ellos el procedimiento especie-específico del lenguaje. A través de esta conexión los lenguajes no verbales son capaces de significaciones (y también naturalmente de transmitir mensajes) que, aunque encuentren antes o después en su recorrido interpretativo signos verbales, no podrían ser realizados por parte de los signos verbales por sí solos. Por este motivo, la ciencia general de los signos humanos no se reduce sólo a una “translingüística”, como en cambio sostiene Barthes. Ni tampoco puede ser válida su propuesta de cambiar la relación saussuriana entre lingüística y ciencia de los signos, diciendo que es la segunda la que está comprendida en la primera, y no al contrario.

Demostrar lo específico de los lenguajes verbales y no verbales, con respecto a los sistemas signicos presentes en el resto del mundo animal, poniéndolos en relación con el procedimiento modelador especie-específico del lenguaje, como hace Sebeok, significa en cambio, fundar semióticamente el estudio de dichos lenguajes, abandonando en el estudio de los signos humanos prejuicios de orden fonocéntrico o glotocéntrico. A pesar de que el lenguaje ha encontrado en la vocalización, y en general en lo verbal (si tenemos en cuenta la importancia de la escritura), su más apropiado medio de exteriorización y expansión, no significa que dicha exteriorización y dicha expansión no sean posibles también a través de lenguajes no verbales. Un ejemplo importante, en este sentido, es el lenguaje de los sordomudos, que no pasa para nada en quien lo aprende, a través de la mediación verbal (para quien lo enseña, naturalmente, se funda en la articulación de la correspondiente lengua real que habla) y que, por lo tanto se presenta como directamente implantado en el lenguaje como procedimiento de modelación y de representación específicamente

humano. Otro ejemplo puede ser el de los infantes (que, como dice su nombre, no hablan), y en cambio comunican eficazmente a través de medios no verbales. No sólo, sino que es a través de la ayuda de este tipo de comunicación que los mismos llegan a aprender el lenguaje verbal.

Existe también una parte de verdad en la tesis de Chomsky según la cual la comunicación no es la función específica del lenguaje, sólo que Chomsky cuando dice "lenguaje" quiere decir "lenguaje verbal", es más se refiere especialmente al habla y a las lenguas. Describe el lenguaje en términos de "facultad" innata, más que de sistemas de modulación, de representación del mundo especie-específico; y también cuando usa el término "gramática" para referirse al mismo — término adaptado para indicar el carácter modelador y la función trascendental del lenguaje — concibe la gramática como la que genera las frases de las diferentes lenguas, y que por lo tanto está dotada, como esta última, de una parte fonológica, una parte sintáctica y una parte semántica, con la única diferencia que se trata de una gramática universal. En consecuencia la "G.U." (Gramática Universal) se parece a una *Ursprache*, un lenguaje verbal originario, una lengua universal, a cuyas estructuras innatas sería posible remontar todas las lenguas, a pesar de su multiplicidad y diversificación, queda concebida en términos de innatismo cartesiano, revisada en términos biológicos, y sobre la base de la vieja contraposición de racionalismo y empirismo, como si filósofos como Kant, Cassirer, Husserl no hubieran existido nunca. Cuando Chomsky niega la función comunicativa del lenguaje, no se refiere absolutamente a lo que Sebeok, que cita para reforzar su tesis, entiende como "lenguaje", sino al "lenguaje verbal", al cual Chomsky atribuye, para colmo, una absoluta independencia con respecto a los lenguajes no verbales, como si fueran posibles recorridos interpretativos constituidos sólo por signos verbales, por referencias de interpretantes verbales a interpretantes verbales (sus estructuras superficiales y profundas). Esta falta de distinción entre "lenguaje" y "lenguaje verbal" puede dar lugar — como en el caso de Liebermann (1975), que intenta explicar el origen del lenguaje empleado conceptos de la teoría chomskiana - a formas "de reducción psicológica", según las cuales "complejos procesos antropogénicos quedan resumidos en el desarrollo lineal de ciertas capacidades cognoscitivas, descritas además en el lenguaje por la sintáctica tradicional" (Rossi-Landi 1985: 229).

Por lo que se refiere a la parte comunicativa de los lenguajes humanos, es necesario también dejar a un lado la limitada interpretación de la comunicación como transmisión de informaciones, de mensajes, por parte de un emisor y un receptor, que por lo tanto, resultan externos y reconstituidos respecto al proceso comunicativo. Hace falta conceder al término "comunicación" un sentido más vasto del que le conceden la semiología de tipo saussuriana y la teoría de la información, en base a las cuales se ha construido el modelo (teori-

zado explícitamente por Jakobson) que se basa en los elementos código, mensaje, emisor, receptor, canal y contexto. Es necesario atribuir al término "comunicación" todo su real espesor histórico-social y, al mismo tiempo, considerarla el campo de formación y funcionamiento de la actual red signica de la semiosis humana, que hace posible la comunicación en sentido estricto, es decir, como intercambio de mensajes. De tal forma, la comunicación resulta coincidir con el proceso mismo de reproducción social, del que el intercambio comunicativo en sentido estricto constituye sólo una fase. Se comprende ahora que, dentro del proceso comunicativo entendido en estos términos, figuran la misma individualización, constitución, determinación de "lo" que es objeto de comunicación-transmisión, se forman las "experiencias personales" que comunicar, la toma de conciencia, la actuación de decisiones, la existencia de una relación especial inter-individual, dentro de la cual se realiza la comunicación intencional. Las mismas necesidades, incluidas las "necesidades comunicativas", no quedan fuera de la comunicación. Las necesidades, como ha demostrado Marx en la crítica de los economistas "burgueses", figuran en el interior del proceso de reproducción social y son inconcebibles fuera de la comunicación. El hecho de que los hombres "einander etwas zu sagen haben" (tienen algo que decirse) (Engels 1896, trad. it. 1967: 163) no queda fuera del complejo proceso comunicativo que subyace a los signos verbales y no verbales, ni está fuera del mundo producido por el lenguaje como procedimiento modelador humano y no se puede, por lo tanto recurrir al mismo, para explicar, lamarquianamente, el origen del lenguaje (v. le consideraciones que hace Rossi-Landi al respecto, 1985: 225-226). La "Comunicación" es también el lugar donde se constituyen los significados, donde se organiza la realidad, donde se determina la experiencia, donde se forman los mensajes, donde se realizan actos voluntarios, intencionales, incluidos los que intentan comunicar algo a alguien. El "lenguaje verbal no nace de una genérica necesidad de comunicar" (ibidem: 233), sino de la necesidad de un cierto nivel de comunicación social correspondiente, tanto a procedimientos comunicativos no convertidos todavía en lenguajes no verbales, todavía no específicamente humanos, como al mundo significado, interpretado, a través del procedimiento modelador (y no comunicativo) del lenguaje, especie-específico del hombre. "Es necesario, antes que nada, poner de manifiesto que el lenguaje no se puede reducir a mera comunicación, de otra forma no podríamos colocar la habilidad lingüística en un esquema coherente de filogénesis de la estructura nerviosa y de sus correspondientes funciones psíquicas" (ibidem: 234).

Se comprende ahora que el problema de la precedencia de los lenguajes no verbales con respecto a los verbales, y viceversa, ha tenido un planteamiento equivocado. Los lenguajes no verbales, como lenguajes, tal y como hoy se presentan, no pueden ser considerados antecesores del lenguaje verbal. Lo

que es anterior son los comportamientos signícos no verbales, el "gesto", el "grito", la "danza", el "canto" que, por cuanto sean pre-humanos, se han realizado en correspondencia con el mundo humano producido por el lenguaje como procedimiento modelador especie-específico. Si dichos comportamientos signícos se han convertido en lenguaje es gracias a la mediación del lenguaje verbal, y por lo tanto, como tales son posteriores al mismo, a pesar de que aumentan sus posibilidades interpretativas y comunicativas.

Lenguaje y escritura

El lenguaje, antes de presentarse como verbal y de desarrollar, a través de lo verbal, funciones comunicativas que aumentan y renuevan cualitativamente también las de los comportamientos signícos no verbales (que por lo tanto se presentan también ellos como "lenguajes"), es un "procedimiento" — como hemos visto, preferimos esta expresión a la de "sistema", de Sebeok que la toma a su vez de la semiótica de Moscú-Tartu (v. Sebeok 1991: 49) — modelador, un modelo de construcción del mundo. Su función específica es la de significar, de interpretar, de conceder sentido. Todos los animales poseen modelos de construcción del mundo y el lenguaje es el del hombre, que sin embargo se diferencia completamente de los procedimientos de modelación del resto de los animales, aunque no son diferentes los tipos de signos que el mismo emplea (iconos, índices, símbolos etc.). Su característica específica es la articulación o, como dice Sebeok, la sintaxis, es decir la posibilidad de significaciones diferentes que se sirven de los mismos objetos con funciones de interpretantes-interpretados. "Articulación" hace pensar en la descomposición de elementos. "Sintaxis" designa mejor la disposición temporal-espacial de estos objetos. Los mismos interpretados asumen interpretantes diferentes según sea su posición cronotópica. La secuencia temporal de la producción verbal fónica se encuentra colocada en un orden espacial, donde el mismo objeto asume significados diferentes según su posición.

La escritura hace visible "la sintaxis" del lenguaje. El espaciamento inherente a la interpretación que el lenguaje realiza — de tal forma que los mismos objetos, cambiando de lugar, asumen interpretantes diferentes — se convierte en el recurso principal de la escritura, la cual es más inherente, congenial, parecida al lenguaje de lo pueda serlo la fonación, a pesar de que la escritura ha aparecido después de la semiosis vocal y de la formación de las lenguas, como sistema de transcripción. La escritura es inherente al lenguaje como procedimiento signifiante en la medida que él mismo se caracteriza como sintaxis. El mismo signo fonético es escritura. El lenguaje es ya escritura, la cual existe, por lo tanto, *d'avant la lettre* (Lévinas 1982b: 8), todavía

antes de que fuera inventada como sistema de transcripción de la semiosis vocal, es más, antes de la conexión del lenguaje con la fonación y de la formación de las lenguas. La escritura forma parte del lenguaje "antes que el estilete o la pluma imprimiese la letra en la tabla o en el pergamino o en el papel" (ibid.). El lenguaje como es en la actualidad conserva las huellas de su desarrollo tras el empleo de la materia fonética, pero aún así, no ha perdido los rasgos de la escritura precedente a su transcripción. Estos se ponen de manifiesto en la articulación del lenguaje verbal, en su carácter icónico (significación por posición, por amplitud, como en el alargamiento del adjetivo al superlativo, o del verbo en las personas del plural, etc., como ha demostrado Jakobson 1966). Cuando la escritura, en un segundo momento, ha vuelto a ser revestimiento secundario para fijar el vocalismo, ha utilizado el espacio para conservar, a través del tiempo, la palabra oral dándole una configuración espacial (v. Kristeva 1992: 61).

La articulación del lenguaje verbal (la doble articulación de Martinet) es un aspecto del procedimiento modelador del lenguaje, que articula el mundo por diferenciación y diferencia-aplazamiento¹ — *différence/différance* (Derrida) —, a través de un sistema de referencias en el que el interpretado como signifiante, es decir, como residuo no interpretado, se coloca en diferentes recorridos interpretativos y en una cadena abierta a referencias de interpretante a interpretante. La articulación es, sobre todo, distanciamiento, espaciamento, que el lenguaje como procedimiento modelador realiza como escritura. Significar a través de diferentes posiciones de las mismas cosas es ya escritura, y la articulación del lenguaje verbal, y mediante el lenguaje verbal, se realiza precisamente sobre la base de este tipo de significación por oposición.

Como sintaxis o, como preferimos decir, para evitar los equívocos del uso de un término típico de los lingüistas y de los neopositivistas (la "sintaxis lógica" de Carnap), como escritura anterior a la fonación, e independiente de la función comunicativa de la transcripción, la modelación del lenguaje se sirve de piezas que pueden ser colocadas en un infinito número de modos. De tal forma, puede dar lugar a un número indeterminado de modelos, que se pueden desmontar para construir, con las mismas piezas, modelos diferentes. Por eso, como dice Sebeok (1990), gracias a su lenguaje, los hombres pueden no sólo producir su mundo, como los demás animales, sino también un número infinito de posibles mundos: "es el juego de la ensoñación" (es el título un libro de Sebeok), que desarrolla un papel importante en la investigación científica y en cualquier otra forma de investigación, como también en la simulación, desde la mentira a la ficción, y en toda forma de creación artística. La "creatividad", que Chomsky considera como rasgo específico del lenguaje verbal es, en cambio, una derivación del mismo, mientras que es típico del lenguaje como escritura, como procedimiento primario de modelación.

Del rasgo de escritura típico del lenguaje, proviene la posibilidad que tienen los lenguajes verbales y no verbales de funcionar como signos por sí solos, una especie de suplemento respecto a su función cognoscitiva, comunicativa y manipulativa que se puede detectar, aunque sólo bajo forma repetitiva, en los comportamientos rituales de los animales. El espesor dialógico de los interpretantes y, por lo tanto, el superamiento de la significación en la significancia (lo que Barthes llama *el tercer sentido*, respecto al de la comunicación o mensaje y al de la significación) están conectados con el carácter de escritura del lenguaje (v. Ponzio 1983: 62-75).

La escritura se representa sobre todo en la actividad de escribir, a través de la cual escapa a su función de transcripción, se independiza de la foné, a pesar de que, como *différance*, aplazamiento, gasto superfluo, con respecto a la significación y a la función comunicativa, se pueda encontrar en toda actividad y producto humano que, como obra resulte excedente respecto al orden de la necesidad y de la identidad, y se abra por el contrario al deseo y a la alteridad. La escritura se puede encontrar, por este motivo, en cualquier actividad — y no sólo en el escribir — que no se deje reducir a una función, a un determinado fin u objetivo, sino que contenga respecto a éstos, algo de excesivo, de excedente, de irreduciblemente otro. Presentándose en el texto escrito, la escritura se manifiesta en lo que, precisamente indicamos como tal, como obra de escritura y nada más, es decir, en el escribir “intransitivo” (Barthes) del “escritor”, en la escritura literaria.

(traducción castellana: Mercedes Arriaga Flórez)

NOTA

† Consultar también PONZIO, A. — *Spostamenti. Percorsi e discorsi sul segno*. Bari, Adriatica, 1982 (N. de la T.).

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LA ICONICIDAD EN LA "DOCTRINA DE LOS SIGNOS" DE THOMAS A. SEBEOK

Si se considera el mundo según la subdivisión que Thomas A. Sebeok hipotiza según tres mundos estrechamente ligados entre sí — en el límite inferior el mundo "liliputiano" de la genética molecular y de la virología, en el límite superior el mundo biogeoquímico de "Brobdingnag" de nuestro gigantesco ecosistema denominado *Gaya*¹, y el último el mundo de "Guliver" a medida del hombre —, la variada pluralidad que resulta encuentra a pesar de ello un común denominador en el proceso de la semiosis.

La semiosis puede ser descrita procediendo en la dirección indicada por Peirce en base a la tricotomía objeto-interpretado-interpretante en la que el signo consiste. El signo es esa relación que no está aislada sino conectada con otras relaciones según recorridos interpretativos que cruzándose constituyen una red signica cuyos límites no son definitivos porque algo que era un signo puede cesar de serlo, y algo que no lo era puede convertirse en ello. En la tricotomía objeto-interpretado-interpretante está incluido también el intérprete, que es el sujeto que emplea, pone en marcha, activa interpretantes y que, desde el punto de vista semiótico, consiste en los mismos interpretantes que activa y, por lo tanto, forma parte también de la red signica. Si nos servimos de la concepción de Morris de la semiosis según la cual algo es un signo para algún organismo (1946: 253), se puede subrayar de tal forma, como hace Sebeok, que al menos un anillo de la cadena semiótica es orgánico. Según Sebeok puede tratarse también de parte del organismo o de un producto suyo, en el caso de un organismo humano también de ordenadores, robot, autómatas en general capaces de sustituir, parcial o totalmente, el cuerpo mismo y, por lo tanto, capaces de ser una especie de extensión de la vida o de realizar una semiosis que pueda sobrevivir más allá de la vida (cfr. Sebeok 1991b: 152).

Haciendo referencia no sólo a semióticos, como Peirce y Morris, sino también a científicos como el matemático René Thom, el biólogo Jacob von Uexküll, el genetista François Jacob, etc., Sebeok propone una perspectiva "biosemiótica"² y trabaja siguiendo la hipótesis de que la semiosis abarca todo el mundo viviente (cfr. Sebeok 1968; 1972; 1976; 1977; 1979, trad. it.

1985: 167). Semiosis y vida — que, según nuestros conocimientos actuales, es vida terrestre (Sebeok 1991b: 85) — coinciden. La semiosis puede ser asumida como criterio definitorio de la vida³. A este propósito el siguiente fragmento de Sebeok es particularmente interesante también para las consideraciones sobre el papel de la iconicidad, que aquí nos interesa especialmente, en las reacciones biológicas y en la reproducción genética:

“La única característica que distingue la materia viviente de la no viviente (incluidos los cristales, que crecen e incluso se reproducen) es la evolución por selección natural; [...] la dinámica de la semiosis es el criterio regulador que contribuye a la homeóstasis de todos los animales y al equilibrio de grupos como a los que pertenecen los organismos sociales. Los organismos — o por lo menos, sus células individuales — se definen mejor en términos de réplica; lo que es muy significativo precisamente porque no concede ninguna ventaja evidente a la entidad que reproduce; la reproducción genética es el proceso semiótico *por excelencia*, y la iconicidad desarrolla en ella un papel decisivo.” (Sebeok 1979, trad. it. 1985: 173-174)⁴.

Sebeok asume como objeto de investigación la evolución de la semiosis terrestre, a partir de una única célula, hasta la actual diversificación multiforme de la biosfera⁵, subdivisible en cinco reinos: los monera (bacterias), los protocistas (incluidos los microbios), los tres reinos multicelulares, plantas, animales y hongos. Todos presuponen sus primeras formaciones celulares de los procariontes (que datan de hace cuatro mil millones de años) y de los eucariontes (aparecidos hace cerca 800 millones de años), y activos todavía hoy. Según este modelo el mundo viviente se presenta como única célula y como confederación de células cada vez más complejas. El mundo humano presenta posteriores organizaciones complejas, como los complejos sistemas económico-político-ético-sociales. Además, la actual diversificación multiforme contiene en sí “los gérmenes de posteriores cambios ya esperables”, como dice Sebeok y, como hemos dicho, no excluye la hipótesis (ya formulada por Peirce y que Sebeok desarrolla inspirándose directamente al libro de Lynn Margulis y Dorian Sagan, *Strange Fruit on the Tree of Life*, 1986b) de que la semiosis, gracias a la biotecnología y a la tecnología computerológica, pueda prolongarse más allá de la vida, según una perspectiva cibersemiótica en la que los procesos signícos se realizan en las máquinas y dan lugar a modelos de vida híbrida (cfr. Sebeok 1986, trad. it. 1990: 64-85, 289-291; 1991a, trad. it. 1992: 113-131; 1991b: 83-96). El campo semiótico se extiende por todos los sistemas biológicos terrestres, contemplados por el gigantesco organismo llamado *Gaya*, pero, según Sebeok, quizás más allá, en una dimensión temporal-espacial que actualmente no conocemos.

De esta forma el campo de la semiótica se extiende más allá de los límites asignados a la ciencia o teoría — o doctrina como prefiere Sebeok — de los signos por parte de esas concepciones que emplean la noción de signo (y por lo tanto de semiosis, significado, interpretación, comunicación, etc.) para referirse exclusivamente al mundo socio-cultural humano. Esto permite tener en cuenta la especificidad del mundo humano, del hecho cultural, sin dejar de lado su continuidad con el mundo natural. Es más a la luz de dicha continuidad, el problema de la caracterización de la especificidad se puede afrontar adecuadamente. Lo humano, y todo lo que le pertenece como especie-específico, por ejemplo el lenguaje, que constituye un elemento fundamental de diferenciación, forma parte de la biosfera, es el lugar donde el mundo natural y el mundo cultural se encuentran. Como ya había precisado el mismo Peirce en una carta a Victoria Welby (Hardwick 1977: 141): “Es absolutamente verdad que nosotros no podremos nunca obtener un conocimiento de las cosas tal y como son. Podemos solamente conocer su aspecto humano. Pero esto es todo lo que el universo significa para nosotros.”

La semiosis o acción signíca coincide con el flujo de mensajes vitales, con los ciclos continuos de la producción, circulación y consumo de energía-información, es decir, con los procesos de la comunicación y de la significación. Esto sucede en perspectiva evolutiva tanto en el eje diacrónico como en el sincrónico en el que cambian escenarios y protagonistas, como también el tipo de materia y de elaboración/articulación signíca.

Los procesos signícos se prestan a ser estudiados desde varios puntos de vista diferentes, según la materia objeto de análisis, según los intereses específicos del investigador y del ámbito científico en el que trabaja. El término “fitosemiótica” ha sido introducido en 1981 por Martin Krampen (v. también Krampen 1992) para indicar el estudio del comportamiento signíco en las plantas. A este se podría añadir la “citosemiótica” para el estudio específico de los procesos semióticos en las células, la “microsemiótica” para los hongos, etc. En 1963 Sebeok introdujo el término “zoosemiótica” para indicar la disciplina, que junto con la etología, estudia el comportamiento signíco en cada una de las especies animales. Con “antroposemiótica”, término propuesto en 1970, nos referimos a los sistemas semióticos específicos de la especie hombre. En cuanto tal se trata de una rama de especialización de la “zoosemiótica”. Dirigiéndose al mundo humano la antroposemiótica se ocupa de los sub-sistemas que componen la comunicación humana estudiada por la “lingüística” (o mejor “las lingüísticas”: sociolingüísticas, etnolingüística, psicolingüística, lingüística textual, dialectología, etc.) que estudia específicamente el signíco verbal; y de la “semiología”, entendida como el estudio de los signos usados por el hombre para fines comunicativos. Pero la antroposemiótica tiene que ver con tipos de signos que se pueden detectar también en otras partes en el reino

animal (v. Sebeok 1972: 61, 163). La lista podría continuar con otros neologismos como "endosemiótica", acuñado para indicar la ciencia que estudia los sistemas cibernéticos dentro del cuerpo (Sebeok 1974: 213; 1976: 3; 1979, trad. it. 1985: 84; 1991b: 156-157), o el ya mencionado "cibersemiótica", para los sistemas semióticos generales en el mundo de la inteligencia artificial y de la realidad virtual.

En una perspectiva que tenga en cuenta la entera semiosis terrestre — que, entre otras cosas, permite evitar tentaciones antropocéntricas y fonocéntricas —, la semiosis presenta dos aspectos: verbal y no verbal. Este último engloba tanto el comportamiento no verbal humano, como la entera vida terrestre (incluido el cuerpo humano) y funciona tanto a nivel microscópico (código genético, inmunológico, etc.) como a nivel macroscópico. Evidentemente los signos no verbales superan de mucho por calidad y extensión la semiosis verbal. La vida humana se caracteriza por el uso de dos órdenes de signos, verbales y no verbales, pero los signos no verbales engloban la entera semiosis terrestre por el hecho de que constituyen, como hemos dicho, lo que caracteriza la vida misma. En cuatro de los cinco reinos arriba mencionados, la semiosis es únicamente no verbal; sólo en el quinto, el habitado también por el animal llamado *Homo sapiens sapiens*, a los signos no verbales se añaden los verbales. Característica especie-específica de la realidad humana es el hecho de disponer en dos órdenes de signos, separados pero superpuestos, el verbal y el no verbal. Los signos circulan sin solución de continuidad con la especificación de la presencia en el mundo humano del signo verbal.

En consecuencia, la semiótica, bien sea general o sectorial, para tener una visión global y para poder contextualizar adecuadamente sus intereses específicos, tiene que ocuparse de los signos tanto verbales como no verbales (cfr. Sebeok 1979, trad. it. 1985: 75-106; 1986, trad. it. 1990: 49-51, 292-302)⁶. Más allá de todo interés y competencia sectorial es importante darse cuenta de que para que el estudio de los signos alcance validez, no se puede prescindir de elaborar un modelo general de signo y, por lo tanto, no se puede prescindir del hecho de que los procesos signícos invaden todos los mundos a nivel *semiósico* — la realidad signíca — pero también a nivel semiótico, las "ontologías sectoriales" de las diferentes ciencias.

Sebeok emplea la expresión "doctrina de los signos" — que, como hemos dicho, prefiere al término más "enoblecedor" de "ciencia" y también al de "teoría" — para designar su aproximación, que se remonta a la tradición que parte de Locke (1690) — para el cual el término "doctrina" designaba un corpus de principios y opiniones que formaban vagamente un campo de conocimiento —, pasa a través de Berkeley (1732) y desemboca en la obra de Peirce (1867). Con Peirce, kantianamente atento a las condiciones del significar, se da la posibilidad de identificar las bases comunes a las ciencias

humanas y a las ciencias naturales. Con la "doctrina de las categorías", según Peirce, la concepción de la realidad, de origen aristotélica, como algo separado e independiente de la mente, por un lado, y la concepción opuesta que, en cambio, describe la realidad como dependiente de la mente, por otra, por fin se encuentran (cfr. Peirce *CP* 6. 24 and Sebeok 199a: 202), produciendo una tercera vía, según la cual los objetos tanto naturales como culturales son el resultado mediado por la experiencia signíca. Con la expresión "doctrina de los signos", además de subrayar el carácter pedagógico de su investigación, Sebeok recupera la prerrogativa crítica de la semiótica, a la que atribuye no sólo el papel de observar y describir los procesos signícos, sino también el papel de interrogarse kantianamente sobre las condiciones de sus mismas posibilidades, y sobre las condiciones de posibilidad de las mismas disciplinas los estudian (cfr. Sebeok 1976, trad. it. 1979: 9-12; 1991b: 151).

Que la semiosis no se limite a la vida cultural, sino que afecte a todo el mundo viviente hasta llegar a ser su rasgo característico, no implica necesariamente que la vida sea solamente semiosis, ni que la semiosis se limite exclusivamente al mundo viviente⁷, ni que el universo, viviente y no viviente, esté poblado exclusivamente por signos. Esto nos da pie para subrayar dos reflexiones interesantes. En primer lugar, como nos enseña también Rossi-Landi, no todo es signo aunque todo puede convertirse en signo. En segundo lugar, hace falta reflexionar sobre los varios niveles de la semiosis considerada en toda su extensión. La misma comprende desde un nivel de acción signíca químico-física, "involuntaria", "inconsciente", al menos según los criterios correspondientes a la conciencia humana, a los diferentes niveles de los procesos bio-semiósicos hasta el nivel cognoscitivo con la aparición del hombre: aquí el proceso semiósico es capaz de objetivar también los demás niveles semiósicos pre-cognoscitivos. Dicha capacidad objetivante de la semiosis humana se extiende también a la materia inorgánica y, por lo tanto, a todo el universo, que en la medida que es materia que interpretar a diferentes niveles de conocimiento, incluido el científico, es, en este sentido, materia convertida en signíca: cuerpos convertidos en signos por cuerpos que no eran signícos y que siguen teniendo una existencia no signíca. En la medida que objetivado en procesos interpretativos, todo el universo se presta a convertirse en semiósico y, en la medida que forma parte de a red signíca, contribuye a determinar el carácter semiótico de dicha objetivación.

Más allá de las especificaciones, de la gran subdivisión de signos en verbal y no verbal, que separa el hombre de los demás animales, pero también, según nuestros conocimientos actuales, del resto del universo semiósico; más allá de la subdivisión entre signos inorgánicos y orgánicos, signos animales y signos específicamente humanos, signos verbales y signos no verbales, vocálicos y no vocálicos, internos y externos, intencionales y no intencionales,

etc. — no hay solución de continuidad en la circulación de los signos. Todos los signos forman parte de la gran tupida red signica que Gaya representa. Y en la medida que es materia signica, los signos comparten rasgos comunes, clasificables de acuerdo con tipologías que trascienden los límites de las divisiones a penas mencionadas. La tripartición en símbolo, índice e icono es una de ellas.

El icono, el índice y el símbolo constituyen una de las triadas signicas más importantes, propuestas por Peirce y recogida por Sebeok en su "doctrina" de los signos. La primera presentación por parte de Peirce de esta triada data de su escrito de 1867 "On a New List of Categories" (CP 1, 545-559). Desde el punto de vista de la relación de los signos (o representaciones, *representations* como entonces las llamaba) con lo real que modelan, el icono mantiene con su objeto una relación de parecido. Y lo que es pertinente como criterio de parecido depende de las costumbres de comportamiento, de acuerdo con la persona que dispone el proceso interpretativo. Esto indica que la iconicidad no es nunca pura, sino siempre "degenerada" por la presencia de la simbolicidad que, como la entendía Peirce, caracterizaba la relación interpretado-interpretante, como basada preferentemente sobre una costumbre y como tal "arbitraria".

Además, Peirce distingue el icono en tres subclases: imágenes, diagramas y metáforas (CP 2.277). En la imagen, la relación icónica entre interpretado e interpretante es de parecido global y directo; en el diagrama, en cambio, concierne la relación entre las partes representadas por medio de relaciones análogas; la metáfora, por último, supone un paralelismo. El icono realiza un grado máximo de independencia del interpretante respecto al objeto, que no se identifica ni por necesidad contigua (índice), ni por habitus (símbolo), sino por parecido hipotético.

También por este motivo, en el plano de la inferencia y de los procesos cognoscitivos, la iconicidad contribuye al desarrollo del razonamiento abductivo según grados diferentes de capacidad innovativa (para todos estos aspectos, v. también CP 2.247-2.249; 2.266-2.270; 2.273-2.802). A pesar de todo, con los estudios de Rossi-Landi parece claro que el icono — sea imagen, diagrama o metáfora — no constituye de por sí el valor innovativo de la abducción. Dicha capacidad innovativa se explica, en cambio, en base a ese tipo especial de parecido que Rossi-Landi llama "homología" (tomando el término de la biología). Los procesos signicos innovativos por excelencia son aquellos en los que predomina la iconicidad homológica, es decir, aquellos en los que la relación de parecido entre interpretado e interpretante no aparece inmediatamente sino que concierne los procesos dinámicos, genético-estructurales de formación más allá del parecido obvio y ya dado a nivel superficial, que Rossi-Landi llama analogía. La iconicidad se presenta por lo tanto en el plano

de la inferencia con diferentes grados de innovación según prevalezca la analogía o la homología.

El interés que el problema de la iconicidad suscita se debe en gran parte a su poder de evocación y de sugestión. Refiriéndonos todavía al mundo humano, la importancia de la iconicidad, tangible en sus repercusiones decisivas en la historia de la cultura, surge de manera ostensible en los sistemas rituales, en las religiones, en la actividad exotérica, en la magia (Frazer {1951: 12-13} distingue entre magia por manipulación de iconos (esfinge) según "la ley de parecido" vs magia por la manipulación de índices, según la "ley del contacto o del contagio"). Por otra parte, el elemento icónico está también en el lenguaje verbal, no sólo a nivel de sonido (el uso de la onomatopeya) y del léxico (donde el efecto icono es sólo virtual), pero más significativamente a nivel sintáctico (v. Jakobson 1965; Valesio 1969; Wescott 1971). Peirce afirma que "el lenguaje no es otra cosa que una especie de álgebra, o un método para formar un diagrama". Además, sigue diciendo, "los significantes de la palabra dependen generalmente de nuestras tendencias a fundir las cualidades y de nuestras actitudes para detectar los parecidos (...) de las asociaciones por parecido" (CP 3, 149). Más tarde se detiene sobre "la influencia vital sobre nosotros de un diagrama, o icono, con los que numerosas partes están conectadas en el pensamiento a un igual número de sentimientos e ideas {...}" (CP 7, 467). Parece claro que para una plena comprensión de la teoría de la iconicidad en Peirce es necesario tener en cuenta sus grafemas existenciales cuyo estudio él mismo aconsejó a Welby (cfr. Hardwick 1977: 96-108). Sebeok, además, preconiza los posibles desarrollos de la relación entre los grafemas de Peirce (cfr. CP 4.530-572) y la topología de René Thom.

Dos casos paradigmáticos del efecto icono en el mundo contemporáneo, que Sebeok cita, son el proceso Edelin y el caso Quinlan en donde dos grandes cuestiones ético-políticas, el derecho al aborto y el derecho a "desenchufarse", se deciden (por incompetencia) por medio del recurso a la categoría de la iconicidad. En el primer caso sobre la base de una fotografía del feto, enseñada a los jueces, el médico abortista es condenado por homicidio. El problema era establecer cuándo la réplica o copia o imagen (el homúnculo) se presta a ser interpretada como la representación icónica de su modelo (el niño). En el segundo caso, se trataba de decidir, en cambio, cuando interviene la muerte en la vida, es decir cuando la representación icónica (el cuerpo en estado de vegetación progresivo) deja de parecerse a su modelo (la mujer).

Sebeok sostiene la hipótesis del predominio de la iconicidad entre las criaturas sin palabras, que se revela incluso esencial para la supervivencia del individuo, para su bienestar, así como al icono le corresponde un papel importante para la evolución en general (Sebeok 1979, trad. it. 1985: 157-182; para una discusión de la función de iconos geotípicas, v. G. Bateson, in Sebeok 1968: 614 y sig.).

En el ámbito de la zoosemiótica las prerrogativas de iconicidad son verdaderamente innumerables y afectan a todos los canales disponibles para la transmisión de mensajes, químico, visivo, auditivo, táctil, olfativo (cfr. Sebeok 1976, trad. it. 1979: 125-126). Un ejemplo de la función icónica del signo químico en el mundo animal se da por la emisión de feromona por parte de la hormiga *Pogonomyrmex badius* como señal de peligro, donde la cantidad de feromona funciona como una especie de diagrama donde la relación de parecido se da por las relaciones proporcionales. "El signo es icónico en la medida que cambia en proporción análoga al crecer o al disminuir de los estímulos de peligro" (Sebeok cit. : 126). Otro ejemplo del funcionamiento de un signo icónico visivo en el mundo animal, es dado por el comportamiento de la hormiga obrera con respecto a una especie de insectos (*myrmecophilous*). Por una relación icónica de parecido, la hormiga confunde la extremidad posterior con la extremidad anterior de otra hormiga que mueve sus antenas. En base a este doble equívoco — la hormiga que confunde el insecto con otra hormiga, el insecto que tiende a imitar a la hormiga de la que es icono — la hormiga obrera obliga al insecto a emanar las gotas de melaza de las que se nutre. La iconicidad programada genéticamente desarrolla un papel fundamental en el "engaño" que se encuentra también en el comportamiento animal no humano (por la hipótesis sobre la capacidad de mentir de los animales, v. Sebeok 1986, trad. it. 1990, cap. 10). La imitación acústica de las avispas (*Dolichovespula arenaria* F.) efectuada por la mosca (*Spilomyia hamifera* Lw) ilustra la función icónica de un signo auditivo. Dicho icono sirve para engañar a los pájaros predadores Muscicapidi (v. Sebeok 1972:86 y sig.). Existen numerosos ejemplos de antipredación icónica como el de las arañas tejedoras de círculos (orb-weavers). El animal adapta el ambiente a su imagen por medio de la fabricación de copias de sí mismo para distraer la atención del predador del cuerpo del modelo viviente hacia sus numerosas réplicas. Pero el mimetismo es solamente uno entre los numerosos ejemplos de funcionamiento de la iconicidad en el mundo animal.

Hablar del papel del icono en la semiosis, de la "relación icónica" (*iconic relation*) como dice Peirce, significa para Sebeok ocuparse de la dinámica de relaciones topológicas, es decir, del "parecido topológico" (topological similarity) en una relación entre un signo interpretado (que implica el objeto en la medida que sujeto a interpretación) y un signo interpretante, correspondiente tanto a la estructura interna del signo (aislable solamente por abstracción), tanto a la relación entre signos, tanto a la relación entre signo y mundo externo, la "realidad", que la semiosis al mismo tiempo presupone, modela y genera. "Un signo se denomina icónico cuando existe un parecido topológico entre un significante y sus denotados" (Sebeok 1976, trad. it. cit: 123). Según las previsiones de Sebeok los instrumentos de trabajo más útiles los aportará la

teoría de la catástrofe (Stewart 1975), precisamente para el análisis topológico, que permitirá resolver nuestros problemas (cfr. Thom 1974: 245). De hecho, tal teoría, propuesta por Thom y retomada y desarrollada por Zeeman, pertenece a la rama de las matemáticas, conocida precisamente como topología, que trata de los diferentes puntos de una figura y de sus propiedades fundamentales que varían cuando se deforma. El estudio de la iconicidad se configura como estudio topológico entre interpretado e interpretante: "en qué manera el proceso de la imitación actúa a través de todo el nivel molecular, gobierna la percepción, impregna los sistemas de comunicación de los animales y del hombre, constituye un principio fundamental de la socio-biología y es, en definitiva, capaz de integrar problemas de alcance global, de carácter universal, relativos a las recíprocas relaciones dinámicas entre lo que significa y lo que es significado" (Sebeok 1979, trad. it. 1985: 175).

(Traducción castellana: Mercedes Arriaga Flórez)

NOTAS

¹ La hipótesis Gaiya, formulada en los años setenta (v. Lovelock 1972), propone una visión planetaria en la que la atmósfera, la hidrosfera y la litosfera interaccionan con la "biosfera terrestre (para este término se puede ver, además, Vernadsky 1926 y Teilhard de Chardin 1959) en un sistema global unitario autopoietico (es decir, un sistema homeostático autorregulado por sí mismo). Si, en esta línea, aceptamos, siguiendo la propuesta de Greenstein (1988), la idea de realizaciones simbióticas entre universo y vida, llegamos a contemplar una biosfera en la que los mensajes/emisores/generadores/ fuentes/interpretantes, por una parte y los destinatarios/receptores/interpretantes, por otra, forman parte de una gigantesca red signica (cfr. Sebeok 1986, trad. it. 1990, 67-79; 1991b, 96).

² Este neologismo propuesto por Ju S. Stepanov en 1971 y retomado por el médico alemán Thure von Uexküll como título de un ensayo, v. 1992. Además, por iniciativa del mismo Thure von Uexküll y con la participación de biólogos, físicos, médicos además de semióticos se ha fundado, en mayo de 1990, la Sociedad Biosemiótica Internacional (SHI) en Baden-Wuerttemberg en Alemania. Un resultado significativo del primer congreso de esta sociedad es el volumen de 1992, *Biosemiotics. The Semiotic Web 1991*, Berlin, Mouton de Gruyter, compilador Thomas A. Sebeok y Jean Umiker-Sebeok.

³ Se trata de un concepto lanzado por Sebeok por primera vez en 1967 y reafirmado varias veces en su tetralogía semiótica, v. Sebeok 1976, 1979, 1986, 1991, trad. it. 1992, 150.

⁴ Todas las traducciones de las citas que figuran en este artículo son de la T.

⁵ Para este término ver la nota 1.

⁶ Sobre la relación entre lingüística y semiótica, además de Sebeok 1991b, 59-67, también A. Ponzio 1994, 3-26.

⁷ Según Sebeok sobre lo que tenemos que entender por "visa" la discusión permanece abierta (cfr. Sebeok 1991b, 152-153). Además, en su descripción de la tricotomía planta-animal-longo desde el punto de vista de los comportamientos nutritivos múltiples y complementarios de cada grupo, subraya como en la fotosíntesis las plantas interaccionan con fuentes de información-energía inorgánicas transformando de esta manera lo inorgánico en orgánico (cfr. Sebeok 1991b, 156).

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TECHNOLOGIES AND THE GROWTH OF SIGNS

Few people would contest the fact that our lives are increasingly affected by the omnipresence of new technologies. Attempts to reflect on this matter must first involve us in an expansion of our existing horizons; the question must be seen from a more broad-ranging viewpoint, to include semiotics, history, anthropology and even evolution. To do this will allow us to avoid two dubious if common tendencies in the evaluation of technology: on the one hand, simplistic praise, on the other, apocalyptic criticism. In the relationships — inseparable as they are — between technology and communication, the need to go beyond extremisms in evaluation is an urgent one. This is because an understanding of the transformations, both social and psychic, now going on in communication and culture under the impact of new technologies is a task which will brook no neglect. If we can indeed understand this impact, we are well on the way to an apprehension of the global changes which societies and the human individual are undergoing at the end of this century and the millenium.

The phenomenon of communication is much more wide-ranging than might at first appear to the anthropocentric eye. Communication is certainly not just a privilege exclusive to the human brain. Communicative processes operate within organic molecules themselves. "Transported initially by the primordial molecular code, subject to continuous qualitative and quantitative change of the genetic segments, and later transported by the immunological network of cells which operate by way of active mediating substances, communication is necessarily a property of each and every form of life" (Sebeok 1993: 3) When we look at it in this light, in the broadest sense, as "the transmission of any influence from one part of a living system to another part, so as to produce change", we understand that what is transmitted is messages. Communication, as "a capacity for message generation and message consumption, which are commonly attributed only to humans, is here assumed to be present in the humblest forms of existence — whether bacteria, plants, animals, or fungi, and moreover appears in life's component parts such as subcellular units (for example, mitochondria), cells, organelles, organs and so forth". Likewise "the global genetic code, too, can (as it has been) quite

fruitfully analysed in communicational terms: the message originates in a molecule, the master blueprint which we call DNA, its end being marked by a protein. The intricate interplay of nucleic acids and protein, the essence of life on Earth, provides a prototypical model for all forms of communication" (Sebeok 1991: 23).

Communication exists only when something is transported from one place to another. The aim of the transporting process is to exercise some form of influence or to produce some form of change at the destination site. There can only be transformation when what is transported contains some sort of information. All information needs to be embodied in something. This something is made up of what is called the message; the message, in its turn, exists only when it takes on material form in signs, which, in order to be capable of informing, must be in some way encoded. Now to be transported from one place to another the information, made material in a message, needs a channel. Conclusions: 1. *there is no communication without transmission of information* 2. *there is no information which is not embodied in a message* 3. *there is no message without signs* 4. *there can be no transmission of messages without a transporting channel*. All this is only too well known. What is less well known is the fact that when messages are scrutinized by way of their constituent elements — the signs — it is seen that they "perfuse the whole biosphere, the system of directed and responsive matter of energy flow which is the entirety of life on earth" (Sebeok 1991: 22).

Seen like this, human messages are only those which are most visible to human beings, yet they are far from being the *only* messages which flow through the biosphere. Within this intricate network, of which humankind itself must be a consequence, the specific nature of humanity is probably to be found in its ability to have gone a step further — yet without ceasing to be part of the biosphere (animal, vegetable and mineral). This has been possible thanks to the growth of the neocortex and of its symbolic capacity, an event unique in the biosphere. As a result, humankind has been able to create a fourth kingdom, the noosphere, which the Russian semioticist I. Lotman has also called the semiosphere. This is the kingdom of signs, or of languages, themselves made up of signs, gestures, movements, sounds, marks, forms, lights, volumes, images, notations, words, figures, algebras, symbols, and more besides.

The Signs are growing

For some time now I have been working with a hypothesis which might enable understanding of the continuous growth of signs, of languages, of the circulation of messages, and of the consequent growth of the human brain

itself. The hypothesis is that this fourth kingdom, the noosphere, the semiosphere, is in a state of uninterrupted expansion. For such expansion to occur, what we call channels or means of communication have, since time immemorial, played a fundamental role. The new technologies — the emergence and growth of which, in apparent geometrical progression, are the cause of much attention and intellectual concern on the part of social analysts — are most probably a part of the line of continuity of semiospheric expansion. I do not believe that the advent and growth of technology is simply a consequence of capitalist insatiability; I do believe that it is part of an evolutionary program. We can, in retrospect, unravel the workings of this program to date; where it is going is hidden from us, and there is no way in which we can know.

The signs, the component elements of the messages, are in themselves concrete and material realities. All messages, no matter how evanescent or non-material they may seem, are always embodied in signs. As already stated, to be transported, transmitted, to be effective as a means of communication, messages need channels. A channel may be known by other names: substrate, vehicle, means, media etc. But the function is always the same: the transmission from source to destination of the messages, in which the signic processes are configured. And so, in any analysis of the phenomenon of communication, this component of the process — the channel — has a substantial part to play.

Let us take as an illustration of this statement the most primordial of all languages: speech. To begin with, there is a generating source of signs, the brain. The brain also stores the rules for encoding the signs. These rules, however, are intimately connected with the type of channel by which the signs will be carried for communication. The channel is the vocal apparatus. Evolutionary wisdom has put to good use the functional organs concerned with respiration, suction and swallowing, and has also endowed them with the articulatory functions of speech. So the mouth, that splendid multifunctional organ with which we can eat, breathe and kiss, also enables us to speak. Likewise the lungs, the trachea, the larynx and the vocal cords. A further channel — this time a receptor — is the ear, part of the body and linked to the brain. It serves to decode the sound patterns which are then sent on to the brain. The brain, where the rules for decoding of sounds are kept, turns the sounds into sense.

The present state of research into the workings of the brain allows us to perceive that, within the brain itself, equipped as it is with synapses or inter-neuronal connections, processes of communication also take place. There are sources, channels for the transmission and the reception of messages, and means for storage, which all belong to the brain alone. I shall not use the

brain as an example; the extreme complexity of cerebral phenomena would lead us into a technical digression far beyond my need for a straightforward illustration.

Now if there are autonomous processes of communication within the brain, there can be no separation between signs, language, and what we usually call consciousness. That the material nature of consciousness is given in the material nature of language itself is a statement which dates back to Marx and Engels; in their "German Ideology" (no date: 36) they wrote, with both perspicacity and irony, that "The 'spirit' has always been weighed down by the curse of being 'imbued' with matter which here manifests itself in the form of layers of air in movement, of sounds, — in a word, in the form of language".

In this respect speech — which, by the way, is inseparable from gesticulation and from face and body movement — has the power of being self-sufficient. To be produced, it needs nothing from outside the body itself; it requires only air, through which vibrations may be transmitted from one brain-related body to another. But what most demands our attention at the moment is the fact that, through this description of the components of communication by way of speech, it becomes evident that what is called a means of communication — a synonym for channel — is broader and more complex than might at first seem to be the case. It becomes possible to see that the source of communication — the brain — can also be characterized as a means of production; that the vocal apparatus is in truth the channel, or means of transmission; that the ear is the receptor; and that the brain is, in addition and at the same time, the means of storage. Here we have what I call the doubling-up of the means which operate in any process of communication: 1. the means of production of signs, 2. of storage, 3. of transmission, and 4. of reception. The fact that one means can fulfil superimposed functions in no way invalidates the differences between the four functions themselves.

If speech in its self-sufficiency is a privileged process of communication (since everything it needs is contained in the body itself), there is in this process a weakness which should not have escaped the sagacity of evolution. If on the one hand the brain is a truly fantastic means of production, it is on the other hand, in its performance as a means of storage, unfortunately precarious. This is so because, of course, it is perishable. When the individual dies, everything which has accumulated, everything which has been stored in his/her brain dies with the person. How can human cultures preserve their collection of knowledge and conquest, how can the species evolve when, at its roots, there is such an underlying fragility? I have claimed elsewhere (Santaella 1987) that "we must find means whereby to translate from the audible to the visible, so that the perennial might overcome the perversity of

the perishable" It is this search for the eternity of signs, a sort of compensation for mortality, for the provisional nature of life, which always seems to have guided the growing expansion of the media which operate within the processes of communication.

The extra-somatization of the means

The first forms of drawing, on stones and in caves, and all forms of writing — pictographic, ideographic and alphabetic — gave rise to a process of extra-somatization of the storage of signs. Of the four means which operate in the process of communication, all of which are contained in the body itself, one of them — that of storage — began to find, *outside* the body, extensions of that capacity for memory which properly belongs to the brain.

Pictographic and ideographic forms are more sensitive and more highly motivated in that they maintain a visual, and even an ideographic analogy with what they wish to represent. The alphabetic code, though apparently more arbitrary, achieves the prowess of being able to translate and transfer to a visual substrate the articulatory faculty of speech. It is for this reason the most economical translation: just as speech is in any language produced with a minimal number of sounds, ingeniously articulated, so alphabetic writings work with a minimal number of visual representatives of these sounds. In so doing they transpose to visuality the articulatory character of speech.

The appearance of the first extra-somatic means of preserving human memory had consequences which were neither few nor trivial. The first of them was to set off a process, remarkable in its growth, which resulted in an increasingly functional and specialized human vision. Timidly at first, today with no restrictions, mankind began to populate the planet with two- and three-dimensional images, and with writings which are themselves nothing other than a certain type of image. On leaving the brain these images, whether figures or writings, needed external and material substrates on which they could be set down so as to last. In the case of two-dimensional images — on stone, bone, metal, walls, clay, wood, leather, papyrus, cloth or paper — the progression from stone to cloth and paper demonstrates an increasing change from a fixed vehicle to one which can be carried around. Whereas access to fixed vehicles presupposed the receptor's obligation to go to the source, portable substrates could themselves be moved around in space. This in turn involved the reconciliation of durability with the mobility necessary for the circulation of information (Sogabe 1990: 9).

When memory was extended to outside the body, the external *imagina* necessarily produced modifications in the means of production, transmission and reception of their messages. Thus the hand, connected with certain of the body's motor abilities, took the role of mediator between the imaginative and cognitive faculties of the brain and a given substrate on which the signs were to be stored. To carry out this function, the hand in turn required an extension, in the form of instruments capable of making the inscriptions on the material substrate. However varied these instruments, they are always extensions of the hand. Thus hand and instruments came to work together as means of production, extensions of the brain, leaving in the outside world marks of the symbolic capacity of mankind. The channel or means of transmission — which, in speech, was in the body — now moves to the external vehicle, while the eye, as the encoding and decoding organ, and the act of looking, as definer of intentionality and purpose of vision (Aumont 1993: 59), come to exercise the function of means of reception.

Signs grew in number in the outside world; they included sculptures, drawings, paintings, and written language stored on specific substrates such as books. From their most rudimentary and primitive forms, they began to demand means of conservation. Storage and conservation necessarily go together. So there arose temples, libraries, museums. The impact of oil paints, when first used during the Renaissance, was not accidental. "The gradual addition of oily matter to tempera for painting on wood led to oil colors, with better handling potential and greater flexibility; this in turn allowed the possibility of using cloth, nearly always linen, as substrate" (Sogabe 1990: 11). Oil on cloth, less liable to degradation, allowed an alliance between the light and portable nature of a picture and the need for its conservation.

Signs are fated to increasing proliferation. A more important demonstration of the fact was the invention of the printing press, the forerunner of what McLuhan (1962), made known as *Gutenberg's Galaxy*. The means of production now comes in itself to be a means of reproduction; an enormous number of copies can be made from a single matrix. With the printed book we arrive at the primordia of the processes of mass communication. It is now possible for an increasingly wide public to receive messages, yet the economically and politically privileged elites do not lose their hold on the means of production of language and culture.

The principal of the printing press underlies the process of engraving, in which the substrate acts as a reproductive matrix, and permits multiplication to other substrates. Rudimentary processes of reproduction had existed since the times of the Greeks, in the form of casting and minting. But it was reproduction

on wood which allowed "the reproduction of drawing, a long time before the printing press allowed the multiplication of writing". In the Middle Ages, copper and the aquatint appeared as alternatives to wood. Even so, it was only at the beginning of the 19th century that reproductive techniques made a decisive step forward in the form of lithography. The use of a stone block for printing, rather than carving a drawing on wood or engraving it on metal, for the first time allowed the graphic arts to get into the business of reproduction in series and to produce new works day by day. In illustrating the realities of daily life, drawing became the intimate collaborator of the printing press (Benjamin 1975: 12).

As I have mentioned the fact elsewhere (Santaella 1994: 159), we should remember that a form of analysis similar to that offered above can be applied to music. Song is produced wholly by the body; with the appearance of musical instruments music gradually separates from the body, and the hand and the mouth come to act as links between body-brain and extra-somatic instruments. In music too the invention of forms of notation, of music written down, relieves the brain's memory of a storage overload. And music, like the image, sought for means whereby sound could be reproduced, so that the evanescence of sounds might be given longer life on durable substrates.

The great leap occurred, however, with the change from the world of the artisan, in which body and hand still reigned supreme, to the industrial and mechanical world. Now there appeared machines with rudimentary intelligence, which were themselves capable of producing language — a function hitherto the exclusive privilege of the brain. The first of these machines, the forerunner of what would come to be more properly known as technological means, was the photographic camera.

What we have in writing and engraving is nothing more than reproductive automation. Here the means of storage, an extension of the cerebral memory, has a reproductive nature which fulfils the function of intensifying the circulation of signs and messages. If at first the receptors had to go to where the signs were, with reproduction the signs and messages now go to where the receptors are. Photography has something in common with these forms of reproduction, yet it was to introduce some revolutionary novelties by comparison with the past. Perhaps the most surprising of these was that it led to the appearance of machines endowed with some form of intelligence. One great impact of the new technologies is surely this: that in extending the symbolic capacity of the brain to the outside world, it allows the growth of the brain potentialities outside the human body. There is a tendency to consider computers as the first machines to incorporate some form of intelligence; in my own opinion, the camera got there before them.

It is, so Arlindo Machado (1984: 30-32) tells us, a well-known fact that the photographic camera "had been invented as early as the Renaissance, when it was common in the form of apparatus constructed after the principal of the *camera obscura* (...) As far as optics go, the problem of photography was resolved in the time of the Renaissance; the significance of the discovery of the photochemical properties of silver salts lay quite simply in the substitution of human mediation (the artist's brush which fixes the image cast by the *camera obscura*) by chemical mediation in the daguerreotype or the gelatine film". With the code of the *perspectiva artificialis* which completed and corrected the *camera obscura* "all that was missing was to discover a way of fixing the 'luminous reflection' projected on the inner wall of the *camera obscura*. The discovery that certain silver compounds were light-sensitive, at the beginning of the 19th century, brought a solution to this problem and represented the second great decisive step in the invention of photography".

As we can see, a certain visual intelligence with regard to the working of the eye and the fixing of the reflections of light and also a certain intelligence able to represent and imitate the three-dimensional nature of vision on a flat surface both became automatic through the camera. For this reason the photographic act is very much more than just pressing a button. In the act, there must necessarily be a dialogue, a clash, between the automated visual intelligence of the machine and the sensitive intelligence of the photographer. What is most important in all this, what may explain the powerful impact of photography, is that here began the great adventure — in our own time more than evident in informatics-intensive societies — of the extension, in more or less intelligent machines, of the human brain's capacity to produce languages. From there on, nothing could hold back the acceleration of the growth of signs, of the expansion of the semiosphere in the space of the biosphere; at some point saturation becomes such that, from the surface of the globe, signs and images today go forth into the heavens, in the communications satellites, in the sensing satellites, and in explorations of the cosmos (Santella 1992:107-138).

The appearance of photography coincided with the automation of printing. Faster reproduction by printing, allied with use of the telegraph, allowed the long-distance transmission of news. The addition of photography, with its documentary vocation, added up to an undeniable combination. This led to the explosive impact of the newspaper, modern man's 'morning prayer'. Newspaper and photography, these were the forerunners of mass culture; they were accompanied by the multiplication of books, which made possible the popular romance and were followed by the cinema as a form of

mass entertainment. All this shook the cultural exclusiveness of the elites. The contradictions of mass culture, of a culture typical of the electro-mechanical age, of a culture which ranged from photography and the newspaper to cinema, were widely debated by social critics. I do not wish to discuss the relevance of these endless debates; what matters here is the continuous process of growth of the semiosphere which came to find a stupendous ally in the electronic media.

Mechanical means — particularly photography and cinema — are means of production which have passed on to a reproductive machine the visual intelligence of mankind. Yet in the machines, the reproductive capacity is still separate from the productive capacity. That is to say; there is a separation between the act of photographing or filming and the act of copying, and yet another separation with relation to the process of receiving. With the advent of television, these acts and processes became simultaneous; they gave rise to the phenomenon of synchronicity, uniting all the elements which enter into the process of communication. They represent a further advance in the means of conservation and preservation of messages, both as regards the economy of space occupied by these means and as regards their durability. Even so, it was not to be long before the amount of information which could be stored on tapes would seem too small by comparison with the potential of information technologies and their numerical codes.

Indeed, with the new information technologies — to which Pierre Lévy (1993) gave the name of "intelligence technologies" — a new and revolutionary threshold began to take shape on the human horizon. We are still far from an understanding of its consequences and implications. It is enough to say that we are no longer dealing simply with an extension of mankind's visual and sensory capacity, as was the case with the mechanical world. What we now have is the extension of some of the properties of the brain, and also, for the first time, the possibility of interactive communication. Furthermore, it permits direct access to information. After all, what are the large computers of the global networks, to which any individual terminal or PC can be hooked up, but gigantic brains, competences and knowledges? They are outside the human body, and are available for selective use by individuals and entire communities. The transformations in human communication and culture which result from this are so vast that they challenge our capacity for reflection. The first and most visible consequence of these transformations is to be found in the evident crisis which computerization is causing in traditional notions of erudite and popular culture, and in the phenomena of mass communications. The other transformations are going on before our very eyes, audible to our own ears, and occur within our own thoughts. To perceive them, all we need is to be alert.

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TIME BINDING: THE CONJUNCTION OF SEMIOTICS AND COMMUNICOLOGY

1. Communicating With Future Generations

The Yale Club in New York City hosted the 1981 Alfred Korzybski Memorial Lecture on November 6th. The invited speaker was Thomas A. Sebeok. He had been asked by the members of the Institute of General Semantics to give a paper that would illustrate some of the key features of the General Semantics doctrine established by Count Alfred Habdank Skarbek Korzybski. We should realize that Professor Sebeok, representing the doctrine of semiotics, was a natural choice for a lecture relevant to the principles of General Semantics. It was also incidental, but intriguing, that both Korzybski and Sebeok were scholars at different periods at the University of Chicago.

As Lyons (1977: 1: 97-98) suggests, "general semantics" or "therapeutic semantics" is a concern with misunderstanding or misinterpretation in the communication process. Implicit in this diagnosis of the communication as competence is theoretically explicit. Thus for general semantics, the problematic of communication is presumed to be purely functional, i.e., the failure of performance.

A general semantics notion of performance suggests that human communicators tend to think that signs and their referents have a fixed and causal connection such that mistakes of perception and expression occur. The general semantics corrective is to point out to communicators that the *semiotic* relationship between words and things is actually "an imputed, non-causal relationship, resulting from their association in the mind of the speaker and listener (or writer and reader) during" communications (Lyons (1977: 1: 97). Of course, this perspective was not original with Korzybski (1993). The same point was made in the 1923 analysis of *The Meaning of Meaning* by C. K. Ogden and I. A. Richards, which was informed in turn by the notable Investigation IV on meaning and grammar conducted by Edmund Husserl in *The Logical Investigations* of 1913. In short, the semiotic basis of meaning in communication (semantics) was a natural topic for Sebeok (1982) in the

memorial lecture: "Pandora's Box: Why and How to Communicate 10,000 years into the Future."

The general issue of communication with future generations took on specific form as a research problem with the advent of nuclear power. The possibility that radiation from nuclear sources would destroy both living subjects and inorganic objects occasioned concern in a number of different human communities. For example, the Church of Scientology in the USA decided that the writings, lectures and audio-visual tapes of its founder, L. Ron Hubbard, should be protected in the event of nuclear attack on the United States. A division of the church known as the Church of Spiritual Technology spent approximately \$13 million in 1992 to preserve Hubbard's material. The church purchased 10,500 titanium capsules filled with preservative gas to hold the material. The capsules were placed in three separate vaults constructed to withstand nuclear blasts. As a back-up system, the church had all of Hubbard's writings engraved on 1.8 million stainless steel plates and recorded his lectures on 187,000 nickel records that could be played with a stylus as crude as a thorn in the event of a future nuclear holocaust (Associated Press 1993: 10-A).

Less esoteric is the problem that Sebeok addressed in his lecture, namely, how do you warn people that there is a nuclear waste site beneath their feet when these people are standing there 300 generations (10,000 years) into the future? This is an ongoing question posed by the United States Department of Energy Nuclear Regulatory Commission. A special research group known as the Human Interference Task Force was assembled under private consulting contract to the Bechtel Group, Inc. The task force gathered, worked, and reported its findings by 1982. One of those reports is the memorial lecture given by Sebeok (1982). Another report from the same group is David B. Givens' (1982) "From Here to Eternity: Communicating with the Distant Future".

Apparently these reports and their suggestions were not to the liking of the bureaucratic mind of the US Dept. of Energy. In 1990, the department set out to repeat the study through the venue of one of its own subsidiary divisions known as the Sandia National Laboratories in Albuquerque, New Mexico (USA). The study had the same goals as the original project: "to develop a marker system that will remain operational during the performance period of the site — 10,000 years." Such a marker system "Can provide an effective warning only if: 1. It survives, 2. It can be detected, 3. The message is perceived as a warning, and, 4. The warning initiates appropriate action." (Lanigan 1990). While a formal report of the replicated study has never been published (internal reports are security classified), accounts in the popular media indicated that the suggested solutions were again those offered originally by Sebeok (the preferred approach using human communicators) and Givens (the unlikely approach using inorganic physical markers).

2. Communicology: Messages Without Time

The study of culture as a system of communication in its own right was first proposed by Jürgen Ruesch, a psychiatrist, and Gregory Bateson, an anthropologist, in 1951 with the publication of their classic book *Communicology*. The book had the force of founding the discipline of Communicology as the study of human discourse. According to Ruesch and Bateson (1968: 277), one of the chief characteristics of cultural communication is "time binding". The concept of time binding is simply the fact that many of the messages, if not all of them, that are transmitted from people to people in a given culture are largely unconscious (Korzybski 1926). Bourdieu (1977) calls this phenomenon the "habitus" of society. Because the dynamic of the message is from many people to many people at the same time in different places, the time marker is lost. "The sources and destinations of messages are, however, unknown; the potentialities for receiving and transmitting are unascrcribed; and the correction of information is therefore impossible". People in most cases are simply unaware of being the senders or receivers of such messages. "Rather the message seems to be an unstated description of their way of living" (1968: 282).

Examples of such messages are (1) those about language and linguistics systems, (2) ethical premises, and (3) theories of the human relation to the universe and fellow humans. It is fairly obvious that marking a nuclear waste site covers all three of these considerations for the cultural message. Ruesch and Bateson then go on to suggest that cultural messages are coded spatially by the printed word in the form of historical and mythological (1) documents and (2) monuments. Of course, such artifacts are records of human discourse in the first instance. The paradigmatic example of such discourse is the folktale that moves from generation to generation in a culture.

In fact, Sebeok (1982: 41) proposes that number one (documents/discourse) is essentially the best solution with the creation of a relay-system of communication consisting of verbal and nonverbal signs with both metamessage and object-message characteristics. The relay-system would be performed by a group (many people) "dubbed an 'atomic priesthood', i.e., a commission, relatively independent of future political currents, self-selective in membership, using whatever devices for enforcement are at its disposal, including those of a folkloristic character" to communicate with others (many people). While this approach was the object of some derision in the popular media ("atomic priesthood" immediately became folklore!) when the 1990 replication study was completed by Sandia National Laboratories, it is the one solution that is confirmed in both semiotic and communication theory. This solution views human communicators as active agents in the process of cultural communication based on discourse.

The Givens (1982: 177) approach champions solution number two (monuments/signals) with the creation of various monumental messages including the macrolevel of "many large, permanent standing monolithic stones", "a monumental earthwork in a symbolic shape", all "visible from a great distance", and at the microlevel, "thousands of information-rich 'tablet' vehicles" or plastic chips. All these message vehicles would have appropriate danger warning in verbal and nonverbal forms. This solution attempts to view the human communicators as passive agents in the cultural communication process. The analogy to "Stonehenge" on Salisbury Plain in England should be remembered for its lack of success in cultural communication (Wilden 1987).

3. Semiotics: Codes Without Space

A second characteristic of cultural communication where many people communicate simultaneously with many people is "space binding". As Ruesch and Bateson (1968: 277) define it, space binding is a process of communication in which the human person is the medium of communication. In the case of cultural communication, the human group is the medium or sign of communication. Quite semiotically, the group becomes a code without space; social rules and roles eliminate the spatial placement of the message. "These unconscious assumptions about the universality of rules of communication are made not only by individuals, but by groups of people and nations as a whole" (Ruesch and Bateson 1968: 44). Margaret Mead (1970) offers the best example of research in this area with the confirming qualitative research of McFeat (1974: 155-156) on small group cultures.

Mead suggests that cultural communication as a group medium is generated according to three possible models: (1) postfigurative culture, (2) cofigurative culture and (3) prefigurative culture (Lanigan 1992: 237-238). It is important to note that in all three of these models the culture requires the living presence of three generations who engage in group communication. First in the postfigurative model where children learn primarily from their forebearers. Elders cannot conceive of change and reality is the Past experience of the group. Each person in the group embodies the whole culture such that all communication, oral and gestural, reflects itself in synthetic forms. The lack of written communication allows the quick assimilation of the new by the old.

Second in the cofigurative model where children and adults learn from their peers. Difference and change is a normal expectation of the group and reality is defined by the Present experience of the group. Cofiguration begins with the breakdown of postfigurative culture. No society is known to have preserved exclusively the cofigurative model through the generations. This

model is very typical of groups forced to migrate in space and learn new (second) languages and cultural practices. It is also typical in this model that cultural community is directly linked to fashion and practices of dress. In addition, sexual roles are stereotypic and embodiment is symbolic in the society. Of special note for our purposes is the fact that in cofigurative cultures, technology stimulates the postfigurative rupture. One consequence is the emergence of the two-generation "nuclear family" with a group preference for digital, either-or, choice.

Third is the prefigurative model of cultural communication. In this model, adults learn from children. The new and unexpected is a normal expectation where reality is defined as the Future — the Future is now! Prefiguration begins with the breakdown of cofigurative society and is Mead's hypothesis for emerging cultures, whether first, second, or third world. Prefiguration is typical in groups forced to assimilate or accommodate technology (migrate in time) and learn second (new) values in language and cultural practices. Cultural continuity in this model is linked to immediacy of experience, especially where media technology is used to manipulate or manage time.

In short, the evolution of cultural communication can be expected to move from the past (postfigurative) to the present (cofigurative) to the future (prefigurative) in the process of "configuration" or "group ordering" (McFeat 1974: 60). The point should now be clear that Sebeok's proposal for a "relay system" for messages fits the theoretical demand for a Message Without Time. Such a message system allows for the natural entropy or system decline that occurs as the postfigurative group decays into the prefigurative group. Yet (Sebeok 1982: 40), the proposed "atomic priesthood" accounts for the "conviction that human thinking must be in continuity with the past" which is the Code Without Space, i.e., discourse.

4. Messages That Are Codes

Time binding has always been a human fascination from the invention of writing and printing down to our present time with its camcorders and viewcorders that preserve the sounds, sites, and situations of human behavior. The most famous example is, of course, the Rosetta Stone found in 1799. The parallel inscription on the stone of hieroglyphics, demotic characters, and Greek (a series of messages) gave the first clues for the decipherment of Egyptian hieroglyphics (a code). In this type of semiotic activity, the message refers to a code while the same code refers back to the messages. Roman Jakobson refers to this type of referential function in communication as "over-

lapping" (Lanigan 1992: 234). Such a function creates the "context" for all human communication, but especially for the Ruesch and Bateson type of cultural communication where some form of recorded language is being used to preserve discourse.

Writing or speaking in a recorded form become messages that are codes. This form of message as code communication creates an overlapping reflexivity between the message and a code. The "circularity" form of reference, as Jakobson calls it, is avoided. That is, a message referring to a message or a code referring to a code are eliminated as possibilities. There is a reason for this preference of overlapping reference among types of context. Circularity is a type of reflexivity that demands a closed system of context such that you are either in the system or out of it. In terms of cultural communication, such an approach would mean that you either know what the culture means or you do not; learning would be extremely difficult. In a word, you would be stuck in a postfigurative culture with little chance of development. The preferred overlapping form of context insures the positive development of discourse.

A popular example of a message that is a code is the one created by Albert Einstein. Einstein (1985: 18) wrote a short cultural communication for placement in the time capsule buried at the site of the New York World's Fair in 1939. Note the date. This message was created with an uncertainty about the state of the world to come on the eve of World War II. His message reads:

Our time is rich in inventive minds, the inventions of which could facilitate our lives considerably. We are crossing the seas by power and utilize power also in order to relieve humanity from all tiring muscular work. We have learned to fly and we are able to send messages and news without any difficulty over the entire world through electric waves.

However, the production and distribution of commodities is entirely unorganized so that everybody must live in fear of being eliminated from the economic cycle, in this way suffering for the want of everything. Furthermore, people living in different countries kill each other at irregular time intervals, so that also for this reason anyone who thinks about the future must live in fear and terror. This is due to the fact that the intelligence and character of the masses are incomparably lower than the intelligence and character of the few who produce something valuable for the community.

I trust that posterity will read these statements with a feeling of proud and justified superiority.

Albert Einstein

This message is largely the depiction of a configrative culture describing the present in terms of adults and children, one generation and the next, learning from one another. There is a clear description of the fact that technology has begun to rupture the past, the postfigurative culture where elders cannot conceive of change. However, the last line of the message encodes it as a straight forward prefigurative cultural code.

Einstein is expressing the hope that the conditions he has just described will have been changed when this message is read again. He assumes his readers will have been forced to assimilate and accommodate new technology, thereby migrating in time, and learn the new values now present in their language and culture. Einstein's message is a code that reads "The Future Is Now".

5. Codes That Are Messages

The second form of overlapping reference is a reflexivity of context where codes refer to messages. For another parallel example, we may return to New York City and its World's Fair of 1965. When the time capsule for this world fair was conceived, the message selection committee was thinking as the ultimate prefigurative culture might. This is to say, their conception of reality as the future was the distant future. The capsule was not to be opened for 5000 years (about 150 generations). They selected as a key message to be put into the time capsule a binary digit message constructed in March 1962 by Bernard M. Oliver, an expert on information theory. Oliver's message is unique in that it was not designed for a world's fair whose organizers expected they would need a message not encoded in language. They would not make Einstein's mistake, i.e., assume the message receivers could read the American version of the English language.

After 5000 years the receivers would be exactly like alien beings from another planet. They would need a code that could deliver a message. This is the prime prerequisite for a communication system, i.e., a code shared in common such that possible and varied messages can be abducted to create discourse. I am, of course, referring here to Charles Peirce's notion of abduction, a logic in which a Rule + Result = Case (Lanigan 1992: 221). This is to say, the distant receiver (alien or domestic!) would encounter a code (the Rule condition) and with some mental effort would derive a message or messages (the Result condition) that would deliver factual meaning (the Case condition) as discourse.

Oliver's message was designed to be sent by radio signal to distant galaxies. Since radio signals consist of electric pulses, a binary code is ideal since the 0 and 1 digits of the code can be sent as the presence and absence of

the pulse in a sequenced transmission. He proposed a message string of 1,271 units consisting of 266 ones and 1,005 zeros (Oliver 1962: 55-61). A graphic representation of this code and its primary message production is printed in Watzlawick (1977: 187 and 190). For our purposes, a simple description of this mathematical construct will suffice. The code is discoverable as a visual diagrammatic message. A rectangle 41 units wide and 31 lines high emerges with each zero representing an empty space and each number one representing a dot. The first of the code begins with and ends with a dot, giving the clue that the message should be divided into lines of 41 units each. When this function is performed a diagram picture constructed of dots emerges. Many facts are illustrated by stick figures: a male and a female holding the hands of a child that separates them ("erect bipeds who reproduce sexually"), a row of dots matching our solar system in their precise order with the "male's right arm pointing to the fourth distant planet from the sun, presumably indicating that is where they live", dots showing a water planet with organisms, dots for hydrogen, carbon and oxygen, and a scale on the right margin coordinated with the radio frequency (21-cm) so that the receivers of the message can use this common empirical fact (the frequency) to calculate the height of the male and female figures from their own perspective and reverse the calculations thereby describing themselves to us using the same code as a message.

In short, the Oliver message is a shared code based on a common physical experience (the radio frequency) that allows at least the basic condition of reflexivity needed in an overlapping context of reference. Humans have produced a code that contains a message describing themselves. Aliens receive this same code and can use it to construct a message that describes themselves. Different messages translated by the same code establishes communication. And, not only that amazing fact. This alien culture (or 5000 or 10,000 year distant domestic culture) is a prefigurative culture at work. Here cultural continuity is precisely linked to the immediacy of experience where the technology of radio transmission is being used to manipulate and manage time.

One more important point needs to be made about Oliver's code as message. While it is a binary digit construction within the parameters of information theory designed precisely for electric impulse transmission, it assumes a prior binary analogue logic of culture for purposes of meaning interpretation. For the organisms (humans) that send the message and for the organisms (humanoids) that receive the message, there is a shared prefigurative culture: The new and unexpected is a normal expectation; reality is the future. The binary analogue perspective is a logic of combination (both/and) that is the code which precedes the logic of exclusion (either/or) that is the message. Wilden (1987: 310) appropriately calls this the context theory of communication: "Context theory is oriented to information, goalseeking, constraint,

relationships, reciprocity, levels of reality, levels of responsibility, levels of communication and control, requisite diversity, innovation, openness, cooperation, the capacity to utilize unexpected novelty, and thus toward long-range survival and the future." In my own research, I have called this approach a *semiotic phenomenology*. It is semiotic since the code must be prior to the message and it is phenomenological because the selected message is an embodied phenomenon of the communicator. In particular in my research on discourse, I have been concerned to show how semiotic phenomenology can be generalized and applied as a Cultural Values Communication Model (Lanigan 1992: 16, 239-242).

6. The Future Is Now

You may recognize the slogan "the future is now" which was popular during the student revolution days of the 1960s in America (USA) and Europe. It is the slogan of the typical prefigurative culture of the future which emerges as technological change begins to rupture the postfigurative culture of the past and redefine the cofigurative culture of the present. Perhaps the best example of this type of cultural shift embedded in technology is the invention of the personal computer (a code) and the emerging capacity via the Internet and World Wide Web to "connect" with anyone in the world who also has a computer (a message) at his or her disposal.

The consequences of this shift in the domain of cultural communication (many people talking to many people) are to be discovered in their extent and importance. However, one thing is quite clear and it was articulated with great clarity by Edward Sapir in the first ever encyclopedia article on "communication" written for the first edition of the *Encyclopedia of the Social Sciences* in 1931. Sapir was worried about the use of the new technology called the "telephone", but his comment is even more appropriate today for the personal computer connected to the Internet.

All effects which demand a certain intimacy of understanding tend to become difficult and are therefore avoided. It is a question whether the obvious increase of overt communication is not constantly being corrected, as it were, by the creation of new obstacles to communication. The fear of being too easily understood may, in many cases, be more aptly defined as the fear of being understood by too many — so many, indeed, as to endanger the psychological reality of the image of the enlarged self confronting the not-self (Sapir 1949: 108).

We witnessed an earlier version of this prefigurative cultural phenomenon in 1989 during the height of the student and worker revolution in the People's Republic of China. At that time, the ability to use facsimile telephone systems to send "fax" messages by-passed the usual state controls on telephone service and utilized a *code* technology to send any variety of *messages*: print language, handwriting, images (both diagrammatic and photographic), and language-image metamessages — all quite impossible in voice transmission! Equally misunderstood was the capacity of the world's television networks to use portable satellite up-links to produce live telecasts from anywhere in the country.

Obviously with the massacre in Tiananmen Square at Beijing, China on 4 June 1989, Sapir's dire concern with being understood by too many came to be tragically true. The postfigurative culture of the government could not conceive of change and since culture is embodied, the prefigurative cultural bodies of the students and workers had to be confronted in their very existence. As with most postfigurative cultural constraints, the change could not be contained because the technology which stimulates the change as the nature of a code. The use of the technology has the nature of a message, but a message generated by the code.

The force of technology as a code generating a message is upper most in the minds of Chinese authorities at the moment (Hertling 1995: A22). They are attempting to control the use of the Internet by restricting all transmission traffic to one route through Beijing's Quinghua University. Whether this will be successful or not remains to be seen. It may succeed in securing large data transmissions, but as with the fax machine it cannot be controlled in the end. The ability of individual users to connect to a modem and use a telephone is simply beyond control by a centralized authority. In the prefigurative culture of the present as future, the control of personal computers is just as impossible as the control of thinking was in the postfigurative culture where the present is conceived of as the past. In the final analysis Sebeok is correct, not only about danger warning signs for nuclear waste sites, but for cultural communication in general. This is to say, the "relay system" is the personal computer and the "atomic priests" are simply the people who can use a computer. The computer is a technology, like speaking a language — a discourse, that simply and profoundly allows many people to talk to many people.

In point of fact, then, the requirements for a warning marker at a nuclear waste site can be slightly reworded to specify the thematic solution already embedded in the problem of all communication systems. Recall that such a marker system had four requirements: (1) It survives; (2) It can be detected; (3) The message is perceived as a warning; and (4) The warning initiates appropriate action. A technology such as a computer and the Internet may fail

or be destroyed and its capacity to function as Sebeok's relay system also would be destroyed. But remember that computer technology is just an empirical form of a code. A code can survive in other forms and that is where the "atomic priests" are most relevant. They are simply a group of people charged with knowing a code that can be passed on to other people. That code already exists as human speaking, not a written language, but the oral code of discourse. As long as humans talk, the code has the potential to issue messages. The structural characteristics of the folktale and other more straight forward speech communication codes (rhetorics) assure us that messages can and do survive more than 10,000 years.

In short, we need to realize that in human discourse as speaking (1) a code survives; (2) it can be detected; (3) the message in a code is perceived as warning (simply because other messages are possible — the original worry about misunderstanding that concerned Count Korzybski!); and (4) the code initiates appropriate action (simply because the code is self reflexive, it creates its own metacommunication and object-communication messages). Speech speaking (Merleau-Ponty's *parole parlante*) is the ultimate communication code because it is simultaneously postfigurative, cofigurative, and prefigurative in the embodied competence that it gives to the human performance of discourse as a message.

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SIGNS AND SYMBOLS IN BIOSPHERE AND SOCIOSPHERE

Thomas A. Sebeok never tried to deny his primary interests in biology, a field which later was developed into the study of man, but later his approach was from different points of view, including language, communication, and especially semiotics. In one of his autobiographic sketches he describes:

... "it was at the University of Chicago, during my undergraduate days, ... that I began acquiring the rudiments of what J.H. Woodger has called a "biological way of thinking". The logical patterns that characterize this mode of thought were instilled in me by the remarkable constellation of life scientists who graced Chicago's Division of Biological Sciences at the outbreak of World War II, and particularly by one innovative, dedicated, and passionate teacher, Joseph J. Schwab, by training a geneticist, but by perennial indication a student of the nature of inquiry and education. ... Indeed, under his tutelage, I very nearly came to specialize in genetics myself, but ultimately turned from the organic sciences to the study of man, particularly to what G.G. Simpson has called his "most diagnostic single trait", his language, and the other means of human communication in their manifold functions. In brief, I opted for the shorter historical perspective recorded in man's culture rather than the much ancient story registered in his genes. The genetic code and the verbal code are surely the most remarkable pair of semiotic systems that have evolved on this planet ..." (Sebeok 1972:1-2).

Without giving a more or *less* detailed survey of the possible contacts between biology and semiotics, I want to combine two binary notions: signs-and-symbols on the one hand and biosphere-and-sociosphere on the other.

There are important predecessors regarding the relations of these. First I will quote only one very elucidating statement.

"Signs or signals are distinguished from symbols as means of communication, both in their mechanism and in their function.

They differ in their mechanism in that signs are primarily genetic in origin, and therefore basically congenital in the species, though the ability to produce them or to react to them may be dependent on maturation, and there may also exist a supplementary degree of learning by individual experience. Communicative symbols, on the contrary, are wholly learned, subject only to minor extensions by such newly originated symbols as may be accepted by other individuals.

In function, signs that serve to communicate are action responses to sensory or visceral stimuli and are probably always accompanied by emotional affects. Directly, they convey information to recipient individuals only as to the condition of the sign-producing individual. — True symbols, however, can convey information on other matters than the condition of the communicating organism. Such external information may fairly be called objective, as compared with the essentially subjective nature of what is communicated by non-symbolic signs.

... The beginnings of symbolic communication accordingly mark a critical point in the history of our planet — the emergence of basic human faculty" (Kroeber 1952:753).

This very general (still eloquent and motivated, referring to various assumptions) statement provides an up-to-date balance of the problem, but it is not a recent or pragmatical summary, it is from an early review heralding the then *in verbo* non-existing bio-semiotics.

Its author, A.L. Kroeber, was undisputably the most influential master of contemporary American anthropology, argued this in a lecture before the National Academy of Sciences on April 28, 1952. It is, in fact a review of the famous German biologist's book: Karl von Frisch: *Bees. Their vision, chemical senses, and language*. (The book was published first in English by December, 1950 by Cornell University Press.) Frisch was Professor of zoology in the University of Munich, and before that at the universities of Rostock, Breslau, and Graz. The Vienna-born ethologist has started to publish his papers on perceptory patterns among bees as early as 1915. His first, book-length paper on the "language" of the bees was published in German, in 1923. His best-seller, *Aus dem Leben der Bienen* (1926, the English translation, *The Dancing Bees*, was considerably later published, in 1954, from the then updated 1953 German edition) influenced many European social scientists between the two World Wars. Frisch, as one of the early German guests, invited by colleagues to the United States, during the spring of 1949 made a three-month lecture tour at various American universities and research institutions. However, the influence of his lectures was not restricted to biologists. Among them the American-Hungarian linguist, John Lotz, in a short but seminal article (Lotz 1950) dealt with the "speech and language" distinction among bees and man, and his

famous book-review (on Frisch 1950) begins with a lapidary phrase: "The importance of this book for linguistics, and for semiotics in general" — (Lotz 1951:66). While Kroeber saw the importance of understanding the behavior of subhuman species for the sake of anthropology, Lotz was the first, who connected the problem with semiotics (notably with the school of Ch.S. Peirce and Charles Morris).

Sebeok, in a profound review article (originally published in 1963) lists those linguists who knew the importance and dealt with the publications of Frisch on bees: Karl Bühler (1934); Gyula Lajiczius (1942), later Emile Benveniste (1952), Charles F. Hockett (from 1958 on), the Soviet social psychologist, L. S. Vygotsky (1896-1936), etc., and he gives a brief evaluation of their views. (His study is reprinted in Sebeok 1972:34-37.) Without going into further details we can agree with Sebeok that this tradition of connecting biology with semiotics by interpreting "language" in terms of signs and symbols is a very important topic, but not without its specific problems: in particular the euphoric early declarations about finding thus the ultimate answer for the enigma of origin and primary development of human semiosis today seem to be too quick and not well founded.

Zoosemiotics, or, in general, the study of all signs among animals, is by now a well-developed special field of semiotic studies. There are interesting special issues within its boundaries: for example communication between humans and subhumans, human or computer languages learning capacities of animals, and expressive behavior of animals, often considered as "prefiguration of arts", etc. (Since in major handbooks, semiotic dictionaries or extensive review articles most of these topics have carefully been dealt with, it is not necessary to repeat here all the important current achievements related to zoosemiotics. See, however, the pertinent entries in Sebeok 1994.)

In the present article I try only to show some problems in combining and contrasting signs and symbols in biosphere *versus* sociosphere. But before doing so, a few clarifying words on the two key terms are in order.

"Biosphere" in the proper sense of the word refers to the about twelve miles thick covering of our planet, in which life is observable, from the deep seas to the high mountains, and to the lower strata in the atmosphere. The Russian scientist, Vladimir Vernadsky, used the word as his major term for describing the unity of events, which happen within its boundaries. From his 1926 book this notion became widely disseminated, and we can assume that the leading Soviet semiotician of culture, Yury Lotman, when he coined the term "semiosphere", it was modeled after Vernadsky's suggestion. (About this question and the origin of the term "semiosphere" I wrote in a different paper (Voigt 1995) on Lotman, thus I do not have to repeat the details here again.) "Semiosphere" denotes the unity of all forms of sign creation and its uses. By separating "bio-sphere" from "socio-sphere" I attempt to distinguish between

signs among living beings and signs particular among humans. In semiotics both words are but vague terms, I admit, and I would argue that in the conclusions we have to return once more to this problem (how to cope with this terminology).

Everybody who enjoys a discussion concerning the above mentioned topic, will agree with the assumption that there are some basic difficulties in connecting these two binary notions.

If (as it is the case in most publications labelled as semiotics) "sign" is a more general and "symbol" is the more specific term, there is no difficulty in arguing that both biosphere and sociosphere have (or contain, include, or permit) "signs". By this assertion we simply mean that very different "signs" may be studied both in nature and culture. But, as soon as we use the specific term "symbol", it might be an open question: can we describe something at all as "symbol" equally in both domains?

Naturally, there exists a variety of definitions for "symbol". But in any case the difference between bio- and socio- (which are classes or notions, terminology or even a vague classification of phenomena) seems to be really recognizable by semioticians, and by biologists the more. If we stress only the *ad hoc*, intuitional and spontaneous character of symbols, we will not find easily that difference. Yellow and brown (and not green!) colors of tree leaves as "symbols" for the autumn in this unspecific meaning are correct denominations, e.g. in shopwindows announcing the new fashion. But they are not "symbols" for all the possible contexts. And, if we take the term "symbol" more specifically, who could deliberately be of the opinion that a red flag, ripe strawberries, sunburnt cheeks and scarlet fever are the same kind of symbols, because they share the same color-spectrum. Furthermore, if they are symbols, are they symbols of what? Are they signs or symptoms of wrath and war, social conflicts and danger, good fertilizers and soil, sunshine and sensitive skin, infection and exanthema? And if we do not name the chameleon phenomena — i.e. continuous change in color disguise — as one of the best examples of symbols in the biosphere: we do not understand the term symbol in its proper semiotic sense for the behavior of living beings.

Another possibility is to single out at once all symbols from all the other kinds of signs. We do that when we e.g. subscribe to the fundamental distinction favored by many theoreticians of semiotics: distinguishing "natural signs" (i.e. signals in the proper sense of the word) as opposed to "arbitrary or artistic signs" (which occur in the "sociosphere", according to the above mentioned terminology). Accepting this distinction signals (belonging to the first group) are not symbols (which belong to the second group) at all. A cry or song of a nice bird is not a symbol of feelings. At the first glance this may outline the difference between the roaring lion in the actual desert, and the Athenian

citizen, Bottom, who asks for "Let me play the Lion too!" (Shakespeare: *Midsummernight's Dream*, Act One, Scene Three). But after a closer scrutiny can we really ascertain, which of those is a "better" symbol: human tears on the stage (Shakespeare: *Hamlet*, Act Two, Scene Two), when Polonius remarks the actor while speaking of Hecuba (the "mobbled queen") "his tears in's eyes" — or animals' tears in front of knives and whips?

Moreover one might suggest further that loose terms like "sphere" may just help us to solve the dilemma. Mating games among dogs or the same while meeting of students can both easily be "symbols", not in a strict sense of biological or social *stimulus-reaction*, but in the vague direction to the sense of (bio)sphere or (socio)sphere. Fishes eating up their offsprings, Chronos devouring his own children, President Idi Amin eating the remains of his victims frozen in his refrigerator — all those can be "equalized" if we use the term "sphere" without much reservation.

Just to make a side remark, even if we will be more cautious in using the term "symbol" (for the biosphere), it does not mean that there exist no symbolical phenomena. If one does not think the natural colors of the flower petals are symbols — the same person must be very careful in choosing a bunch of flowers either for a funeral or to one's mistress. Non-symbols also might have symbolicality. Smoke or footprints (favorite examples by Peircians for not-symbols) might acquire a power of symbolicality, as for wars or even peaceful country-side life, clues for Sherlock Holmes or foot-written signatures of stars of entertainment or sport in American "Hall of Fame" temples.

In any study of signs the pillars or the theories are the following issues: who made the signs and who may understand them? (The actual existence of signs is not an unsolvable theoretical problem.) That we may master by practice. Pragmatical and direct instructions tell us (e.g.) how to send smoke-signals, how to leave footprints — or even by the warnings: "do not smoke!", "fresh paint", "no trespassing through the flower-beds", etc. belong to those. For actual symbols we always need a purpose and a direction: it is to some extent always a hidden (or coded, or deep) message, which is emerging only later. It is similar to "God's whisper to the Universe", understood only *a posteriori* and mostly by the chosen few. With "symbols" in biosphere, however, it is not easy to answer: who IS the sender-mind and who IS the receiver-mind?

Or, argued differently: we might simply say, the sociosphere is only a very limited, small part of the entire biosphere. According to that similar principle (*in extremis*) perhaps is the reunited Germany nothing but a lizard re-producing its captured tail? By minimalizing the differences between tails of frock and tails of lizards, coats of plants and coats of arms we may arrive to an easy generalization of symbols, both in sociosphere and biosphere — but will it then be more than a boring commonplac?

Even if we question the correctness or labeling phenomena as symbols in sociosphere and/or in biosphere, there must not be any reservation as regards the use of terms like "biological symbols" or "symbols in biology". Both phrases simply mean 'symbol as it is used within the conceptual framework of biology'. In this case "biological symbols" are terms within a metalanguage, and we label by them (in biology) something as a "symbol". On the contrary, the phrase "symbols in biosphere" refer to the object language, as if "symbols" were really existing in biosphere. The same could be said about the expression: "symbols in sociosphere" and (for a lack of better phrase) "sociospheric symbols". In fact both mean the same: 'symbols as there are used within the conceptual framework of social sciences' (and, of course, not only within the sociology).

"Sociosphere", "biosphere" and of course "semiosphere" are only to some degree metaphors, because it is not easy to delineate in which current meaning these "spheres" are existing. Such a *-sphere* in biology it might be next to *Umwelt*, and in sociology it could be a common synonym for the society. Sometimes "semiosphere" is nothing but a fashionable name for *semiosis*, while in other cases it is the universe of the used signs or of their users. In another context it is simply the entire sign communication, or it may refer to the "language of signs". Here again some of the synonyms are in fact (more or less) scientific metaphors. Not the best ones, indeed, because they appear perhaps on the same level of exactness, as terms like "possible world" (which can be another good substituting candidate for "sphere") or "imaginative reality" is. Several other "realities" are of the same epistemological status too. There must be a strong reason behind the well-known fact, why there are so many vague metaphors in attempting the entire range of activities and of existing signs in our societies. Could one really guess, why?

According to my assumption one of the major weaknesses of such sets of biospherical or sociospheric semiotic terms is that there are various linguistic, philosophical and communicational terminologies in semiotics, including classifications of signs — but there is no biological sign classification generally accepted by the semioticians. Hence a statement like "symbol as a biological term" makes very little sense. It is the more surprising fact in modern semiotics, because all of us know, *semiotics* or *semiology* were originally often described as *symptomatology*, a special routine for deciphering the marks and symptoms of diseases. Therefore any proposed semiotic biology can definitely be named as "symptomatology", but not as "symbolology".

Literally various kinds of signs in "biosphere" may be discerned... *Endo-systems* as signs (and mostly as disease markers) are different from reflexive (automatic) signs (as e.g. when one turns pale or red). Signs for the receptors (as nuptial plumage of birds) are different from signs played by animals in an elaborate way (as e.g. in dance of the bees). To a very great extent human signs are not much different from prehuman signs. Growing a beard in puberty age,

baring the teeth and training the children how to eat properly — all are similar signs in the sociosphere to those existing in the biosphere. Perhaps a more elaborated biological classification of signs in the biosphere could help us to better understand signs in the sociosphere proper. Cats eat mice and without knife and fork. But kitten play with their food on the same way as our children do. Not only the origin of signs in sociosphere lies in the biosphere, also in their actual practice sometimes the similarities are more evident than the dissimilarities.

Furthermore, when writing on early forms of iconicity a few years ago (Voigt 1986) I tried to collect cases where within and together with iconicity the same signs possessed other features (those of symbolicity or indexicality). There I have mentioned that some sign classificatory systems clearly have intersections with each other. The same sign at the same time (!) but from a different point of view can be indexical, iconic and symbolical, according to the classification suggested by Peirce. An actual sign is a sum of the three (or more) potentialities and their properties. The actual relations between them will decide, whether we may call that sign as belonging to the class A, B or C. This phenomenon occurs even more clear when we compare biospheric signs to sociospheric signs.

Mimicry is a perfect sign in the biosphere just as a lie is a perfect sign in the sociosphere. It is not a new discovery that they are as signs very much alike. And both mimicry and lie are symbols too: they are deliberately disconnected and falsified complexes of "true" elements in order to deceive the receiver. In one word they are perhaps the most highly qualified symbols both in biosphere and in sociosphere. They need a further semiotic analysis from this point of view too.

Finally I return for a while to the terminological problem mentioned above.

Even if we deliver a popular lecture or we discuss in general of the signs and symbols, it is advisable to use the two terms in the *strictest* sense of their meaning. Thus, symbol will be a well-rounded sub-class to sign. But on the contrary, "biosphere" and "sociosphere" may remain throughout the discourse as metaphors without the necessity for further clarification. They simply stand for the contrast between the constructed human society with its antecedents and parallels, sometimes homologues which we can render under biology as a glossed term. The situation is the same with the term "semiosphere". It is a well formed metaphor too, and it is not a strict term. "Sphere" in such cases is a phrase for "sum of", "complexity", "interaction", and "network" — just to mention some of the possible connotations. Or it is a "web". Web is another current metaphor for expressing complexity, and with a clear biological background. (See *network versus web* in our semiotic terminology!)

When calling some basic or popular terms in semiotics as metaphors, we do not mean to degrade them. In the particular case of my paper "spheres" as

semiotic terms intend to express their ubiquity. One of the forerunners of modern semiotics, Giambattista Vico may have been right when he was calling in his book (Book II, Part 2, Chapter I) the metaphors as the most splendid, most necessary, and most frequent ones among the tropes.

NOTE

In this occasional short paper I could give but references in works where one can find more references. Thus I was unable to evaluate here basic questions of zoosemiotics either. My appreciation, especially concerning (Sebeok 1972, 1990) is clear from my summarizing review (Viigi 1993). For the multiplicity of the problems of languages among man and animals see one of the best anthologies, the proceedings of a congress in America, 1978, where Thomas A. Sebeok particularly contributed to the success of the conference (Rauch and Carr 1980:vi). Unfortunately I could not go into details on epistemology of the notion "Biosphere". Ventulsky's manifold interest in developing scientific ideas around this notion would well deserve a special treatment. One of the earliest summaries to that is (Gumilev 1990) in English, based upon his book in Russian, resp. original manuscripts from 1978-9. It would need a very careful review too. Limits of my paper did not permit to present the necessary references on scholars mentioned above (as e.g. Lotze, Beitzelsold, Lotman etc.).

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ECOSSEMIÓTICA

1. Ecologia e Ecossemiótica

Ecossemiótica não é uma semiótica à la Umberto Eco, mas, muito mais, uma semiótica à la Tom Sebeok. Enquanto Eco estabelece um limiar semiótico que se encontra acima do mundo natural, Sebeok tem uma visão pansemiótica do mundo que também permite considerar o mundo ecológico sob perspectivas semióticas.

A ecologia é, segundo Ernst Haeckel (1866: 286), que introduziu o conceito, a "ciência das relações mútuas entre o organismo e o mundo exterior que o rodeia". Mais modernamente, ela é definida como "a ciência das relações entre os organismos e o meio ambiente" (Vogel e Angermann 1990: 3, 225). Neste caso, trata-se, na chamada autoecologia, de organismos isolados, na demecologia, de populações biológicas e, na sinecologia, de comunidades simbióticas nas suas relações com o meio ambiente (cf. *ibid.*). Como meio ambiente (Umwelt), alguns ecologistas definem "a soma de todas as condições e influências externas (bióticas e abióticas) que afetam a vida e o desenvolvimento dos organismos" (Platt 1980: 265). Outros ecologistas ampliam o conceito, ao falarem não somente de um "meio ambiente externo", mas também de "um meio ambiente interno" aos organismos (Geist 1978: 18). Deste conceito ampliado de meio ambiente, também parte uma semiótica que examina os processos signíficos inclusive no interior dos organismos (vide 4.). Sobre a história e a semântica do conceito de meio ambiente veja-se também Hermanns (1991).

Originalmente um ramo da biologia, a ecologia, numa época de crises ecológicas mundiais, conhecidamente desenvolveu uma grande força de irradiação interdisciplinar. Assim, existem, neste meio tempo, uma filosofia ecológica (Sachsse 1984; Schönherr 1985), uma ecologia antropológica (cf. Eisenhart, ed. 1979; Hutterer *et al.*, eds. 1985), uma ecologia da mente (Bateson 1972), uma história natural-filosófica do pensamento ecológico (Tropf 1987; Mayer-Tasch, ed. 1991), uma eco-etologia (Krebs e Davies, eds. 1978), uma historiografia (Hermanns, ed. 1986) e sociologia ecológica (Gärtner e

Leisewitz, eds. 1984), uma estética ecológica (Sturm, ed. 1979; Schönherr 1985: 133-145; Böhme 1992; Krampen 1993), uma ecopsicologia (Mogel 1984) ou uma psicologia do meio ambiente (Mehrabian 1976), uma teoria cognitiva ecológica (Gibson 1979) e uma ecolinguística (vide 5.). Embora o conceito ecossemiótica ainda não tenha sido ouvido *expressis verbis* no concerto destas interdisciplinas, com exceção de algumas primeiras ressonâncias (Enninger e Wandt 1984; Haila 1986; Koch 1992; Krampen 1993; Lang 1993), existem diversas linhas de pesquisa na semiótica que podem ser consideradas, no sentido de Haeckel, como uma contribuição à investigação das relações entre organismos e seus meios ambientes e, desta forma, como ecológicas. O objetivo deste artigo é discutir algumas destas linhas, tentando esboçar os primeiros contornos de uma ecossemiótica.

Ecossemiótica é, de acordo com estas premissas, o estudo das relações semióticas mútuas entre os organismos e seu meio ambiente. Esta definição pressupõe primeiramente que, não somente um *homo semioticus*, mas, de maneira mais geral, um *organismus semioticus*, seja o centro das atenções de uma semiótica com potencial de explicação na área da ecologia. Com esta definição, no entanto, colocam-se também questões tais como: (1) São as relações entre organismos e meio ambiente sempre de natureza semiótica? (2) Será que elas têm sempre somente um aspecto semiótico? (3) Ou será que se deve distinguir entre as relações ambientais semióticas e não-semióticas? (4) Será que, neste caso, a semiótica pode descrever somente as relações mútuas entre organismos ou existem também aspectos semióticos nas interações entre o meio ambiente biótico e o abiótico? De qualquer maneira, a ecossemiótica é uma semiótica que não se limita somente ao estudo de signos artificiais e arbitrários, mas que estuda também e principalmente signos naturais na relação organismo-meio ambiente, portanto, uma semiótica que parte de um "limiar semiótico" inferior entre o semiótico e o não-semiótico.

Primeiros passos para uma ecossemiótica de acordo com estas condições delineiam-se nas seguintes áreas: na história da semiótica, na semiótica teórica, na biossemiótica, na semiótica cultural evolutiva (cf. Koch 1986; 1992), na estética semiótica (cf. Sturm, ed. 1979; Krampen 1979; 1993), na semiótica da linguagem e na semiótica aplicada. Nem todas estas áreas podem ser discutidas a seguir. Principalmente o campo da semiótica aplicada com sua teoria extremamente interessante do lixo e de sua remoção não pode ser aprofundado. O leitor pode se referir ao capítulo "Rubbish Theory" em Culler (1988), ao volume sobre semiótica do lixo atômico de Posner (1990), assim como ao número temático "Refiguring Debris" do *American Journal of Semiotics* (no prelo). Alguns aspectos da relação homem-meio ambiente são também discutidos nas publicações do centro de pesquisa *Man and Nature* da Universidade de Odense.

2. Modelos Históricos da Relação Homem-Meio Ambiente

A idéia da onipresença do semiótico nas relações homem-meio ambiente até um pansemiotismo que procura explicar todos os fenômenos ambientais como tendo qualidade signica é amplamente difundida na história da cultura e da religião. Neste caso, podem-se distinguir três modelos principais de uma relação homem-meio ambiente semioticamente interpretada, (1) o modelo pan-semiótico *stricto sensu*, (2) o modelo mágico e (3) o modelo mitológico (cf. Nöth 1990: 382, 188, 374). O modelo interpretativo pansemiótico do meio ambiente considera a totalidade da natureza como signica e vê nela uma mensagem a ser decifrada pelo homem, cujo emissor é Deus ou uma outra força sobrenatural. De acordo com o modelo mágico, os fenômenos ambientais naturais também são uma mensagem, mas seu emissor e manipulador, o mágico, é uma pessoa, enquanto o meio ambiente natural físico ou biológico continua a ser seu receptor, pelo menos considerando-se superficialmente. Finalmente, modelos mitológicos da relação homem-meio ambiente são transmitidos em forma de mensagens aos homens, as quais determinam, na forma de textos narrativos, o lugar do homem em relação a seu meio ambiente de forma deontica como um dever atuar, um ter que atuar e um poder atuar.

Na tradição judaico-cristã, encontramos o modelo ambiental pansemiótico primariamente no Velho Testamento. Assim, a natureza aparece nos salmos como uma mensagem de Deus ou destinada a Ele, por exemplo: "Narram os céus a glória de Deus" (Sl. 19.2), "Trovejou o senhor da majestade" (Sl. 29.3) ou "Montes e colinas todas, árvores frutíferas e todos os cedros, feras e gados de toda espécie, répteis e aves aladas... louvam o Senhor" (Sl. 148.9-13).

Na teologia da Idade Média, a visão pansemiótica do meio ambiente é integrada na doutrina do *sensus spiritualis*. De acordo com Tomás de Aquino (1224-1274), este "sentido espiritual" consiste no fato de que "coisas (*res*) significam outras coisas" (*Summa Theol.* I, 9.1, art 10). Os significados das coisas no nosso meio ambiente natural eram codificados em livros. A chave última para a interpretação do meio ambiente, o livro dos livros, era complementada por livros mais especializados. Assim, por exemplo, bestiários davam informação sobre os significados dos animais e lapidários informavam sobre os significados das pedras. Enquanto, por um lado, livros codificavam os significados do meio ambiente, por outro, a qualidade signica da própria natureza era descrita pela metáfora do meio ambiente como um livro (cf. Curtius 1948: 323-329; Böhler 1981). Já que, então, o meio ambiente, assim como a Bíblia, tinha que ser interpretado como algo lido, não é de admirar que, para a interpretação do meio ambiente, era utilizado o mesmo código hermenêutico que na exegese bíblica. Assim, o sentido espiritual dos fenômenos ambientais diferenciava-se, da mesma forma que o da Bíblia, em um sentido tropológico, um

senso alegórico e um senso anagógico (cf. Nöth 1990: 335). Um exemplo simples para este fato são os significados espirituais que cabem, de acordo com este modelo, a um "penhasco" (cf. Dunbar 1961: 19). No sentido tropológico, ele significa 'aquilo que cada alma deve ser para o próximo', no sentido alegórico, ele se refere a 'Cristo' e, no anagógico, ao 'fundamento do reino celeste'.

A visão pansemiótica do meio ambiente alcançou seu apogeu na doutrina renascentista das assinaturas (cf. Böhme 1986; Nate 1993), por exemplo, com Paracelsus (1493-1541). Aqui encontra-se um sistema elaborado de códigos para o deciframento de signos naturais, no qual não somente Deus é atribuído como emissor, mas também três outros assinantes (*signadores*) (cf. Paracelsus 1591: 101), a saber, o homem, um princípio intrínseco de desenvolvimento, chamado *archeus*, e as estrelas ou planetas (*astra*). Os signos naturais, as chamadas assinaturas, que os assinantes deixam no meio ambiente do homem na forma de vestígios indexicais, encontram-se no rosto humano (codificados pela fisionomia), nas linhas tanto do corpo humano como também das plantas e minerais (quiromancia), assim como na terra, no fogo, na água e nas estrelas (geomancia, piromancia, hidromancia e astrologia). Os signos do meio ambiente assim assinado encontram-se, além disso, de acordo com a doutrina das assinaturas, em uma relação signica essencialmente icônica entre si, pois, entre os fenômenos do mundo, há ainda também semelhanças, analogias, afinidades e correspondências ocultas (sobre este tema ver especialmente Foucault 1966: 40-45). Também estas correspondências eram interpretadas como assinaturas. Assim, por exemplo a forma de uma semente de acônito, uma pequena esfera escura numa casca branca, valia como signo para o efeito curativo que a planta possui para o olho humano com forma semelhante à dele (cf. *ibid.*: 58).

Têm estes modelos semióticos da relação homem-meio ambiente da Idade Média e da Renascença um interesse maior do que só para a história da semiótica? Certamente, eles não eram modelos de pensamento ecológico no sentido atual, mas têm um ponto em comum com a atual filosofia da ecologia; eles se baseiam em uma visão holística do mundo, que acentua a unidade entre homem e meio ambiente. Em oposição a isto, encontra-se a visão de mundo dualista, que se delineia com o Racionalismo desde Descartes. Esta é uma visão de mundo que leva a uma separação entre mente e natureza, que considera a mente superior à natureza e que, finalmente, reconhece somente o homem como medida de todas as coisas, ao qual o meio ambiente deve servir. Esta visão antropocêntrica da relação homem-meio ambiente também pode, contudo, se reportar a uma autoridade judaico-cristã, pois o mandamento do Velho Testamento "Crescei e multiplicai-vos, e povoai a terra; submetei-a e dominai sobre os peixes do mar e sobre as aves do céu e sobre todos os animais que se movem sobre a terra" (Gên 1.28) fornece, se entendido erroneamente, o modelo mitológico de um pensamento ambiental antiecológico (cf. também Bouissac 1989: 509-513).

3. Semiótica Teórica da Relação Signo-Meio Ambiente

Nem toda semiótica pode reconhecer aspectos semióticos na natureza da relação organismo-meio ambiente. Nenhuma perspectiva ecossemiótica tem, por exemplo, a antropossemiótica de F. de Saussure (1857-1913), segundo a qual, no meio ambiente cognitivo do homem "nada é distinto antes do aparecimento da língua", sendo "caótico" o pensamento humano sem a estrutura da linguagem e, quando muito, assemelhando-se a "uma nebulosa onde nada está necessariamente delimitado" (Saussure 1916: 130). Um tal programa semiótico linguocêntrico tem necessariamente que ofuscar a visão sobre determinantes ecológicas dos processos signicos, tal como elas determinavam, ao longo da evolução biológica, a relação homem-meio ambiente (cf. Nöth, ed. 1994).

Uma semiótica teórica com amplas implicações ecológicas é, por outro lado, a de Charles S. Peirce (1839-1914). Sua interpretação da relação homem-meio ambiente parece frequentemente ser pansemiótica, por exemplo, quando Peirce diz: "Todo o universo é penetrado por signos, se é que ele não se compõe somente de signos" (CP 5.448, FN). Na área das relações entre os objetos e organismos no meio ambiente humano, Peirce distingue, no entanto, aquelas de natureza meramente diádica e outras de natureza triádica, somente as relações triádicas podendo ser de tipo semiótico. A relação de um indivíduo com os objetos de seu meio ambiente é simplesmente de forma diádica, por exemplo, quando ele os encontra como uma realidade imutável, cruza-se com eles por acaso ou até quando os conhece na forma de imposição ou "violência crua". Tais relações diádicas Peirce (CP 1.358) caracteriza como "brutas e concretas" e diz que "elas nos são impostas diariamente" e "representam a principal lição da vida". A relação organismo-meio ambiente se torna semiótica somente quando relações diádicas se transformam em triádicas.

Na interação semiótica, o indivíduo não mais experimenta os objetos de seu meio ambiente na sua imediaticidade, mas os interpreta em relação a algo terceiro, um "significado" que remete a algo além do ambiente imediato, um fim, um objetivo, uma regularidade (cf. também Nöth, ed. 1994: 3-4). Tais relações triádicas de semiose caracterizam processos cognitivos (cf. Nöth 1994b), todos os atos teleológicos e, em geral, toda a atividade de uma mente (*mind*). Semiose, neste sentido, não é de forma alguma limitada a processos em organismos superiores. Todo organismo biológico simples já interpreta seu meio ambiente de forma semiótica quando escolhe objetos energéticos ou materiais de seu meio ambiente como apropriados ao objetivo da própria sobrevivência ou quando os evita por serem impróprios a tal objetivo. Tais interações triádicas entre organismos e meio ambiente representam o limiar entre a natureza não-semiótica e a semiótica. Peirce postula já nesse limiar semiótico a presença da mente (*mind*) na natureza dos organismos quando

escreve: "O microscopista observa se o movimento de criaturas pequenas mostra qualquer propósito. Em caso positivo, há mente aí" (CP 1.269).

Antes que estas idéias ecossemióticas fundamentais de Peirce pudessem ser aprofundadas teórica e empiricamente principalmente na Biossemiótica (veja abaixo), surgem, na história da semiótica, novas tentativas de ampliação da semiótica ao meio ambiente dos usuários de signos na obra de Charles Morris (1901-1979). A teoria do signo de Morris amplia o horizonte da análise semiótica do homem a processos de produção e reprodução signica em "organismos vivos" de forma mais geral e acentua, além disso, a necessidade de examinar também, além da sintaxe e semântica do signo, na pragmática, a "origem, uso e efeito" dos signos no meio ambiente semiótico (cf. Morris 1971: 366-367, 302). Sob perspectivas ecossemióticas, é discutível se a ampliação semiótica de Morris foi capaz de superar perspectivas antropológicas e lógicocêntricas na teoria do signo (cf. W. A. Koch 1986: 40-41; 1992: 177-178). Em vista da considerável restrição da pragmática semiótica ao exame das relações entre produtores e receptores signicos, Koch (*ibid.*) exige uma ampliação das dimensões da pesquisa semiótica sintaxe, semântica e pragmática para uma quarta nova dimensão da semiótica a ser fundada sob a denominação de ecoética, que estudaria as condições ecológicas da gênese atual, ontogenética e filogenética do uso do signo na natureza e na cultura.

4. Biossemiótica da Relação Organismo-Meio Ambiente

A natureza semiótica da relação organismo-meio ambiente a partir da perspectiva da biologia teórica foi estudada primeiramente e de forma mais fundamentada por Jakob von Uexküll (1864-1944) em sua doutrina do meio ambiente (*Umwelt*) e da significação (cf. Uexküll 1928; 1940).

Meio ambiente é, segundo Uexküll (1940: 158, 334), o mundo percebido pelo organismo em seu mundo interior através de seus órgãos perceptivos e influenciado operacionalmente por seus órgãos efetuentes. De acordo com isto, meio ambiente se compõe do mundo perceptivo e do mundo efetente de um organismo. Devido às diferenças específicas de espécie entre os organismos, suas diferentes necessidades e perspectivas individuais de mundo, existem tantos meios ambientes quantos organismos, pois o indivíduo ou a dada espécie só pode perceber, dentre as estruturas do "mundo objetivo", aquilo que pode ser percebido em função da estrutura biológica dos receptores e da posição do organismo que percebe. Uexküll (1980: 335) antecipa, neste sentido, uma posição do construtivismo radical (cf. Nöth 1990: 179), quando ele escreve: "Qualquer que seja o sujeito que queiramos escolher no sistema dos animais, sempre encontramos em torno deste um outro meio ambiente construído que, em todos os pontos, porta traços do sujeito em si."

A natureza semiótica da relação organismo-meio ambiente se torna clara principalmente no modelo do círculo funcional de Uexküll (1928: 8). De acordo com este, o sujeito equipado com órgãos perceptivos e atuantes é um "receptor de significação" em relação a um meio ambiente cujos objetos são definidos como "portadores de significação". Os significados e signos do meio ambiente não são, neste caso, transmitidos unidirecionalmente (ou até causalmente) de fora para dentro, mas, entre o meio ambiente e o mundo interior, existe uma relação de complementaridade: o portador de significação funciona como contra-estrutura ("estrutura de encaixe") do receptor de significação (cf. Uexküll 1928: 8). Meio ambiente e mundo interior formam um círculo hermenêutico ecológico, pois o mundo interior já contém — como diríamos hoje — um modelo cognitivo do meio ambiente subjetivo e é, não somente "percebido" pelo indivíduo, mas também "construído" por ele.

A teoria do meio ambiente de Uexküll transformou-se, neste meio tempo, através da mediação de Sebeok (1979), Th. von Uexküll (p. ex. 1981) e o *paper* programático de Anderson *et al.* (1984) como um dos "clássicos" da semiótica e não precisa, por isso, ser discutida mais pormenorizadamente. Mesmo o conceito "meio ambiente" (*Umwelt*) na definição de Uexküll já entrou, neste meio tempo, para a terminologia de língua inglesa como a palavra de empréstimo *umwelt*. A área geral fortemente expandida da biossemiótica (cf. Schult 1989; Sebeok e Umiker-Sebeok, eds. 1992), incluindo a zoessemiótica (cf. Nöth 1990: 147-167 assim como *Zeitschrift für Semiotik* 15 [1993]) ou até a fitossemiótica (Krampen 1992) estuda, neste interim, aspectos semióticos da relação organismo - meio ambiente nos campos micro e macrobiótico. Neste caso, a biossemiótica chega ao reconhecimento de que a diáde mundo interior e meio ambiente não pode somente se referir ao interior local em oposição ao exterior dos organismos, mas que, além do meio ambiente exterior, há também um meio ambiente interior a ser estudado semioticamente (vide 1.). Na endossemiótica fundada por Sebeok (cf. p. ex. 1991), a pesquisa desta semiótica do meio ambiente interno começa no nível molecular com a descrição das relações do reconhecimento e da complementaridade estrutural entre os genes e os genes e antígenos que os rodeiam. Aqui se encontra a raiz semiótica daquilo que, em níveis superiores da evolução biológica, constitui tanto a oposição como a complementaridade entre o interno e o externo, o próprio e o outro (cf. também Nöth 1994a).

5. Linguagem e Meio Ambiente

Quando passarmos, a seguir, da biossemiótica à lingüística, teremos que deixar, no nosso panorama da ecossemiótica, amplas áreas da semiótica da cultura fora da discussão. No entanto, o tema linguagem e meio ambiente não tem

relevância especial somente na atual discussão sobre a crise ecológica. Ele também se estabeleceu, nos últimos tempos, sob a designação ecolinguística, como um ramo expandido da lingüística aplicada. Certamente, idéias muito diferentes daquilo que deve ser considerado como o meio ambiente da linguagem se escondem sob esta designação. Elas incluem o meio ambiente como uma mera metáfora para qualquer situação lingüística, a nossa fala e vocabulário sobre o mundo ou também o meio ambiente como determinante biológica da substância e da forma da articulação lingüística. O que há em comum entre estas diferentes idéias de uma lingüística ecológica é a tentativa de, através da abrangência de diversos fatores no campo do uso da linguagem, ultrapassar as limitações de uma lingüística muito limitada ao sistema. Numa abordagem pluralista, principalmente Fill (1987; 1993) e Trampe (1990) tentam fundamentar uma ecolinguística ampla dentro desta moldura estendida da análise lingüística.

Haugen (1972: 325), um dos primeiros "ecolinguistas", entende como meio ambiente da linguagem nada mais do que as línguas de outros falantes: "O verdadeiro meio ambiente da linguagem é a sociedade que a usa como um de seus códigos". Ecolinguística é, de acordo com isto, uma variante da sociolingüística que se ocupa dos contatos e conflitos lingüísticos. Enninger e Wand (1984) gostariam de ampliar esta abordagem primária intra e interlingüística a uma ecologia do signo mais geral através da inclusão de fenômenos não-verbais no horizonte de análise dos lingüistas. A direção desta ampliação leva da sociolingüística pela paralingüística à comunicação não-verbal complementar e acompanhadora da fala (cf. Nöth 1990: 387-420), mas, ao fim e ao cabo, esta abordagem ecológica do signo permanece linguocêntrica. Ela converge para uma teoria da comunicação que se denomina "ecológica" (Barnlund 1981) e que estuda a moldura comunicativa mais ampla da interação lingüística.

Um mero postulado é ainda a ecolinguística de Hagège (1985: 328). Numa formulação que lembra as palavras proféticas de Saussure sobre a futura semiologia, ele escreve: "Uma futura ecolinguística deveria examinar como os pontos de referência "naturais", integrados em cada cultura, são integrados na linguagem: pontos cardeais, particularidades geográficas, moradias humanas, elementos do cosmo." Ecolinguística seria, de acordo com essa idéia, as lingüística e semiótica do espaço em sua relatividade ou universalidade antropológica já existentes sob outras designações (p. ex. deixis).

Ballmer (1982: 12) também postula uma "lingüística ecológica" no contexto da biolingüística. Aqui os fatores anatômicos, fisiológicos e evolucionários, como eles deixaram seus vestígios no sistema lingüístico e no processo da fala, encontram atenção como meio ambiente da linguagem. A nova teoria lingüística natural (*natural linguistics*) (cf. Dressler et al., eds. 1987), como um ramo da ecolinguística, deveria ser considerada como continuação dessa tradi-

ção. Temas centrais de uma lingüística ecológica, como natureza e linguagem, linguagem e meio ambiente ou visão lingüística de mundo incluem, no entanto, questões que não precisam ser descobertas pela ecolinguística, mas que já fazem parte de uma longa tradição da filosofia da linguagem (cf. p. ex. Coseriu 1982).

Aquela variante da ecolinguística que se encontra em ligação mais imediata com a discussão ecológica atual é a crítica ecológica da língua. Ela censura, por um lado, o abuso manipulador da linguagem como "poluição lingüística" (assim Bolinger 1980: 182) e, por outro lado, examina criticamente eufemismos, tabus lingüísticos e outras figuras estilísticas que contribuem para o (pseudo) domínio ou até o agravamento lingüístico da crise do meio ambiente (p. ex. Fill 1987; 1993; Trampe 1990; Bock e Zafirov 1992). A crise ecológica se manifesta, assim, por um lado, metaforicamente dentro da linguagem (Bolinger); por outro lado, ela é um ponto de referência de uma linguagem que com freqüência é instrumentalizada de forma prejudicial ao meio ambiente (Fill, Trampe). A ecolinguística que se move neste quadro concentra sua crítica lingüística freqüentemente em aspectos da semântica da palavra, p. ex. na crítica de palavras "anti-ecológicas" como crescimento industrial ou automóvel ambiental. No entanto, ela tem também que se esforçar por uma ética do discurso mais geral que ultrapasse a "ética da terminologia" já conjurada por Peirce. Do ponto de vista semiótico, Pape (1983: 9) fundamenta isso como se segue:

Por este motivo, pode-se ser levado a pensar que os conceitos usados no pensamento sobre problemas ecológicos são cunhados por influências problemáticas e obscuras do meio ambiente ideológico. A tese da natureza fundamentalmente antropomorfa dos nossos sistemas signíficos e a responsabilidade disso resultante para nossa produção de signos tematiza, em contrapartida, a situação de uma ecologia mental. Pois nossa responsabilidade para com o mundo se estende, então, não somente aos atos físicos efetivos, mas também à nossa atuação com signos e, principalmente, com linguagem. Quem poderia negar hoje que nosso meio ambiente semiótico está poluído tanto conceptual e ideologicamente quanto visual e acusticamente e que as fronteiras entre a carga e a sobrecarga com exigências interpretativas e conteúdos informativos se aproximam de maneira cada vez mais densa e freqüente?

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12 SOCIO-SEMIOTIC THESES ON *UMWELT*, INFORMATION TECHNOLOGY AND THE FUTURE

1) These deliberations rely on an integralist socio-semiotic approach which encompasses material and informational processes in their sociality, historicity and (re-)productional aspects. On this background the two main notions of *umwelt* ("natural" vs. "social" *umwelt*) shall be examined and be related to "nature", "economy" and "ecology". As is well-known, the condition of the latter — concisely recapitulated here — is evidently more serious than ever. Concerning ideological notions such as "information age", "global village", the "post-industrial" or even "post-materialist" society, on the other hand, it is necessary to oppose their mythologization by evolving their *material core*. This can be achieved — particularly in light of futurological aspects — only in terms of an historico-analytical background which applies to the *umwelt-oriented as well as* information techno(mytho)logical aspects of the entire problematic. In this sense, I fundamentally refer — in cross-connection with a socio-semiotics — to the Theory of Long Waves of the capitalist world system in an — as, e.g., with Rolf Schwendter — culture-theoretically advanced version. In this sense, we move at present in the upswing phase of the ecologico-telematic cycle. From this result far-reaching preconditions for the modes of movement of societal substructures, structures and superstructures in the near and middle future. But if only these cycles were taken in account, the unrenunciabile "subjective factor" would remain unconsidered which indeed contains every hope for the articulation and realization of a desirable future. Therefore, it must be examined, ultimately, from the view-point of the theory of democracy.

2) To describe the serious state-of-affairs as if focused by a burning mirror, so-to-speak, it suffices to recapitulate the development of the global energy balance of our species. From the Lower to the Upper Paleolithic Age (about 1 000 000-12 000 a.d.) the *sum total* of human population on Earth, i.e., concerning the entire space of almost one million years, was only about eight millions of individuals who were restricted to a per capita and per diem energy

balance of about 2 000 kcal. With the Neolithic Age, this balance started to grow slowly, first, and then more and more significantly, in order to reach at the beginning of the 19th century (emergence of the Age of Industrialization) 77 000 kcal per capita and per diem — produced by already 900 000 000 individuals. A highly exponential growth followed: in 1990 we reached 230 000 kcal per capita and per diem, at least in the industrialized countries, and an entire population of about five billions (in the year 2 000 it will be six billions). The entire balance — having jumped now to astronomical figures — rests on the exploitation of the resources of the past, the present, and the future. Further extrapolations on the background of a definitively globalized industrialization show — if no radical turn will be implemented — the picture of a nearly unavoidable ecological and therefore also societal system breakdown. Beside this *mega-challenge* a series of other challenges are at stake, which can be considered well-known in the meantime. Paraphrasing Wittgenstein, the world is everything which is the case, even the worst. However, pride goes before a fall, but pusillanimity also is no solution. The only straight and valid alternative is the well-tried methodological three-step procedure: analysis, diagnosis, therapy. Since therapy can only be *societally* implemented, the following points may be understood as analytico-diagnostic proposals relating to situation-adequate models and paradigms. The unrenunciably high grade of generality of these deliberations should hinder nobody to draw concrete consequences for his/her political decisions and everyday's practical life coherences.

3) A purposive anthropological "basis theory" seems to me only such a one which explains the emergence of man by the emergence of man, i.e., I insist on a dialectical and materialist anthropology (emphasizing the *and*), following hereby (concerning the semiotic point of view) in principle the Rossi-Landian approach. The central anthropological notion is "work" as the ultimate founding model of the transformation of nature to culture, as the appropriation as well as continuous re-appropriation of the world. The micro-model is triadic: the smallest distinct unit of the working process is the transformation of material via operation to product. A further transformation of material via operation to product 2 and the latter's use as an instrument in a *third* cycle opens *in mice* the "realm of freedom", or, in other terms, the process of self-launching of human history. History, namely, is, in a more general view, the product of a gigantic transformation process, i.e., of the entire societal reproduction as the mode of movement of societal *praxis*. The latter implements itself by "self-processing", i.e. via the instrumental aspects of societal reproduction, from which history results as a dialectical synthesis, i.e. as the sum of the modes of movement of material production (including distribution and consumption), mental production (including distribution and consumption; "ideologies") and production in the

mediation sphere, i.e. sign production (including sign distribution and consumption). On the grounds of trivial material production the sign production functions as the triadic mode of movement of the exchange sphere; it "mediates" between material and mental production (sign exchange — communication). So it becomes obvious that here, on the basis of a theory of societal reproduction, a semiotics is moulded which enables us to correlate the different levels of production without falling into the traps of determinism without neglecting their interdependency. (Signification and communication are, to speak with Thomas A. Sebeok, the complementary subject fields of semiotics, in our case of a decisively anthropo- and, in consequence, socio-semiotics which, despite the centrally located role of the signs, avoids each kind of pansemiology.)

4) Man is, nevertheless, not *only* defined by "work". In terms of the unity of continuity and discontinuity he/she is and remains ad infinitum the exceptional result of biological evolution as well as the result of biological reproduction — and therefore an ecologically integrated entity, a component of macro- and microecological cycles. This fact must be maintained forever in the deliberation of the interplay man/resources (including man him/herself as a resource). From an integralist point of view one has to consider, therefore, the divergences — i.e. the different modes of being of the inanimate cosmos, of the biosphere and of (Lotman's) semiosphere (which, according to our paradigm, is congruent, but not identical with the sociosphere, claiming, however, a decisive functional place value within the latter) — as well as the obvious parallels, or more precisely, the recurrence of the same on a higher level. In the given context of argumentation, we have to focus in particular on the relation biosphere/semiosphere. The key is provided by Jakob von Uexküll's biosemiotics (as well as by his *umweltlehre* strongly connected with it). Without arguing in detail about the specificity of von Uexküll's semiotic terminology (*ordnungs-, inhalts-, merk-, werkzeichen* etc.), I want to refer here only as a *pars pro toto* to his definition of the sign as meaning carrier plus meaning, and of meaning as relation to a meaning utilizer, or resp., as the connection between carrier and user, characterizations which emphasize the totality of the sign as well as its processuality. Similarly, also his famous *funktionskreis* can not only be understood as a sort of cybernetical model, but also as a dialectical one, namely as that of the dynamic relation between *innwelt* and *umwelt*. So, in spite of some vitalistic undertones, Jakob von Uexküll's semiotic thematization of all forms of life seems compatible — though without neglecting the levels of complexity and the corresponding qualitative leaps — with an highly elaborate anthropo-semiotics in the wake of Rossi-Landi's, first of all in a sense of complementarity (what means that it does not matter very much whether one accepts the use of the notion of sign in sub-human fields as an adequate solution or would rather

speak of pre-signs only, as e.g. suggested by Günter Bentele). The emphasis on the qualitative leaps, however, says, in the final analysis: culture is the continuation of evolution on a higher level and with other means.

5) So, a dialecticized re-consideration of von Uexküll's semiotics opens an holistic approach towards the relation biosphere/semiosphere. Though it is indeed true that according to von Uexküll "reality" can only be identified in the *umwelts* of autonomous living creatures (down even to the size of a single cell), he nevertheless lays significant stress upon the reciprocal relation individual/*umwelt* (in the last instance man/nature), whereby the dialectical reference individual/*umwelt* is concretized via the signs. If one tries to diagrammatize von Uexküll's individual/*umwelt*-relation, one could depict it roughly by three concentric circles (from inside to outside: *innenwelt*, "*zwischenwelt*" of the signs, and *umwelt*); however, for the depiction of a more elaborate notion of (social) *umwelt* one would need more circles to include (at least) the further *zwischenwelts* of reflexivity and of man-made *umwelt* (i.e., the dimensions of appropriation, transformation, reproduction). These *umwelten* are, as concerns the exceptional case of man, complexly intermingled and richly differentiated. That makes the fundamental difference. The dynamization of von Uexküll's notion of *umwelt* towards a semiotically founded notion of *social umwelt* transcends therefore decisively those conceptions of "human ecology" which by experience easily tend to turn into regressive ideologization. Uexküll's *umwelt* 1 (U_1) can be described cybernetically, is closed and homeostatic. The social, or more precisely, societal, *umwelt* 2 (U_2) is an open, dynamic system, describable in terms of theories of appropriation and sociality, and in the last instance historico-dialectically. U_1 , situated on the lower end of a complexity scale, is a special case of U_2 , and vice versa is U_2 , on the upper end of the scale, a special case of U_1 . The parallelity stems from the fundamental principle, the difference from hierarchy. The first is methodologically, the latter empirically unrenounceable. On this background, also the ordinary language notions of *umwelt* — such as, on the one hand, the ecologist one (à la "endangerment of our environment"), and, on the other hand, the socio-spatial one (in the sense of, say, environment as a synonym of *lebenswelt*) — can be more easily re-transferred into our context of argumentation, i.e., in the last instance, they turn out to be analyzable as derivatives of U_1 and U_2 . Our central problem is now to confine U_2 analytically. For these reasons, I have to go far back to the principles.

6) Departing from the hic and nunc, i.e., from the empirically unrenounceable acceptance of the existence of a distinct mode of movement of contemporary industrialized societies — on which I focus here for reasons of relevance and actuality —, I adapt for their characterization (without discussing,

for short, possibly competing paradigms) the "Theory of Long Waves" as worked out in the twenties by Schumpeter and Kondratieff (after whom the cycles use to be named) and advanced more recently by researchers such as Forrester and Mandel. The latter's is the most elaborate version which — and this is its forte — is not only a monetary theory but includes the development forms of societal conflicts. So it renders possible the description of the forms of movement of the entire mode of production on the background of the above-quoted scheme of societal reproduction. The "waves" are those up- and downswings of the development of the capitalist economic system which superimpose the so-called (shorter) business cycles. The waves' existence rests on the laws of capital accumulation; they "inscribe" themselves in the signs (figures, data, facts) of national and world economics, first of all in the long-term oscillations of the global average profit rate. Important inducements are factors such as technological innovation/implementation, accumulation of reserve funds, rise and fall of investment rates, oscillation of the general industrial productivity rate a.s.o. From the observation of the course of movement of these factors results a periodization in the form of clearly distinguishable development spaces of nearly 50 years duration, to be defined on the grounds of the era-specific key machinery in the phases of the capitalist evolution of the productive forces (steam engine, steam motors, electric and explosion motors, electronic machinery). With these correspond equally distinct, authentic historical eras (bourgeois industrial revolution, era of free competition, imperialism, "late capitalism") with in each case one up- and one downswing of nearly 25 years duration both of which showing a specific "fundamental tonality": a general mood of "constructive" kind in the upswings, of "destructive" kind in the downswings.

7) For the contemporaneous, since a few years emerging Kondratieff cycle I propose the term "ecologico-telematic cycle". Since the main part of the upswing and the entire downswing of the whole cycle are still before us, we enter the field of futurology. Future is the continuation of history, but with other means, i.e., on the basis of the discontinually developing machinery. According to Flechtheim futurology is the unity, according to Schwendter, however, the *contradictory* unity of forecasting, planning, and utopia. In actual fact, the (formerly) *dominant*, linearly extrapolating futurology has — after the euphoria of its beginnings (in the fifties and sixties) — become obsolete in the early seventies (e.g. "oil shock") and then in particular with the recession of the early eighties, that is, with the intensifying downswing of the electronic Kondratieff. *Critical* futurology, on the other hand, had always a kind of marginal status, having been rather the articulation of wishes than a strong weapon in ideological conflicts. Today, however, after the breakdown of pseudo-socialism, or resp.,

"real radical bureaucracy", a "new openness" seems to offer critical futurology a new chance (its alternative perspective should indeed be now not "socialism", but "radical democracy"). However, what is the empire it has to face? The formula "ecologico-telematic cycle" says that, on the basis of a globalized and at the same time more and more interwoven electronic machinery, the general movement of accumulation has to orient itself by necessity on the worldwide challenges which have become obvious now due to the limitedness of spaceship Earth. For the next cycle which will follow the ecologico-telematic one according to the Kondratieff model, forecasted by Schwendter as the "bionic" cycle, this will be even more valid, namely because of the progredient subsumption of the entire bio-mass under the exploitation interests of the capital. Critical futurology, on the contrary, has to pin its hopes on the counter-movements which will unfold by necessity, on movements which will, nevertheless, articulate *desirable futures*, and all the more so, the more the *probable future* fulfills itself decisively. With the "death of the great narrations" in no ways a "death of history" can be expected (provided the Earth does not break entirely in pieces).

8) As an inevitable excursion I must insert here a statement about information technomythology, i.e. on the topic of ideology. The information technology is the dominant machinery of the electronic cycle and in a highly concatenated as well as globalized and, therefore, qualitatively transformed state also that of the ecologico-telematic cycle. The ecologico-telematic machinery and the superstructures resulting thereof were, as such, described only rudimentarily up to now. One of the most striking depictions of the "myths of the computer age", that is, of the electronic cycle, however, we owe Theodore Roszak who, first of all, thoroughly worked up the visions of power, illusions of welfare, phantasies, wish dreams centered around the "thinking machine", to locate their irrational core in the "cult of information" which exalted "information" to the quintessence of the good for everybody, and even to a symbol of redemption. So the information-processing machine became a homunculus, the newest version of a salvation promise à la Bacon's Nova Atlantis. Entire scientific paradigms (Cognitive Science, AI-Research) ideologized the calculator to a thinker and contributed so to the complex superstructure (and therewith to the "false consciousness") of the electronic cycle, while at the same time on the other end of the scale — contradictorily, as it seems, but altogether complementary in effect — a pseudo-transcendence of the strong material givenness (of the most global and most complex machinery of all times) was brought about, condensed in formulae such as "post-industrial society" à la Bell or even "post-materialist society" à la Inglehart. The underlying, in principle easily revealable shift of meanings of notions between different sociolects is self-evident and

should not be further pursued here. What counts is the forceful result. The information technology created (not unexpectedly) its information technomythology, and the strategy was effective insofar as these ideologemes became essential components of the entire hegemonic ideology. One can now easily extrapolate that in the ecologico-telematic cycle this procedure will be raised to a power which will outshine everything hitherto existing. The trend is too significant: the coming hegemony will produce superstructure to a colossal extent and increasingly as an end in itself, negating so more and more its rational core and therewith also itself — not without beforehand unfolding tragic effects in the consciousness of the compact majority.

9) The interplay of the pertinent paradigms presented up to now for reasons of constructing a theoretical-analytical frame for taking hold of these and the upcoming occurrences can — very briefly — be sketched as follows. Sign input 1 are the real sign sets (or parts of sign sets) as to be found in the practice of social groups. These sets of signs are interpreted on a meta-level, namely by the grid of a General Semiotics *as a Socio-Semiotics*, and hereby classified and related to distinct class currents (as their markers and forms of expression); they are decoded as the group members' specific way of working up social reality and located in the scheme of societal reproduction (exchange sphere/instrumentality). Sign input 2 are the indexes of macro-economy, i.e., first of all, of the Long Waves which via oscillation of the global profit rate lead to the stylization of an (empirically counter-checked) era-specific "fundamental tonality". Its pronounced "main tone" (for short, I remain in the imagery suggested by Mandel) be called "*zeitgeist*", spirit of times; beside that, the possibility of the appearance of further "overtones" is opened, overtones also of increasingly dissonant, that is, contradictory quality. The sum of overtones brings about a continuum of diverse possible (gradual) affirmations, or resp. and in particular, (gradual) negations of the normative codex of the entire society. The concrete "intonation" in each historical era under examination comes from the pertinent class currents via their production of authentic subcultures, that is, deviant sign systems. For reasons of forecasting results, then, a modal megastructure of dialectically-logically expectable subcultures, to be tentatively qualified by reference to the era-specific key machinery, its cycles and subcycles, its fundamental tonality, etc. The cardinal point of the entire systemic coherences is the one where the "working up of social reality" becomes effective via the instrumental-operational aspects of the triad of the entire societal reproduction. Here occur those *code switches* by which class currents use to answer the challenges of the material development of the mode of production, namely by construction and anticipation of alternative "realities" in unrenunciably sign-mediated procedures. The *switch* is, reduced to the final denomi-

nator, one of the codes of material objects and relations ("language of things") to the codes of sign production in which the alternative mental (ideological) production finds its expression. (With this goes indeed the claim of retroaction vs. the material codes; its satisfaction, however, remains uncertain, remains "open" history.)

10) The removal of the often quoted (seemingly) contradiction, characterized as an essential task of our age, between ecology and economy could be mastered, I suggest, on the level of surface structures even by means of popular-scientific General Semantics or with reliable discourse analysis and critique of ideology. Here, however, under the conditions of a comprehensive *reference frame*, we must approach the true deep structures. As point of departure I use a triadic-dialectic basis formula in the wake of Rossi-Landi: societal practice 1 at time 1 is transformed by societal self-processing (via the instrumental aspects of societal reproduction) to societal practice 2 at time 2. To the absolutely unrenounceable fundamentals of this procedure belongs the corresponding economy (maintaining a household = mode of movement of a household). Economy can, according to this model, be described by the following subtriad: household/maintaining a household (= MH₁)/reproduction in the narrower sense (= survival; here as the result of a sign-mediated working process on and with each kind of necessary materials). A further subtriad of this subtriad concerns the resources themselves: resources as the basis of household/maintaining a household in the sense of being thrifty with the resources (= MH₂)/reproduction of the resources (ecologically open-minded use of resources, recycling, etc.). From this it becomes immediately evident, that MH₁ and MH₂ can be taken as contradictory only from an obtuse point of view (despite the fact that this obtuseness has become hegemonic as a result of the laws of movement as well as of the normative codex of highly industrialized contemporaneous societies). Economy in the sense of a, due to the mega-challenge, unavoidably more comprehensive maintaining of a household must comprise MH₁ as well as MH₂ in a calibrated, i.e. dialectically interrelated way. From this results on the level of material procedures a triad ecology 1 (EL₁)/economy 1 (EN₁)/reproduction, on the level of the programming of the procedures (i.e., on sign level) a triad ecology 2 (EL₂)/economy 2 (EN₂)/ecosocial democracy, in which EL₁ = factually existent self-moving bio-mass, EL₂ = discipline and/or intellectual and activist context "ecology", EN₁ = household, EN₂ = discipline and/or intellectual and activist context "economy/economics" = maintaining a household as the dialectical sum of MH₁ and MH₂. The nub and at the same time postulate is that the latter triad can be unfolded only in an adequate socio-political general context: or resp., must lead to such a one, since it exists only rudimentarily up to now — signified here with "ecosocial democracy". Reduced

to ordinary language and practical argumentation one gets the consciously placard-style triadic formula: ecology/economy/democracy, the latter to be taken not as formal, but as essential democracy, as goes without saying.

11) In actual fact, it is high time to act. The global status quo has become untenable. The mega-challenge plus parallel and derived challenges seem to admit negative options only: fast breakdown, slow breakdown, eco-authoritarianism or even eco-fascism. But what are the ways from the dialectics of exploitation (of nature by man as well as of man by man) to a dialectics of equilibrium? On the theoretical level we have reinforced that history in its non-abrogability depends on the anthropological fundamental *per se*, i.e., work, and that it must be understood as the self-processing transformation of society. The regulation of this transformation movement, however, must obviously not be left to the hitherto ruling elites, after the experiences of 200 years of industrialism. A world worth living needs (at the risk of extinction) not only a more chastened handling of the global *umwelt* 1 (nature), but — as its precondition — also a more chastened handling of man by man, i.e., of the global *umwelt* 2 (society/culture), since otherwise the looming retrogression to barbarity would make the downfall even more probable. This condition of the dominion of not only a few (oligarchy), but of many (and in principle of everybody) over themselves, i.e., of a self-regulated society (polyarchy), is now, of course, not the one which can be read off from the obviously *probable* future (cf. ecologico-telematic and in consequence bionic Kondratieff cycle), but the one to be opposed anticipatorily-*emancipatorily* as the *desirable* future. For this it needs as carriers and sign producers those class currents yielding critically-constructive subcultures, in which alternative sign production and mental production are still and/or again possible, being available as a perspective of action. This comprehensive *counter-perspective* vs. the mega-challenge(s) must, in the last instance, read thus: *progreddient* subculturalization of society *per se*. From such an — and this is the subculture-theoretical-*extrapolative* nub — equally downright *probable* future results the general strategeme of radical ecosocial democracy as *desirable* future.

12) Thus, if we have to expect on the one side (of the future) an highly obtuse hegemonic (or functioning at least as an essential part of an hegemonic compound elite) ecologism which takes hold of our flesh and genes and kills the *umwelt* around and even in us, then it will also find its counterweight which has overcome the Enlightenment of Enlightenment: a galaxy of subcultures whose keynote is a decentral, ecologically appeased model of society. In this model the conciliation between ecology and economy will be *constitutive*, since *umwelt* 1 will be acknowledged comprehensively as the basis of *umwelt* 2; but necessarily

we have to act within *umwelt 2* in order to keep *umwelt 1* in such a state that it becomes a recurrent resource. This will and must be the central maxim of action of a continuously more and more unfolding ecosocial democracy. Ecosocial democracy, conceived in such radicality, needs, as was shown, at the same time an equally increasing subculturalization of the aggregate societies, i.e., a development which rests — as *conditio sine qua non* — on the “epidemic” appearance of emancipated individuals. For, alternative subcultures are constituted by these, and only by these. So this is the point where the “subjective factor” once again enters unrenunciably the calculation. Without the free will of man there is only a *Rien ne va plus*. Thus, our answer to the heavy, but in a way ephemeral conflict ecology/economy is, added up, first on theoretical level: the overcoming lies in the assertion of the dialectical law of the unity of continuity and discontinuity between *umwelt 1* (in von Uexküll’s sense) and *umwelt 2* (that is, social environment). And on societal-practical level: the overcoming lies in the articulation and anticipation of ecosocial democracy as the condition of possibility of a non-borné recuperation of ecology in economy and vice versa. In principle, man can put his/her global household in good order again. Whether he/she will definitively succeed or not, is a question of politics: today we are still heavily struggling for the signs of the future. At this, our eyes are, for the time being, still dimmed by the information technomythology. But the “subjective factor” must and will insist on its right again, finally on a global scale and against each kind of dehumanization. A broad coalition of “new rationality” (in the sense of Robert Jungk’s “social phantasy” and on the background of Bloch’s *Prinzip Hoffnung*) is thinkable, and if it is once anticipated, then it will become realizable, too.

NOTE

This punctuation rests on two thematically complementary lectures held on Sept. 18, 1988, in the symposium “Vom ‘Naturrecht’ zum ‘Umweltrecht’” (Sept. 17-18, 1988; Klosterneuburg/Austria) with the title “Die Umwelt als Zeichensystem”, and on Oct. 19, 1988, in the Hungarian-Dutch symposium on phiknophy (Oct. 16-20, 1988; Visegrád/Hungary) with the title “Umwelt, Informationstechnomythologie und die Zukunft”. Due to the abridged form of presentation chosen here I consciously abandoned the references. A German version with the title “12 sozio-semiotische Thesen über Umwelt, Informationstechnomythologie und die Zukunft” appeared in: Dreyer, Claus, et al. (eds.), *Lebens-Welt: Zeichen-Welt — Life World: Sign World. Festschrift für Martin Krampen zum 63. Geburtstag*, Vol. 1, Lüneburg: Jansen, 1994.

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“THE SEMIOTIC BODY-MIND”

The semiotisation of nature

20th century life sciences have been characterized by two major trends. One trend is *molecular and genetic reductionism*. This trend is well known and need no further comment. Beginning as an undercurrent to this trend, however, another much less noticed but in the long run just as important trend has gradually been unfolding: *The semiotisation of nature*.

The earliest manifestation of this trend is probably in the work of the German biologist Jakob von Uexküll, who in the first part of this century developed his *umweltsforschung*. The term *umwelt* refers to the phenomenal worlds of organisms, the worlds around animals as they themselves perceive them. “Every action” wrote Uexküll “that consists of perception and operation imprints its meaning on the meaningless object and thereby makes it into a subject-related meaning-carrier in the respective *umwelt*” (J. v. Uexküll 1982, [1940]; Uexküll’s work has been reviewed in Sebeok 1979, Ch. 10, and Th. v. Uexküll 1982).

Konrad Lorenz was inspired by the work of Uexküll and the growth of the new discipline of ethology, can be seen as the next important step in the semiotisation of nature. It was Thomas A. Sebeok who first explicitly observed that ethology is ‘hardly more than a special case of diachronic semiotics’ (Sebeok 1976, 156) and who as early as in 1963 coined the term ‘zoosemiotics’ (Sebeok 1963). Ethology itself has branched into several new disciplines such as ‘animal communication’ and ‘sociobiology’.

A major breakthrough in our understanding of the semiotic character of life was the establishment in 1953 of the Watson-Crick double-helix model of DNA and the subsequent deciphering of the genetic code. While up to this point the semiotic understanding of nature had been concerned mainly with communicative processes between organisms, termed *exosemiotics* by Sebeok (1976), it now became clear that semiotic processes were also prevalent at the biochemical level (*endosemiotics*). In 1973 Roman Jakobson pointed out that the genetic code shared several properties with human language and that both were based on a double-articulation principle (Jakobson 1973, Enmeche

and Hoffmeyer 1991). Due to its reductionist inclination, however, mainstream biology did not at the time — and still does not — apply a semiotic terminology (an exception to this is Florin 1974).

Eugene F. Yates has pointed out the strange shift in vocabulary which has taken place in biochemistry (Yates 1985). It seems as if modern biochemistry cannot be taught — or even thought — without using communicatory terms such as 'recognition', 'high-fidelity', 'messenger-RNA', 'signalling', 'presenting' or even 'chaperones'. Such terms pop up from every page of modern textbooks in biochemistry in spite of the fact, that they clearly have nothing to do with the physicalist universe to which such books are dedicated. As Yates rightly remarks: 'There is no more substance in the modern biological statement that 'genes direct development' than there is in the statement 'balloons rise by levity'. Expressions like these even appear in scientific papers. Thus, out of a total of 60 review articles appearing in the 1994 volume of TIBS (Trends in Biochemical Sciences) I counted 27 articles with titles containing terms presupposing a semiotic context.

Rather than talking about sign-processes biochemists prefer to talk about information exchange. According to the mathematical theory of information, information is an objectively existing measurable entity, a property *in* to say of a given object. The tacit assumption behind the idea of biological information seems to be that such information is the same sort of thing as 'mathematical' information, i. e. an objectively existing property of so-called informational molecules such as DNA, RNA or protein. Thus for instance the famous 'central dogma' formulated by Francis Crick holds that information is always passed from DNA to RNA and from RNA to protein, never the other way around. Information, then, is something which can be moved or transported.

This conception of biological information has been criticized often enough (Rosen 1985, Yates and Kugler 1984, Kampis and Csanyi 1991, Kampis 1991, Hoffmeyer and Emmeche 1991, Hoffmeyer 1993b). Here I shall content myself to point out that basically when biologists and physicists talk about information, they talk about different kinds of things. While information as understood by physicists has no connection to values, relevance or purpose, biologist think about information in a much more everyday language sense, and in fact biological information always serves a purpose in the system, if nothing else it at least serves to promote survival. The point is that biological information is inseparable from its context, it has to be interpreted in order to work. For example, if we discuss genetic information it should be noted, that contrary to the general image raised in textbooks there is no simple relation between the DNA coded messages and the construction of the organism, whether single celled or multicellular. What

is described in the DNA-text mostly concerns the amino acid sequence of the backbones of proteins and even before these backbones are actually assembled, so-called RNA-editing processes may well have introduced a context dependent element in the process (Reimie 1993, Rocha forthcoming). Furthermore, how the amino acid backbones are actually folded into three-dimensional protein molecules is not itself directly specified. Neither is it fully specified how the *virgin* proteins should be put into the right place in the nearly unbelievably complex architecture of the cell, or how and when, in multicellular organisms, cells divide, differentiate or migrate in the embryonic tissue. As Harvard geneticist Richard Lewontin once said: "First, DNA is not self-reproducing, second, it makes nothing and third, organisms are not determined by it" (Lewontin 1992).

What all this amounts to is a simple but crucial fact: DNA does not contain the key to its own *interpretation*. In a way the molecule is hermetic (Hoffmeyer 1995 a). In the prototype case of sexually reproducing organisms only the fertilized egg 'knows' how to interpret it, i. e., to use its text as a manual containing the necessary instructions for producing the organism (Hoffmeyer 1987, Hoffmeyer and Emmeche 1991, Hoffmeyer 1992). The interpretant of the DNA message is buried in the cytoskeleton of the fertilized egg (and the growing embryo), which again is the product of history, i. e., of the billions of molecular habits having been acquired through the evolution of the eukaryotic cell (Margulis 1981) in general and the successive phylogenetic history of the species in particular. (It took evolution two billion years to produce this marvellous entity, the eukaryotic cell. Having accomplished this deed evolution spent only one and a half billion years on producing all the rest).

While it is understandable that biology as a profession prefers to base its understanding of basic life processes on a concept of information having been developed in the safe world of physics, this way of saving the life sciences from the muddy waters of interpretative processes nevertheless seems increasingly illusory the more we learn about the true subtleties of those processes. Cellular processes are of course chemical processes, but what sets them apart from other chemical processes is the way they are organized around a multitude of cytoskeletal membranes and in response to the dynamic needs of semiosis. Cells like organisms are historical entities carrying in their cytoskeleton and in their DNA traces of their pasts going back more than three billion years. They perpetually measure present situations against this background, and make choices based on such interpretations. Thus, one might well claim that *the sign rather than the molecule is the basic unit for studying life* (Hoffmeyer 1993 b).

In the last decade the trend towards semiotisation of nature discussed here has manifested itself at still new levels. Thus, in evolutionary biology, neo-Darwinism has been seriously challenged by a set of ideas referred to as *infodynamics* (Brooks and Wiley 1988, Weber *et al.* 1989, Goodwin 1989, Salthe 1993, Depew and Weber 1995, Weber and Depew 1995). Infodynamics in the words of Stanley Salthe 'subsumes thermodynamics and information theory, essentially uniting the latter by means of the former' (Salthe 1993, 6). The general idea as originally suggested by Dan Brooks and Ed Wiley is that information capacity (disorder) increases spontaneously in developing systems, being produced along with physical entropy as the system grows and differentiates. Since such self-organisation is a prevalent property of our universe, natural selection should not be seen as the dominating force of evolution, but rather as playing the more modest role of pruning down the novelty that is constantly and autonomously being generated by the requirements of the second law of thermodynamics. Elsewhere I have discussed the surprising correspondence between these ideas and the 'cosmogonic philosophy' of Charles Sanders Peirce (Hoffmeyer forthcoming; see also Salthe 1993).

Another interesting development from this point of view takes place in the area of 'artificial life'. Here the strong thesis, as presented by Chris Langton, is that life is not a property exclusively of 'flesh and blood', rather life is a formal phenomenon which may be exhibited by a whole range of material substrates, for instance silicon (Langton 1987). Based on this assumption researchers in artificial life (a-lifers as they call themselves in distinction to b-lifers, the biologists!) have developed a multitude of computer simulations exhibiting this or that property deemed essential for living systems. For a critical review of this area of research see Claus Emmeche (1994) who emphasizes the fruitfulness for biology of a dialogue with these computing ideas of life but also expresses his reservations to the strong version of the programme. From a semiotic point of view artificial life research is interesting because it so radically identifies life with its digital informational aspect. Nevertheless, by abstracting life away from its embodiment it threatens to deprive it of its historical nature and thereby, in fact, also deprive it of its inherent semiotic nature, the ongoing need for a translation between analogously and digitally coded representations (Emmeche and Hoffmeyer 1991. See also Etxebarria forthcoming). It remains to be seen if the research in artificial life is capable of freeing itself from this oversimplified vision of life and thus contribute to a true semiotisation of our view of nature.

Summarizing this discussion we can see that throughout the 20th century the life sciences have been increasingly engaged in what Claus

Emmeche has termed a *spontaneous semiotics*. Spontaneous semiotics implies that 'biological communication is studied not as a phenomenon requiring a special theory or explanatory frame but as a loose accumulation of experiences in different biological disciplines concerning sign-processes in nature' (Emmeche 1995). Biologists accept that communication takes place at all levels of animate nature but generally refrain from reflecting on whether this implies the need for searching any deeper pattern behind this kind of behaviour. This may be because in the end evolution through natural selection is thought to explain the appearance of all such phenomena, which furthermore in each single case can be reduced to molecular mechanics at the level of cells. The reductionist trend in biology here blocks the way for the development of a more theoretical biosemiotics.

There can be no doubt that reductionism in the life sciences has been healthy considered as a research strategy, and it should be pursued as such. But when it comes to theory, it seems that reductionism and the dualism on which it is justified, has run into serious problems. To explain life as 'nothing-but-interacting-molecules' leaves out a whole dimension of life, which the reductionist research strategy has itself helped digging out, the dimension of semiosis. Accordingly, the aim of biosemiotics could be seen as that of developing biological theory to a level which equals our experiential knowledge about the living sphere of the earth. It is on this background we can see the true importance of Tom Sebeok's pioneering efforts through 30 years for restoring the rights of animals and other kinds of organisms to be considered part of the semiotic kingdom. And on this background we can judge the prophetic character of his 1979 statement, 'that a full understanding of the dynamics of semiosis may in the last analysis turn out to be no less than the definition of life' (Sebeok 1979, 26; see also 1986, 211).

A semiotic cosmology

"We must understand our world in such a way that it shall not be absurd to claim, that this world has itself produced us" (Prigogine and Stenger 1984). With this statement Prigogine and Stenger want to remind us to the logical problem implied by a traditional scientific world view: If our physical theories explain nature as a stupid thing, how come that this 'thing' was as a matter of fact capable of creating us? Creativity cannot logically grow out of a non-creative world. Ironical as it is, traditional science therefore needs miracle (or alternatively it may of course eliminate creativity by claiming absolute determinism — but that leads us into the absurdity of believing that we couldn't possibly have believed other than what we believe, which is then not a belief but a kind of mental spam).

Now, as is well known, Prigogine's response to this was to show that traditional theories are insufficient. Prigogine got the Nobel-prize for his work on the thermodynamics of irreversible systems and most importantly in this context he showed that in so-called dissipative structures, i.e. systems far from thermodynamic equilibrium, ordered states may sometimes arise spontaneously out of disordered states. Our universe according to Prigogine is inherently creative.

A modern cosmology sees our world as a self-organizing place, a view which has perhaps most forcefully been unfolded in the recent work of Stuart Kauffman (Kauffman 1991, 1993). But still, from (physical) order to semiosis is quite a jump. I have discussed this question, the 'origin of semiosis' elsewhere (Hoffmeyer 1992, 1993a, and forthcoming). The essential problem is the following: How could pre-biotic systems acquire the ability of turning differences in their surroundings into distinctions? Even a bacterium is capable of orienting itself (by moving) in a nutritional gradient. The amount of nutrient molecules hitting the receptors of the outer cell membrane changes as the bacterium moves, and this change is registered by the cell, allowing the cell to *select* the direction in which further movements are done. My claim is that the necessary but sufficient condition for a system to make distinctions in this sense is that it has developed *self-reference* based on *code-duality*, i.e. the continued chain of digital-analog (i.e. DNA-cell) re-interpretations guiding the genealogical descent (Hoffmeyer 1987, Hoffmeyer and Emmeché 1991). While the origin of such a system requires the creation of a highly structured and chemically very complicated aggregate of macromolecules, there is no reason to doubt that it could not have been created by self-organizing processes such as suggested for instance by Weber and Depew (1995). Rod Swenson has pointed out that thermodynamic fields will behave in such a fashion as to get to the final state — minimize the field potential or maximize the entropy — at the fastest possible rate given the constraints ('the law of maximum entropy production' (Swenson 1989)), and this implies that 'progressive evolutionary ordering entails the production of increasingly higher ordered states — higher order symmetries of the world itself in its own becoming — and perception-action is the physics at these levels' (Swenson and Turvey 1991, my italics): 'the world is in the order production business, including the business of producing living things and their perception and action capacities, because order produces entropy faster than disorder.'

Semiosis in its most modest form arose in the very process which created the first living systems on earth. From this tender beginning a new evolutionary dynamics was implemented in the world and in the course of time organisms capable of mastering increasingly more sophisticated semiotic

interactions developed. Or to state it differently, the semiotic aspects of material processes gradually increased their autonomy thereby creating an ever more sophisticated semiosphere — a semiosphere which finally (after three and a half billion years) had the power to create semiotic systems, such as thoughts and language, which are only in the slightest way dependent on the material world, from which they were ultimately derived (Hoffmeyer 1993a, and forthcoming).

It is remarkable that this recent turn in our understanding of the evolutionary process in which our planet takes part tends to confirm the intuitions of Charles Sanders Peirce writing so many years ago:

'Thought is not necessarily connected with a brain. It appears in the work of bees, of crystals, and throughout the purely physical world; and one can no more deny that it is really there, than that the colours, the shapes, etc., of objects are really there. Consistently adhere to that unwarrantable denial, and you will be driven to some form of idealistic nominalism akin to Fichte's. Not only is thought in the organic world, but it develops there. But as there cannot be a General without Instances embodying it, so there cannot be thought without Signs. We must here give "Sign" a very wide sense, no doubt, but not too wide a sense to come within our definition. Admitting that connected Signs must have a Quasi-mind, it may further be declared that there can be no isolated sign. Moreover, signs require at least two Quasi-minds: a Quasi-utterer and a Quasi-interpreter; and although these two are at one (i.e., are one mind) in the sign itself, they must nevertheless be distinct. In the Sign they are, so to say, welded.' (Collected Papers of C. S. Peirce 4.551 in Hartstone and Weiss 1931-35).

The semiotisation of nature has as a consequence that body-mind dualism falters and that the obstinately guarded borderline between human and natural sciences become riddled. Just as organisms cannot be understood as if they were just sophisticated computers, the human mind cannot be understood as if it had no body. All bodies are minded and all minds are embodied.

Minded bodies

Following Umberto Eco's suggestion (Eco 1976), the capacity for lying is often taken as the distinctive criterion for the semiotic character of an activity. If a lie is not possible, what goes on is not a sign process, but a

causal process. In this view most communication in animate nature fall well outside the realm of semiotics. Mimicry, for instance, is not a semiotic phenomenon, since the little innocent fly equipped with the black and yellow stripes of a wasp, couldn't possibly have been otherwise equipped. Its coloration is not a lie because it was never a result of an intentional decision to deceive.

But what should be meant by intentionality? Sebeok lists the following three features as general to many definitions of intentionality as concerns communication: 'the source animal (the one launching the message) appreciates the fact that its action is, in this instance, informative; the source recognizes the fact that the destination of the message (the addressee) also knows it to be informative; and the source has the option of either emitting or squelching a particular bit of information' (Sebeok 1986, 127). Clearly, only few kinds of animals would be clever enough to fulfil these criteria. Sebeok (1986, 127ff) mentions several examples of (mammalian) animals who 'can, with reasonable assurance, be said to lie — even habitually so — to us.' An illustrative example is the elephant Siam, in the municipal zoo of Budapest. This elephant 'begged to be fed chunks of bread from the public. Occasionally, malicious schoolboys would tease him by passing inedible objects from hand to trunk. In response, Siam would amble to his watering place, pretend to quench his thirst, and saunter back to the fence; then, suddenly uplifting his trunk, he would inundate in a flood of water the same person who had victimized him. No one who watched Siam's infallibly accurate aim could doubt that his act was (in both senses) a deliberate suck-in' (Sebeok 1986, 128).

Now, in an evolutionary and non-dualistic perspective it would be obvious to ask where intentionality came from in the first place? What is the evolutionary origin of intentionality? In the phenomenological philosophy from von Brentano and Husserl 'intentionality' is connected to the idea that our mental states are always 'about' something 'out there'. This inescapable 'aboutness' seems in fact to be a broader phenomenon than just consciousness. From a biological point of view there is nothing surprising with this 'aboutness'. Nervous systems and brains belong to animals — they never appeared in plants — and from the evolutionary beginning their function was to guide body-action, behaviour. It is a well known fact that animals can and do dream. This implies that the mental states can be uncoupled from bodily action. But the extent of uncoupling between behaviour and mental activity which characterizes the human mind is probably unique to that specific animal. The uncoupling makes philosophers wonder how it can be that mental states are always 'about' something. But this is because they don't consider that mental 'aboutness', human intentionality, grew out of a bodily

'aboutness' (i.e. behaviour necessary for assuring reproduction and survival), might we call it *evolutionary intentionality*, the anticipatory power implicitly present in all systems based on code-duality. We haven't yet escaped the fact, that our minds are still embodied (see below). The French philosopher Maurice Merleau-Ponty arrived at a related insight through a phenomenological argument. Merleau-Ponty observed that there is a deeper intentionality at play even before the explicit or conscious intentionality. Our actions are intentional even though we do not think about it, and this is because 'originally consciousness is not a "I think that" but a "I can"' (Merleau-Ponty 1945, 160).

I suggest that we include among lies a special category to be termed *evolutionary lies*, i.e. lies rooted in the kind of intentionality exhibited by lineages in the process of evolving strategies for deceiving individuals from other species. Thus, e.g. the Malayan praying mantis, *Hymenopus bicornis* is pink and rests on the flowers of *Melastoma polyanthum*, and closely resembles them in colour and shape. Insects attracted to the flower are caught by the mantis. Clearly, the mantis falsely 'pretends' to be part of the flower. This is as good as any an example of what I propose to call an evolutionary lie. Here of course no mental processes are at play, the mantis doesn't know that it fools the insect. But if analysed at the time scale of evolution the intentionality of the deception is hard to overlook. I suppose nobody in this case knows exactly how this mimicry habit evolved, but let us consider a possible scenario. Suppose that the remote ancestors of *Hymenopus bicornis* were about becoming extinct. For some reason certain mantis by chance happened to be attracted to a scent emitted by *Melastoma polyanthum* flowers. Such ancestors would have a good probability of getting enough food, since where flowers are there also tend to be prey, insects, and so the adaptation survived. For obvious reasons predators like our mantis would be expected to fare best if invisible. Therefore, supposing that the habit of looking like a pink flower is not too difficult to create (and I see no reason it should be), such an adaptation might easily have become fixed in the species.

Taking this scenario we can see that the deception was in fact intended in the sense that the 'aboutness' of the evolutionary lineage of our mantis ancestors, i.e. its inherent project of surviving, made the lineage select a strategy which it had 'learned' was effective in deceiving the prey. So, in this understanding, the single mantis doesn't lie, but it is nevertheless an integral part of the lying lineage to which it belongs. Seen in the historical setting in which the adaptation took place the 'resemblance' between mantis and flower was meant to be a (false) 'representation', i.e. it was a lie. Lying here takes place, not at the level of the individual, but at the level of the lineage. We may further imagine that one lie takes another. If for instance the insects

would learn to distinguish the pink flowers and to avoid them, the flowers might counteract this loss of pollinators by emitting a different scent thereby deceiving the mantis and perhaps regaining the 'confidence' of the original pollinator, and so on.

If it is objected that evolutionary lineages cannot possibly form representations and that therefore they cannot do anything semiotic, I think the answer will be that such a claim presupposes a very narrow conception of what is a representation. For comparison let us consider the case of human visual representation such as e.g. a person who has had the bad fortune of witnessing a man falling to his death from a balloon. The icon formed in the mind of this person will be some mental representation of a complex and changing pattern of a firing collective of neurones coupled to a whole lot of other bodily processes. In the evolving mantis lineage, on the other hand, what we see is that the circumstances, i.e. the fact of preferred bugs feeding on pink flowers, caused an icon to form in the lineage consisting in the phenotypic behaviour of climbing certain pink flowers. This phenotypic behaviour is no more and no less causally connected to the feeding habits of the bugs than the vision of a falling balloon is causally linked to the actual case of a falling balloon. In both cases a representation takes place. In the case of the lineage the behaviour is some phenotypic representation of patterns of gene expression which again represent the natural history of the lineage. In the case of vision also the relation between moving objects and firing neurones are based on personal experiences (a baby cannot form this kind of icon).

Apart from the very different time-scales at which these phenomena take place they seem logically very similar. In other words, isn't it just the time scale problem which fools us not to see a lineage and a person as related phenomena? Human lies come quick, say in seconds or minutes. Biological lies may take thousands of generations to unfold. But then, the biosphere is such an old creation compared to us humble human liars.

Lies are the kind of poison operative in semiotic systems. Therefore lies occur not only at the exosemiotic level; lying also takes place inside our bodies. For instance, cancerous cells may sometimes be able to fool the cells from the immune system supposed to eliminate them, so that they survive and proliferate. HIV virus is good at hiding inside cells, so that the immune attack is delayed, and infectious agents generally contain at their surfaces molecular shapes which are erroneously recognized by the receptors of healthy cells as 'friendly messages'.

Traditionally, in the Darwinian tradition, deceptive semiotic interactions between species has been treated under the rubric of co-evolution. But this

may be a grave underestimation of the true extent of this sort of evolution. Semiotic interactions will tend to combine different species into integrated functional networks which cannot be analysed in terms of two-species interaction models. I find it very likely that semiotic interactions between species when analysed in more detail will produce an explosive change in our conceptions of symbiosis and thereby put the symbiotic theory of evolution (Margulis and Fester 1991, Sapp 1994) to the forefront of evolutionary theory (this question is treated in a separate paper (in preparation)).

What I suggest, then, is that the development of individual intentionality in clever animals was preceded by the development of an evolutionary intentionality (which itself was preceded by a cosmic quasi-intentionality (Hoffmeyer forthcoming)). Rather than excluding un minded bodies from the kingdom of semiosis by applying the rigid criterion proposed by Eco I suggest we accept the idea that semiosis is itself an evolutionary phenomenon exhibiting different degrees of freedom. Evolution might then be seen, as Gregory Bateson suggested, as itself a kind of mind process, and by implication all bodies in the world are in a way minded bodies. As I have suggested earlier one might even say that the unfolding in our universe of increasing semiotic freedom is what evolution is all about (Hoffmeyer 1992, and forthcoming).

Embodied minds

The cells and tissues which make up our bodies do not themselves know that we exist, and neither do our organs, our heart, or even the brain. The belief that we exist is a property of the mind-body system as a whole. From the biological point of view this belief in individual existence is not as obvious as might be thought. The number of cells in a human body is immense (the order of magnitude is 10^{13} , i.e. 10,000 billions) and each of these cells is a highly structured universe of its own containing not only many millions of protein molecules but also a multitude of internal structures, organelles, which themselves were probably once independent bacteria like organisms. The dynamic complexity of a cell is best compared to that of the traffic in a big city like Copenhagen (Hoffmeyer 1992). And we shouldn't take it for granted that our different body parts love each other, or that they have any intentions as to maintaining us. As the American biologist Leo Buss has shown, we should rather ask ourselves how it can be, that the cells and tissues of our body do in fact collaborate in creating us. As Buss writes:

Evolution of multicellular forms of life 'is characterized by an increasing sophistication of cells, tissues, and organs which perform somatic duties of

value to the individual as a whole, but which require the cells composing them to limit their inherent potential for proliferation. The propensity for continued self-replication has been subjugated to the interests of the whole' (Buss, 1987, p. 53).

Buss introduced the expression 'somatic ecology' for the striking state of breakneck-harmony characterizing healthy people. The key to this 'somatic ecology' seems to be the immune system: 'Somatic ecology' writes Francisco Varela 'is a designation for the dynamic mechanisms required to mediate potential conflicts between cell and individual. In most vertebrates this "somatic ecology" is bound together through the network of lymphocytes that constitute the core of the immune system' (Varela, 1991).

In 1976 the Danish immunologist Niels K. Jerne did an important observation which has led to a fundamental change in the conception of the immune system. Jerne pointed out that parts of the antibody molecules are interpreted as 'non-self' by the organism which has itself produced them. Accordingly, the organism produces antibodies against its own antibodies. Such antibodies are called anti-idiotypic antibodies. Now, these anti-idiotypic antibodies may further provoke the production of anti-anti-idiotypic antibodies, and even anti-anti-anti-idiotypic antibodies. Therefore, as Jerne explained in his Nobel Prize Laureate lecture: 'In its dynamic state, our immune system is mainly self-centred, generating anti-idiotypic antibodies to its own antibodies, which constitute the overwhelming majority of antigens present in the body.' (Jerne 1985). The immunological network is based on communicative processes: On the surface of each cell are situated millions of receptors capable of translating exterior molecular messages or signs in specific patterns of biochemical activity inside the cell. At each moment a given cell has to make a weighted interpretation of the collective state of its receptors. A given molecular message does not automatically release a certain cellular response, rather the cellular response will depend on the particular history of that cell many cell generations back in time as well as on its actual 'cell-sociological' context, i.e., its relation to the surrounding system of cells (Edelman 1989). Although the system, at least in principle, might be fully described in molecular terms its internal logic is adapted to its communicative way of functioning. It works as if the individual cells had the intention of contributing to maintenance of bodily health.

It is important to realize that there is no hidden director behind the working of this marvellous system. The somatic ecology is upheld only because swarms of cells incessantly scrutinize every corner of our body thereby inducing cells and tissues to engage in eventual corrective activities. And this swarming semiotic pattern of interaction is itself a historical product of experiences with inter- and intracellular communication stretching back to

the earliest forms of multicellular life which appeared on the Earth a billion years ago. It is the historical character of the immune system which holds the key to its apparent intentionality (Hoffmeyer 1992, 1995).

Sebeok has pointed out that in addition to this 'biochemical self' defined by the immune system there is in human beings another self-discrimination system, a 'semiotic self' connected to the feeling of *anxiety* "which protects the self in the sense that this is a continuous activity, or way of life, in a word, behaviour. What is maintained by anxiety, another sort of memory, is not biological substance but the pattern of behaviour that it operates" (Sebeok 1977). While immunity has arisen early in evolution, anxiety — as an early warning system — may according to Hediger (as quoted by Sebeok) be traced back to higher vertebrates, and notably the mammals. Thus the semiotic self (just like the 'aboutness' behind intentionality) has a biological anchoring: 'As the capacity to integrate becomes more sophisticated, the rigidity of the programme of heredity attenuates, the brain grows more complex, the ability to learn more refined.' Thus, as I understand it, Sebeok implicitly suggests a natural history of the semiotic self.

The relation between the biochemical self and the semiotic self might perhaps be described as one of supervenience (cf. Kim 1994). As has become clear in recent years the immune system and the nervous system are not easily separated. Not only are nerve fibres branching into the organs of the immune system, thymus, lymph glands, bone marrow and spleen. But more important, a major conceptual shift in neuroscience has been wrought by the realization that brain function is modulated by numerous chemicals in addition to classical neurotransmitters. Many of these informational substances are *neuropeptides* and the finding that surface receptors for neuropeptides, formerly believed to be exclusively found in the nervous system, are widespread on the surfaces of mobile cells from the immune system, indicates the extent of integration of the two big systems. As the biochemist Candace Pert has put it: "Neuropeptides and their receptors thus join the brain, glands and immune system in a network of communication between brain and body, probably representing the biochemical substrate of emotion" (Pert et. al. 1985). Therefore some people claim, that the immune system should rather be considered as a *floating brain*. Not only do nerve cells and immune cells communicate via hormones but certain immune cells are even capable of penetrating the brain. Pert suggests that such cells function as 'mobile synapses' bringing information from one part of the body to another.

Gradually a new image arises in which the brain is functionally integrated into the body. Swarms of immune cells interact with swarms of nerve cells in maintaining the somatic ecology. The view of a centralized authority in the brain controlling the ignorant body fades out of sight and is

replaced by an interactive organization based upon the distributed problem solving capacity of myriad's of cell swarms working in parallel). The immune system then becomes the mobile extension of the brain into the body, forever engaged in the mirror room of redefinitions (Hoffmeyer 1993b).

The true extent of the mind's embodiment is only now beginning to be recognized. In a recent book the American neurologist Antonio Damasio describes how he was led to a whole new conception of neuropsychology through the study of several groups of brain-damaged patients who simultaneously suffered from impaired reasoning/decision making and impaired emotion/feeling (Damasio 1994). Very briefly stated, many of these patients seemed unable to make rational decisions exactly *because* their brain damage had resulted in impaired emotional response. What appeared from such studies together with evidence from a range of other sources was that 'the apparatus of rationality, traditionally presumed to be *neocortical* does not seem to work without that of biological regulation, traditionally thought to be *subcortical*. Nature appears to have built the apparatus of rationality not just on top of the apparatus of biological regulation, but also from it and with it.' (*ibid.* p. 128). Feelings are just as cognitive as any other perceptual image, claims Damasio, 'but because of their inextricable ties to the body, they came first in development and retain a primacy that subtly pervades our mental life. Because the brain is the body's captive audience, feelings are winners among equals. And since what comes first constitutes a frame of reference for what comes after, feelings have a say on how the rest of the brain and cognition go about their business. Their influence is immense' (*ibid.* p. 159).

The intimate body-mind relation goes both ways of course: 'If ensuring survival of the body proper is what the brain first evolved for, then, when minded brains appeared, they began by *minding* the body. And to ensure body survival as effectively as possible, nature, I suggest, stumbled on a highly effective solution: *representing the outside world in terms of the modifications it causes in the body proper*, that is, representing the environment by modifying the primordial representations of the body proper whenever an interaction between organism and environment takes place' (*ibid.* p. 230).

It is not possible in these brief and very general quotations to do justice to this rich book. My only objection to Damasio's ideas is that he himself seems to think that he has explained away everything as belonging safely to Descartes' *res extensa*. (*ibid.* p. 123). But, clearly, that won't do, for bodies are not just *res extensa*. The 'aboutness' of the mental is rooted in the 'aboutness' of the bodies considered in their evolutionary context. What needs to be done is to couple Damasio's theories to a *semiotic* understanding of life. In this way neurobiology might finally bring out the implications of the

semiotisation of nature: that mind and body does not belong to different worlds, the idea of a pure *res extensa* is as fictional as the idea of a pure *res cogitans*. Only because fissures and even single cells have the capacity to let internal and external events produce interpretants (habits) is it possible that mind processes can grow in bodies.

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SEMIÓTICA: ANÁLISES TEXTUAIS

SEMIOTICS: TEXTUAL ANALYSES

ON PLANTS AND ANIMALS IN CLASSICAL JAPANESE LITERATURE

Even if the lion could speak, we won't be
able to understand him

LEONARDO WITTENBERG, *Philosophische Untersuchungen*

It could be argued that the type of relations between human beings and animals has been an important characteristic of the cultural development since ancient times. At least, not less important than the type of relations between humans themselves. In the process of development of human civilization the attitude towards animals has undergone a long chain of changes — from the totemic animals to experimental animals, i.e. from superior, or, at least, equal beings, to inferior, or, subordinate creatures; and this has eventually brought forth the revival of the “personal” interest in animals, and even in their individuality.

Can animals smile? Can they lie? Do they have memories? And hopes? — these are some of the semiotic questions raised in the modern scientific researches. Questions, for which the ancients seem to have had a very positive answer.

Strangely enough, or, maybe, on the contrary, quite naturally, there are some striking similarities between the scientific facts of recognition of individual identity in animals, and the so-called “individualized” depiction of animals in the early texts. But whereas modern science comes to this knowledge by reason, by projecting the laws of human behavior and human society upon the Umwelt, the ancients seem to have been taking it for granted, being guided by their senses and their practical wisdom, or, rather, by their “lack” of any other knowledge.

In my paper I shall try to compare, or, maybe just to juxtapose these two knowledges — the modern scientific one, and the poetic knowledge of the ancients, aiming at their common *playfulness* as a major generator of meaning. As a representum of the first I am going to refer to some of Thomas A.

Sebeok's zoosemiotic ideas¹, whereas for the illustration of the second, I shall rely on *The Pillow Book of Sei Shonagon*², a Japanese court-lady from the late Xth century.

Animalea ludens

The recognition of individual identity in animals is closely related to naming, i.e. to the existence of proper names, and of singular proper names (Sebeok's term) in the animal kingdom. Sebeok associates the proper name with a family name: "the way in which one animal conveys to another its membership in this or that species is as if it were displaying its proper name, presenting, so to speak, its family name — a family which may have quite a large circle of other members as well" (1986: 84). Let me mention in passing that this notion of 'a family name' reminds one of the pre-modern family names in human societies, which were rather 'clan names', indicating above all "the location in space and in time, and the rank in the social hierarchy" (1986: 84).

On the other hand, Sebeok distinguishes from the proper name a singular proper name (SPN), "marking each carrier animal as unique" (1986: 82). This uniqueness is due to the fact that the SPNs are sensorial, i.e. olfactory, acoustic, optic, etc. Or, in other words, whereas the cultural names of humans and of animals in captivity (either domestic, or tamed) may have several, or even many denotations, the natural singular proper names seem to be really 'singular'.

On the basis of different examples of "personal communication" in animals observed by zoologists, and by specialists in animal psychology, Sebeok demonstrates that "the animal acquires its SPN through a variety of processes among which play is paramount" (1986: 88), and suggests the following conclusion: "As a heuristic guide, one may provisionally postulate that, (a) whenever (social) 'play' is discovered in a species, its members will be found to bear natural SPNs; and conversely, (b) whenever the members of a species are found to bear natural SPNs, (social) 'play' will also be discovered" (1986: 96).

This pivotal issue of the role of playing in the process of naming in animals, and subsequently, in the recognition of their individual identity can serve as a starting point for the discussion of Sei Shonagon's *The Pillow Book*, which could be justly qualified as 'a game in poetics'.

The Pillow Book (Makura-no soshi) belongs to one of the most interesting periods in the cultural history of Japan, the Heian period (IX-XII C.), when the energy of the accumulated in the course of several centuries cultural informa-

tion from China was transformed into stimuli for the vigorous development of the elements of the *mundane* culture. Since it is impossible to discuss the characteristics of this culture in a few lines, and moreover, I have already attempted this elsewhere³, I shall confine myself to some brief remarks related to the subject of this paper.

It could be said that during the four centuries of the Heian period there co-existed two cultures: the official one which covered political and social life, as well as the mythicized history, and was open to the outer world, i.e. outside of Japan; and the non-official one which was 'restricted' within the limits of the 'inner' world — inside the country, everyday life, love, and poetry. In the written culture this division was clearly marked by the usage of different writing systems: the Chinese characters *mana* ('real' letters), and the Japanese syllabic alphabet *kana* ('provisional' letters).

Since the subject matter of the official culture was a taboo for the non-official one, it had to compensate for this restriction by widening its scope, i.e. by covering all spheres of the 'inner' life, including the natural world of the flora and the fauna, and by concentrating on each and every detail in it. The result was a sophistication and refinement of the sensory and the sensuous perception, which became not the least inferior to the continental mental perception. It was just different.

On the other hand, the horizontal structure of the non-official culture was noted in the inheritant Shinto beliefs, which didn't have strict lines of demarcation between the world of the people and their environment, often inhabited by the earthly deities *kami*.

And here is how Sei Shonagon herself introduces her *pillow book* in the closing chapter: "I now had a vast quantity of paper at my disposal, and I set about filling the notebooks with odd facts, stories from the past, and all sorts of other things, often including the most trivial material. On the whole I wrote about things and people that I found charming and splendid; my notes are also full of poems and observations on trees and plants, birds and insects" (1971: 263-264). What is remarkable about this explanation is the fact, that "things and people, poems, trees and plants, birds and insects" form a congenial continuous flow in it.

Naming and playing play most important role in *The Pillow Book* of Sei Shonagon, who would even interrupt every now and then her story about the court life, being "distracted" by an interesting name and the challenge to play with it. But since my purpose is to present her observations on animals, and later on plants, I shall skip her unique lists of geographical names, and get closer to the point⁴.

As she herself mentions in the closing chapter, birds and insects occupy a central place in her zoological depiction. On the one hand, this is due to the

specificity of the Japanese fauna with its large variety of birds and insects, whereas on the other, these were the only living creatures (apart from the humans) which Sei Shonagon and her mates could observe in a natural environment during their pilgrimages. This could be also an explanation for the poetization of many birds and insects, which in turn is another reason for Sei's interest in them.

Most of the entries in the chapter on "Birds" (1971: 67-69) reveal characteristic features of the 'social play' of the mentioned birds. Moreover, it could be argued that this is the leading principle in the selection of names, reinforced in turn by the poetic tradition, for which the 'social play' seems to be also of crucial importance. Thus, for instance:

"The heron is an unpleasant-looking bird with a most disagreeable expression in its eyes. Yet, though it has nothing to recommend it, I am pleased to think that it does not nest alone in Yurugi wood" (an allusion to the poem: *In Takashima even the herons of Yurugi Wood, / where the branches quiver in the wind, / refuse to nest alone / and keenly seek a partner for the night. / Yet...*).

"They say when the copper pheasant cries for its mate it can be consoled if one puts a mirror before it — a very moving thought. What misery these birds must suffer if they are separated from each other by a gorge or a ravine!"

"Among water fowl it is the mandarin duck that affects me most. How charming to think that the drake and his mate take turns in brushing the frost from each other's wings!" (an allusion to the poem: *The mandarin ducks, the husband and his mate, / brush from each other's wings the frost. / How sad if one is left to sleep alone!*)

"The river plover — alas, that he should have lost his mate!" (an allusion to the poem: *Autumn is here / and with it comes / the plover's cry — / the plover who has lost his mate / on Sao River's misty banks.*)

This reminds me very much of Sebeok's remark that "in several dozens species of birds there has been found a phenomenon known as duetting", and of his quotation from a research work on a species of the African shrike, namely that "when the partners were absent, the remaining bird would use the sounds normally reserved for his partner, with the result that the said partner would return as quickly as possible as if called by name... Field observations suggest at times that one bird is calling its partner back 'by name'" (1986: 87).

Well, I could only add that in classical Japanese (and Chinese) poetry there are many examples of birds calling their mates 'by name'. On the other hand, it makes me wonder how the African shrike would react, if someone would try to cheat him by putting a mirror before him. Will he keep on crying, or, will he be consoled like the copper pheasant?

Now, whereas Sei Shonagon's observations on birds seem to be in concordance with modern ornithological studies, her observations on insects

would most probably be rejected by entomologists as "pure fiction". But the fascinating fact that "the red-and-white Hawaiian shrimp *Stenopus hispidus* know each other personally, most probably by their chemical names" (1986: 84), may bring in the future to some new discoveries about the invertebrates and their ability to play.

Sei Shonagon's choice of insects (1971:69-70) is not guided by the poetic tradition, but rather by the interesting (proper) names: the bell insect, the pine cricket, the mayfly, etc. Some of the entries are accompanied with short stories, among which the most dramatic one is the story of the basket worm. Here it is:

"I feel sorry for the basket worm (Jap. *minomushi*, lit. 'the straw-coat worm'). He was begotten by a demon, and his mother, fearing that he would grow up with his father's frightening nature abandoned the unsuspecting child, having first wrapped him in a dirty piece of clothing. 'Wait for me', she said as she left. 'I shall return to you as soon as the autumn winds blow'. So, when autumn comes and the wind starts blowing, the wretched child hears it and desperately cries, 'Milk! Milk!'" (in Jap. 'chi-chi', which is both, the characteristic sound of the basket worm, and the word for 'milk').

Thanks to this heart-breaking story the *minomushi* has become quite a celebrity in classical Japanese literature, so that even the famous *haiku* poet Basho (17th C.) dedicated a poem to it:

<i>minomushi-no</i>	Come to listen
<i>ne-o kiki-ni koyo</i>	to the minomushi's cry
<i>kusa-no io</i>	in my lonely hermitage!

As mentioned above, birds and insects are the only zoological categories to be grouped by Sei Shonagon in her quest for something interesting and fascinating in life. The so-called 'higher' animals are excluded from this list. But this is because they are included among the 'higher' protagonists of the text: the courtiers, or, at least, their servants. In order to illustrate this I shall quote from a series of short chapters with aesthetic "prescriptions":

"No. 48 Oxen should have small white foreheads, and their bellies and legs, as well as the end of their tails should also be white."

"No. 49 The most beautiful cats are the black ones with white bellies."

"No. 52 The oxen-drivers should be stout, with unkempt hair, ruddy faces, and quick-minded."

"No. 55 Small children and babies ought to be plump. So ought provincial governors and others who have gone ahead in the world; for, if they are lean and desiccated, one suspects them of being ill-tempered." (1971: No. 38, 77-78).

It could be argued that in the quoted above passages oxen and cats are anonymous (even without 'proper names' as animal species), just like the oxen-drivers, or the provincial governors, because their depiction is not centered on themselves; it functions to outline the elements of the *bon ten* in the aristocratic society. On the other hand, the higher 'higher' animals in *The Pillow Book* are treated much like the higher courtiers, as in the cat-and-dog story in Chapter 6 (1971: No. 8: 30-33).

The cat in question was a very special one with a very singular proper name, for as a favourite of His Majesty "she had been awarded the head-dress of nobility and was called Lady Myōbu". The dog was "a commoner", as it is suggested by his name, Okinamaro (from *okina*, "old man"). The story runs as follows:

Lady Uma, the nurse in charge of Lady Myōbu, decided to punish her for her laziness, and called on Okinamaro: "Come here and bite Lady Myōbu!" The foolish Okinamaro, believing that the nurse was in earnest, promptly followed her command. Startled and terrified, Lady Myōbu jumped into His Majesty's arms, and he ordered that Okinamaro be chastised and banished to the Dog Island.

The other ladies-in-waiting were very sorry for Okinamaro and they missed him very much, so that when in the evening a wretched-looking dog walked into the Palace, they thought it might be him, and started calling him by name. But he didn't respond. When it got dark, the ladies gave the dog something to eat, but he refused it, so that finally they decided that he was not Okinamaro...

But then, when they started lamenting Okinamaro's death, "Poor Okinamaro! Oh, how he must have suffered!", the dog suddenly "started to shake and tremble, and shed a flood of tears". The ladies realized that "on the previous night it was to avoid betraying himself that he had refused to answer to his name". (A fascinating contribution to the discussion whether, and under what circumstances animals can lie!)

And here is the happy end. When the news reached His Majesty, he said with a smile: "It is amazing! ... To think that even a dog has such deep feelings!" As a reward for his deep feelings Okinamaro was granted an Imperial pardon, and was allowed to return officially to the Palace.

His Majesty's remark, "To think that even a dog has such deep feelings?", points at one of the major typological characteristics of Heian culture, i.e. at its preoccupation with feelings as a basic value orientation. For a comparison I shall relate another dog-story, cited by Montaigne in his *Essays*:

"Can all this be conceived without reason?... We must not forget that Plutarque affirmeth to have seen a dog in Romo doe before the Emperor Vespasian the father, in the theatre of Marcellus. The dog served as a juggler,

who was to play a fiction of many faces, and sundry circumstances, where he also was to act a part. Amongst other things he was for a long while to counterfeit and faire himself dead because he has eaten a certaine drugges; having swallowed a piece of bread, which was supposed to be the drugges, then stretching himself along as if he were stark-dead, he suffered himself to be dragged and hauled from one place to another, according to the subject and plot of the play, and when he knew his time, first he began faire and softly to stirre, as if he were rouzed out of a dead slumber, then lifting up his head, he looked and stared so ghastly, that all the bystanders were amazed" (1980: 441).

Although the human reaction in both stories is similar, i.e. amazement, the cause for the amazement is quite different: *reason vs. feelings*. Montaigne's dog story has a subsidiary role (that is why the dog is without a name, or, rather, only with a proper name as 'a dog'), and it functions as "a point of departure for moral philosophy, for the examination of the human condition" (Auerbach, 1974: 298), postulated in the starting question: "Can all this be conceived without reason?". On the other hand, the aesthetic and emotional drift of *The Pillow Book* allows of greater freedom and endows the story of Okinamaro with a value of its own, formulated in the concluding exclamation: "To think that even a dog has such deep feelings!". Or, in other words, it could be said that whereas in Montaigne's story a dog "serves as a juggler" and "acts a part", the dog Okinamaro *acts as himself*. This could be further traced in terms of readers' self-identification. Whereas in the first story the readers would identify themselves most probably with the bystanders (or, maybe with Montaigne, or Plutarque), in the second one we can identify ourselves not only with the courtiers, or the ladies-in-waiting, but with Okinamaro, and Lady Myōbu, as well.

Naming in plants (with reference to playing)

The horizontal structure of early Japanese culture which endows each and every element with a value of its own includes plants, as well. This goes back to the Shinto divinization of nature, but unlike any other similar 'primitive' cults, the Shinto beliefs have been preserved throughout the later centuries, functioning as a cultural matrix, upon which other religious, philosophic, and moral doctrines, such as Buddhism, Confucianism, etc. were piled up. Suffice it to mention that even nowadays one can spot here and there in Japan an old tree, or a rock, marked as a sacred Shinto place⁵.

One of Japan's first written texts, *Nihongi (Chronicles of Japan, 720)*, which is a source on Shinto mythology, as well, maintains that, when the

Heavenly gods descended to Japan they found out that, "In that land there were numerous deities and spirits which shone with a lustre like that of fireflies, and evil deities which buzzed like flies. There were also herbs and trees which could speak"⁶.

This 'higher' status of herbs and trees, which (or, rather, who) had speech of their own, led the way in later centuries to one of the 'most Japanese' modifications of the Buddhist teaching, i.e. the *honkokuin* doctrine of the Jōdo sect (12th C.), according to which not only human beings and animals can reach Buddhahood, but "a rock and a river, a herb and a tree can become a Buddha", as well.

Herbs and trees are represented in *The Pillow Book* by two chapters each: flowering ones, and those without blossoms. This division is 'typological', rather than evaluative, because for Sei Shōnagon trees and herbs without blossoms are not inferior to the flowering ones. On the other hand, the Japanese word for 'a flower', *hana*, has a broader meaning, for it signifies any blossom, without consideration of the "floral hierarchy". Thus, for instance, in the chapter on "Flowering Trees" the most famous ones, such as the plum blossoms, the cherry blossoms, or the wistaria, are mentioned only in a few words, whereas the less attractive "personae" are introduced in detail, and, as in the case of the pear tree, even with a tale, which discloses their hidden beauty:

"The blossom of the pear tree is the most prosaic, vulgar thing in the world. The less one sees this particular blossom the better, and it should not be attached to even the most trivial message" (it was customary to attach flowers, or branches to one's letters, and this was an important element of the aesthetic impact of the message). "The pear blossom can be compared to the face of a plain woman; for its colouring lacks any charm. Or so, at least, I used to think. Knowing that the Chinese admire the pear blossom greatly and praise it in their poems, I wondered what they could see in it and made a point of examining the flower. Then I was surprised to find that its petals were prettily edged with a pink tinge, so faint that I could not be sure whether it was there or not. It was to the pear blossoms, I recalled, that the poet likened the face of Yang Kuei-fei when she came forth in tears to meet the Emperor's messenger — 'a spray of pear blossom in spring, covered with drops of rain' — and I realized that this was no idle figure of speech and that it really is a magnificent flower" (1971: 63).

Among the "Blossoming Herbs" (Jap. *kusa*, "grass", "a herb", "a weed", etc., i.e. any plant which is not a tree) one should mention the pampas grass *asunahagi*, whose destiny is compared to human life: "In the early autumn mornings the dew-drops are shining on its tiny red blossoms, and this fascinating beauty takes away one's breath. But by the end of autumn its glory is

gone, and in winter when the cold winds blow, the pampas grass is shaking the white heads of its faded blossoms with bitterness, as if lamenting over its past beauty. The fate of the *asunahagi* grass resembles so much human life...".

But even when a plant does not have beautiful blossoms to recommend it, it still has a chance to be included in Sei Shōnagon's lists of "charming and splendid things", provided that it has an interesting name. Sometimes a name would even "outblossom" the blossoms themselves. As in this case: "The 'evening glory' is very exquisite. Its funnel-shaped flowers resemble those of the 'morning glory', and it is really beautiful in full bloom, but after that it bears some awkward fruits, too big, and too ugly. Nevertheless, the name 'evening glory' is fascinating, indeed".

It could be *vice versa*, though, but even in these cases the readers' attention is drawn by the name: "The Chinese hawthorn (Jap. *sobunoki*, lit. 'side tree') has a rather vulgar name; but, when all the other trees have lost their blossoms, its dark red leaves shine out impressively from the green surroundings" (1971: 65).

While working on the Bulgarian translation of *The Pillow Book*, I came across quite unusual difficulties concerning the translation of the plants sections. Many of the representatives of the Japanese flora did not have any analogues on the Balkans, but even when I succeeded in finding "a distant relative" after tiresome investigations, the result was discouraging, for a great deal of the energy of the text was lost. The problem was in the names themselves. I realized that I should translate the names, rather than the plants signified by them. The reason is very simple: Sei Shōnagon's choice is governed exactly by the interesting names, for they enable her to talk to the plants, and to listen to their voices. Here are some of the "overheard" names, which reveal the character of their bearers:

"I realize that it is not a specific tree, but I must mention the name 'shattered tree' since I find it so moving"⁷.

"The large-leaved cypress *asunahimoki*. It is rare to come across it and not much is said about it; but I understand that pilgrims returning from Mitake often bring back branches of the tree as souvenirs. These branches are said to be rough and disagreeable to touch. Yet the name of the tree means 'tomorrow I'll become a cypress'. What can be the point of such a promise, and for whom was it made? I should really like to know"⁸.

"The water plant with a rather 'haughty' name: arrowhead. It seems to have a very high opinion of itself!"

This water plant (of the genus *Sagittaria*) seems to possess quite a strong 'personality', indeed, for it has impressive names both, in English, and in Japanese. But whereas its English name, arrowhead, is rather logical, for it points to the arrow-head shape of the leaves, the Japanese *omoidake*, 'high face', i.e. 'high self-esteem', is a poetical name, which reveals the character of the plant.

In the quoted above passages Sei Shonagon plays with the interesting names of plants, as if talking with a person, or, at least, about a person. But sometimes this play will get out of her "control", and the plants will start talking between themselves making a story, as in this series of narrative names:

"The '*endangered*' grass *ayuyugao*. Its life is marked with uncertainty, for it grows at the very edge of the rocks. Yet the name of the '*till when?*' stonecrop herb *tsunodegusa* seems to be even more ephemeral, for it grows on cracking stones..."

"The name of the '*kotonashi*' grass, '*No problems!*', is so promising, indeed! Could this mean that it can fulfil any wish?"

"The name of the *shinobugusa*, '*grass that endures*', sounds most pathetic, and it is amazing how vigorously this plant grows on the very edge of roofs and walls" (1971: 80).

Although the last name, *shinobugusa*, is usually translated as '*grass that endures*', *shimibu* in Japanese could also mean 'to remember'; thus, it is not only 'grass that endures', but '*grass that remembers*', as well.

In this paper I have tried to compare, for the sake of playing, some of the modern scientific views on animals with the poetical visions of classical Japanese literature on animals and plants, concentrating my discussion on their common interest in names and naming. As 'a bystander' I was amused to find so many similarities, in spite of the radical differences between the two approaches. This brings to my mind Claude Lévi-Strauss's lecture '*Primitive Thinking and the 'Civilized' Mind*', in which he argues that, "Today we use less and we use more of our mental capacity than we did in the past; and it is not exactly the same kind of mental capacity as it was either. For example, we use considerably less of our sensory perceptions... It is exactly the same with our knowledge about plants and animals. People who are without writing have a fantastically precise knowledge of their environment and of all their resources..." (1978: 19).

Although Lévi-Strauss seems to exaggerate the "killing" effect of writing on sensory perceptions, for it is exactly writing that has enabled us to hear the speech of birds and insects, of herbs and trees in classical Japanese literature, his comparison between '*primitive*' thinking and the '*civilized*' mind is of great value for the present discussion on animals and plants. It could be said after him that, today we know more and we know less about plants and animals than we did in the past; and it is not exactly the same kind of knowledge as it was either. It could be further argued that in the process of development of '*primitive*' thinking towards '*civilized*' mind, mankind has alienated itself from the environment, and now seeks to overcome the gap and to restore the initial harmony on a higher technological and humanitarian level.

This brings me back to Wittgenstein's words, which I have used as a motto: "Even if the lion could speak, we won't be able to understand him". Wittgenstein makes this challenging remark in connection with his arguments that when we arrive to a foreign country, with foreign traditions, we won't be able to understand its inhabitants, even if we know the language, unless we manage to identify ourselves with them.

This sounds reasonable enough, at least in the cases when we already know the language from its usage in another country; otherwise, if we were to start learning it, we couldn't possibly do this without studying the traditions, as well. But as for the lion, Wittgenstein seems to be quite right, for even if we come to know almost everything about the lion and his habits, we still won't be able to understand him, unless we want to.

If the first step towards understanding someone is to have a personal interest, modern science has already made it by the recognition of individual identity in some animal species. As for the next one, maybe a cooperation between ancient poetry with its deep insights, and modern science with its profound knowledge could prove to be beneficial not only for both of them, but for plants and animals, as well.

NOTES

¹ I have based my discussion on Thomas A. Szehnek's book *I Think I Am a Verb: More Contributions to the Doctrine of Signs* (1986), and particularly on Chapter 7, namely "Naming in Animals, with Reference to Playing: A Hypothesis".

² *The Pillow Book* (Jap. *Makuro-no-anbiki*) was written in the Japanese syllabic alphabet *kana* at the end of the 10th C. by the court-lady Sei Shonagon. It belongs to the genre *zuihitsu* (lit. 'following the brush'), which is usually translated as "essay", although *The Pillow Book* is rather different from its continental counterparts, both in the occidental, and in the Chinese tradition. The English translation has been made by Ivan Morris (1967; Penguin 1971), but since it is not complete, for the omitted passages, and in the cases of disagreement with Morris's interpretation I am giving my own translations, based on my Bulgarian translation of the book (*Zepirski pad vzgladkami*, 1985).

³ Since it is virtually impossible to discuss any of the Heian cultural problems, even the most 'trivial' ones, without references to the specific cultural pattern of this period, I've been dealing with it in all my publications among which I could mention the following ones in English: 'A sleeve is not just a sleeve (in early Japanese culture)', *Semiotica* 97-104 (1993), 297-314; 'The pattern of signification in the *Tale of Genji*', *Japan Forum*, Oxford, 1990-2/2, 251-262, etc.

⁴ Unfortunately, Ivan Miers (1925-1976) has skipped these most interesting passages in his English translation, most probably due to the insufficient level of the research work at this text by that time; and even more unfortunately, he died too early to be able to 'rework' his translation.

⁵ I am discussing these chapters in my paper on *The Pillow Book* (1994).

⁶ The usual way of demarcation is the straw rope with festoons of white paper, *shimenawa*. But at some places (I have seen quite a few on the islands of Okinawa) they might be marked even with *sori*, sacred arches, usually seen in front of the Shinto shrines.

⁴ To this equation (*Chronicles of Japan*, tr. by W.G. Aston, London, 1966:164) there could be added another one from the same text: "The God who originally founded this country is the God who descended from Heaven and established this State in the period when Heaven and Earth became separated, and when the trees and herbs had speech" (1966: 277).

⁵ Ivan Morris calls it 'a parasitic tree', because of its dependence on the strength of the other trees, but I prefer the literal translation of its Japanese name, *yuboriki*, i.e. *sheltered tree*, which seems to suggest better the precarious life of this tree.

⁶ Here I have substituted the English variant of the name *'yamotsumi no hi* *become a cypress*, which deprives the tree from his (her) speech, with another possible translation: *'yamotsumi hi* *become a cypress*, for I believe that such 'trifle' things make all the difference.

On the other hand, the last sentence in the passage: "I should really like to know!", reminds me of Aristotle's opposite remark on Montaigne's *Essays*: "Only dumb human and moral are able to *hincere* him. Like Socrates he could say that trees teach him nothing, only the people and the city can do that" (1974:301).

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A SEMIOTIC READING OF OCTAVIO PAZ' ESSAYS

My first encounter with professor Thomas Sebeok goes back to the early 1980s in Palermo, Italy, and later on in Mexico. Our recent meetings have taken place in Berkeley during the V International Semiotic Congress of the International Association of Semiotic Studies (IASS) and in Kassel, Germany, where we have had a touch of gentle friendship and of differences. I do know, however, like many other linguists and semioticians, that he has played a very important role in the development of these disciplines in various countries of the world. His books and journals are a testimony and speak for him all over the world. In life, like in the discussions of semiotic theory, there is unity but also diversity, discrepancy and unity. Therefore, I do appreciate to have been invited to participate in the homage to Thomas Sebeok. I will do it with pleasure as I did it three years ago when the mexican journal, *Semiosis*, dedicated to him the numbers 26-28 corresponding to the year 1992.

Thus, allow me to begin the topic of this paper by quoting Maya Schärer-Nusberger (1989:12) who admonishes us not to assign to Octavio Paz' works a semiotic and structuralist perspective.

"Maybe it is necessary to free ourselves from the temptation of underlying that (formal pole, those features of Paz' works that allow to speak of a semiotic and structuralist view."

Schärer-Nusberger's stand does come out from the interpretation of a reader who seeks to place himself in what would be the point of view of the poet himself, argues Maya Schärer-Nusberger. However, the problem lies in the fact that the meaning of poetic work does not rest in what the poet wanted to say but in what the reader says of a poem, Paz points out, idea which is central in reception theory.

To argue her idea, Schärer-Nusberger refers to certain passages of Octavio Paz' works which from her line of ideas do question any possibility of

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assigning a structuralist nature to his work. She warns, furthermore, that not even Paz' admiration for Jakobson and Lévi-Strauss, nor the structuralist signs that appear in Paz' essays should hide the differences that the poet has with respect to structuralism. I quote:

"To write is the unending question that signs pose to a sign: man, and that which a sign poses to signs: language (Schärer-Nusberger, 1989:13)."

It is clear that Paz is underlying the relation of language with man in a kind of a dialectical relation which assumes circular characteristics which tend to break what can be considered the stability of signs. The passage suggests, it seems to me, that the closed visions of the sign are rejected. Paz conceives the sign as an instrument of man's freedom, and of the writer; he discards the confinement of the human being and his ideas; he reaffirms the idea that signs become a place of creation, rupture and recreation of one and the other. This is what Paul Ricœur calls "l'éclatement du langage vers l'autre que lui même" (1969: 68). "The question about us always reveals itself as a question about the others" — says Paz in *Posdata* (1970: 68); it is the poet's dialogue with history and a rejection of a mechanical attitude in writing, it is the joining of the contradictory and the fusion of the extremes, as we can see in *Libertad bajo palabra* (1949), in *Los hijos de limo* (1974) which he announces explicitly in his song to Mixcoac: "My house were my words, my grave the air", it is language, cultural inheritance which molds the human being, but at same time fuses with man's history. It is not the movement of the sign determined socially, but by other signs, myths and rites which man creates, but at the same time gets created by signs in a kind of dialectical relation as we can appreciate in *El laberinto de la soledad* (1950) and in *Agulla o sol* (1951). Man sculptured by language: "Against silence and brawl I create/ the word, freedom which is invented and/ invents me every day" (1960:14). It is the metaphore of the word and of man.

Monique Lemaître holds similar ideas as those of Schärer-Nusberger. She points out that Paz' book about Lévi-Strauss is, first of all, "a criticism of certain aspects of the works of the french anthropologist" (1976:5), though she warns that her comments are provisional. It must be said, however, that the reading that Lemaître realizes does get inserted — she says — in Paz' poetical theory. But she also claims that her reading coincides with the reading that Paz would have liked his works to have been read. Lemaître' ideas are certainly indefensible as we shall see below when we examine some of the ideas concerning interpretation theory. Furthermore, if we take into account, as Lemaître has said, that in Paz' work "he has participated of the most signifi-

cative intellectual adventures of the century: marxism, Heidegger's philosophy (...) besides his interest for the East (...) and the structuralist thought (1976:8).

I do ask myself now, is there in Octavio Paz an anti-semiotic and anti-structuralist conviction as both Schärer-Nusberger and Lemaître think? So it would seem, but I do not hold to such views. And I say it would seem, for I do not want suscribe myself to any dogmatic position of any kind. But also because Paz' signic movements fluctuate in the plurality of meaning — idea that he reaffirms in different parts of his essays — in the space of the probable — poetical and mythical space, but also rhetorical — which sometimes appear as contradictory, but in a close analysis of the interior, often shadowed by the exterior, is coherent with the line of thought that Ruy Pérez Sánchez calls "Second circle. A new beginning (1944-198)".

What is Paz' language conception? Let us examine first what he says of Lévi-Strauss. His reading of Lévi-Strauss work is a mixture of exaltation, enlightenment and irritation, though Paz acknowledges in Lévi-Strauss a great anthropological, philosophical and esthetic importance, triad which constitutes a philosophy that gets nourished of the coming together of the thinking of Rousseau, Diderot, Montaigne and the marxist ideas. A reading that reminds him of Proust and Breton's work. His language oscillates between the abstract and the concrete; a thought that perceives ideas as sensible forms and these as signs of the intellect. In Paz' opinion, the influences that determined Lévi-Strauss thought were:

"That disorder possesses a hidden sense; it is not a juxtaposition of different forms but the coming together in a place of various times and spaces; the geological layers. Like language, the landscape is diachronic and synchronic at the same time; it is condensed history of the terrestrial ages and it is also a knot of relations. A vertical cut shows that the hidden, the invisible layers is a "structure" that determines and assigns sense to the superficial structures (1992:11)."

It is the metaphore of the mask that we find in *Posdata* (p. 11) and *El laberinto de la soledad*: "the mask converted in face/ the petrified face transformed in mask". A sign becomes an interpretant of an other sign. A triple influence can be seen in Lévi-Strauss: Marx, Freud and the linguists that taught him to explain the superficial by means of the latent, influence that can identified with structural linguistics as Lévi-Strauss says in *Anthropological Antropology* and in the sociology of E. Durkheim: the whole explains the parts, idea that we find again in Marcel Mauss who remarks that the social totality is integrated of superposed planes and each phenomenon without losing its specificity, refers to the rest of the phenomena. The value lies in the relation of the social phenomena:

"Lévi-Strauss gathers Mauss' lessons and relying on the example of linguistics, imagines society as a ensemble of signs: a structure. He moves this way from the idea of society as a whole of functions to that of a system of communications."

What Octavio Paz considers original in Lévi-Strauss in relation to what Malinowski and Mauss proposed lies in his conception of structure which he defines as a "system governed by the internal unity" and the idea that "each system is like a language which can be translated to the language of an other system". Having said this, we can now see why Lévi-Strauss assigns such an importance to the phonological analysis. Saussure's central idea appears in Paz' explanation of the french anthropologist's work. "Not one single element of language can be valued if it is not taken into consideration with respect to the rest of the elements (...) language is a system of relations" (1992:17). We can see in this passage an acknowledgement of Saussure's importance when Paz speaks of the sign's dual character, but he also refers to the contributions given by Peirce when he poses the question, what do the signs mean? and quotes Peirce: "the sense of a symbol is its translation in an other symbol" — the peircian interpretant —. Once more, Paz refers to the notion of relation. A sign refers to an other sign, a tautological argument — Paz cautions us —, but he asks again, if language is a system of signs, a sign of signs, what does it mean sign of signs? We are before the dilemma that he formulates in the following manner:

"If sense is found only in language, the nonlinguistic universe lacks sense and even reality. Or else everything is language (...) Neither Peirce nor linguistics offer elements to hold the first or the second (1992:20)."

From Paz' view, the relation between non-linguistic reality and sense has not been given sufficient importance. He warns, however, that his criticism is not directed to Lévi-Strauss, for his thinking is centered around the relations between the "universe of discourse" and nonverbal reality", "thought and things", "meaning and non-meaning". He points out furthermore that his method is based on analogical criteria (1992:19), on binary opposition which, as we know is similar to the elementary structures in linguistics, central to the works of Lévi-Strauss, B. Pottier and A. J. Greimas. This kind of oppositions represent the change from nature to culture: the formless sound becomes phonemes, the phonemes become words, and the combination of these become discourse; the raw and the cooked, the firstness and the secondness, words in their metaphoric quality: poetic thought as poetic unity:

"Spoken language is closer to poetry than prose; is less reflexive, more natural; that is the reasons why it is easier to be a poet without knowing it than to be a narrative writer. In prose the word tends to be identified with one of its possible meanings in detriment of the others: call a spade, a spade. This operation is analytical in character, it is actualized not without violence, for the word possesses various latent meanings, it is kind of potenciality of directions and senses (...) In the poem language recovers its first originality, mutilated by the reduction that prose and every day speech impose on it (...) The word, free at last, shows its entrails, all its senses and allusions (...) The poet frees its material. The prose writer imprisons it (1993:22)."

Paz bases the last distinction on the idea that in discourse words aspire to become a univocal sense — language of logicians and of science, language of political and religious hegemonies, language that imprisons — because discourse implies reflexion and analysis (1993:21). But the word refuses to be confined, for it displays a plurality of meanings. Therefore, the less reflexive is language, more natural and poetic. Freedom of the word is man's freedom. Let us see a phrase from *Libertad bajo palabra* "I advance slowly and settle the night with stars, of words" (p. 9), fragment of speech that surely refers to the liberty that the poet reaches with the word, but at the same time becomes the limit of his freedom. The word — the sign — as the bridge between man and reality: "Between now and now. Between I am and you are, the word as bridge". It is the word as substance of the relation of man with his world (Paz, 1962: 82); it is the dialogue and the monologue:

"The growing of the I threatens language in its doble function: as dialogue and monologue: The first has its foundation in plurality; the second, in freedom. The contradiction of dialogue consists in that each one speaks to himself when speaking to others; that of the monologue lies in the fact that I never am I, but other (...) The I of the dialogue in the you of the monologue (...) My I is you. The poetical image is the otherness (1993: 261)."

In terms perhaps less metaphorical, we could say that the word proposes the other, idea that reminds us of Bakhtin and Voloshinov's contributions to textual theory: "le discours est orienté vers l'interlocuteur" (Todorov, 1981: 69); the creation of the one in the other; it is the conversion of man through the word, the word as the mediating entity between man and the world.

But from the process of creation and recreation emerges the activity of appropriation of the sign in the process of embodiment, in the semantic filling

or, as the reception phenomenologists would say, in the filling of the indeterminate places.

Paz acknowledges the pre-eminence of language with respect to myths, as it is phonology to language. The plurality in both cases (myths and texts) comes from the selection and combination of constant elements. The Jakobsonian spirit is always present in Paz notion of the word, it is Lévi-Strauss' thought like it is Paz. The myth, like the "langue", is structure; like speech, its time is irreversible. He distinguishes levels in the structure of the myth: the binary oppositional structures that can be identified with the elementary structures of sense: the contrary, the contradictory; the syntactic level present in all kinds of discourse. There is, in other words, a conception of the structures that go from the deep level to the superficial level.

However, to see Paz hesitations and his adhesions, we should remember that his first encounter with Lévi-Strauss' work in 1956 was not advantageous. The second time around took place in 1966, when Greimas publishes *Structural semantics*. It is the decade of the sixties; it is the years of disciplinary revolutions: the appearance of interdisciplinary fields: sociolinguistics, psycholinguistics, pragmatolinguistics, discourse analysis, textlinguistics, etc. The closed visions of language are no longer held. The criticism and Paz thought should be seen in this context, seems to me. Partial views, dogmatism nor petrified looks no longer satisfy.

Thus, following an analogic reasoning, always present in Paz arguments, he makes poetry and myth equivalent. Like myths, poetry is synchronic and diachronic, is irreversible time and timeless structure.

"The poet does not limit himself to describe the present: he awakens the future, leads the present to the encounter of what is coming (...) it is movement that engenders movement (...) motivated by the same energy that moves history, it is prophecy (...) The word embodies, is practical poetry (1993: 256)."

But what is poetical should be distinguished from the poem; first, it is poetry in an amorphous state; second, it is creation, it is the place of "encounter between poetry and man", is poetic creation, that which is not reducible, the unrepeatable that rejects being enclosed in some literary genres:

"I do not want to deny the existence of styles. Neither do I hold that the poet creates from nothing. Like all poets, Gongora bases himself on language. That language was something more precise and radical than speech: literary language, a style. But this poet from Cordoba surmounts that language. Or better, he resolves it in poetic acts which are unrepeatable: images, colors, rhythms, visions (1993: 18)."

But the poem insofar as it is a verbal mechanism, produces meaning thanks to reader that puts it in movement. The poem, like man and woman, is unique, like love when it flourishes in each one of us, has a very particular enchantment. Let's us see some verses from Paz:

"Grew in my forehead a tree
Grew inward.
Its roots are veins,
nerves its branches,
Its confused foliage thoughts.
Your glances kindles it
and its fruits of shadow
are oranges of blood,
are grenades of fire,
dawns in the night of the body,
there inside, in my forehead,
the tree speaks

Come near, do you hear?"

Precisely because it is a meeting between poetics — the sensations, emotions and the desires — and man and his circumstances, the sign is in constant movement. This idea, however, is not different from what Jurij Tynianov and other theoreticians have formulated in the field of literary genres. Tynianov, for example holds that "le fait littéraire" is a dynamic construction.

The ideas just outlined, on the other hand, seem to coincide with those formulated by Mukarovsky who defines art as a semiological event. Art — he says — is a sign, a structure and a value. Duality in signs is undelimited whose entities acquire sense in the perception of the object as an aesthetic object that belongs to a greater whole. From there we can argue that the value is not inherent to the object as such, it is determined by development of society; synchronics and diachronics in movement, the aesthetic value that is determined by the subject reader. Octavio Paz says something which is similar: the literary "work is the conjunction of the author and the reader"; the literary work is "work thanks to the creative competence of the reader, thanks to the criticism of generations of readers"(1982). We are before the topic of literary norms that, like any other kinds of norms, appear when they recognized as such or when they are transgressed. We can see therefore why Felix Vodicka places the theme of literary genre in the context of the aesthetic reception plane (Warning, 1989:55). To him, literary work should be seen not only in its existence, but also in its receptive dimension: how it is perceived, valued and interpreted by the community of readers. Paz proposes something similar when

he says that the literary work is literary due to the "creative complicity of the reader". Literature — says Paz — "is a society within society", is the community of works that link the authors with the readers in that unending process of conversion of the **I** with the **other**. It is Paz' metaphor of the "verbal agreement", verbal agreement which is the bases of our societies, for any institution of any nature lies on the evanescent: the sounds that substantiates meaning, the shapeless sounds that in their organization reach very complex structures: the cultural systems, the symbolic systems, verbal or nonverbal, visible or invisible, abstract or imaginary. The verbal pact is the spoken word, is conversation, is the babtinnian dialogue. But this ceases to exist in the moment that the authoritarian State appropriates the word and makes it a univocal expression, an expression of power that eliminates the possibility of creation and recreation.

"History not only tolerates, but demands plurality of interpretations (1982:47)."

Maybe this is the underlying idea that is present in his criticism to those who practice stylistics, rhetorics, psychoanalysis, sociology and structuralist analysis. All sorts of reductions are always lethal, specialized readings are often times bothersome. Perhaps this is why he is opposed, like Paul Bénichou and Antonio Alatorre, to the scientificism of the literary critics; maybe this is the reason why he says that literary studies are under the threat of the three infections: the sociological, the psychoanalytic and the structuralist (1992:127). To make his point stronger, Paz takes up the argument put forward by Julien Gracq:

"The truth is that it is not worth it to engage in literature if it is not a repertoire of fatal women and lustful creatures (1982)."

We are before the theory of pleasure whose roots we can trace back to the romantics, according to Karl Phillip Moritz:

"Man should learn to experiment once again that he is there for himself (...) Man must not ever be considered a simple and instrumental being, rather as a noble being who possesses a value on its own."

In a similar tone of voice, Susan Sontag also questions those who seem to say that texts have a hidden sense that is brought to light through interpretation. In her opinion, rather than speak of hermeneutics of the art, what we need is *heretics* of the art.

Put in different terms, the criteria to value literary works are not stable, the aesthetic norms evolve, la poetic sign carries in its entrails a dynamic tension. If we take up again the analogy, if myth, poetry and language do have a structure, society is also a structure, a system of structures where each part is in relation with the rest of the parts, with the rest of the groups. The parts of the whole, which is society, show relations of diversity and similarity, but also of opposition and dominion — say Paz.

The threads of our texture have guided us to what we may call a *poetics of reading*. The creative act gets place in the global act of communication, says Cesare Segre, founding President of AISS (1985), Paz and the phenomenologists of reception, like roman Ingarden, coincide with this idea. Ingarden for example, suggests the notion of concretion which he defines as the process of filling up of the indeterminate spaces. The concretions may be the aesthetic values, the ideologies, the perception habits, world views, mental representations and these we can relate to what Paz says: "to speak of language is to speak of civilization: values, beliefs, symbols," (1992). If we follow the analogical strategy that uses constantly, to "speak of a poem" is to speak of culture: values, uses, beliefs, symbols; these are the series that syncretized with language.

To conclude these ideas, allow me take again the notion of *relation* which is characteristic to linguistics, semiotics and anthropology, concept that on the other hand is always present in Paz' work and undelined by those who have studied his texts. Lemaitre says for example:

"For Paz language is the word in relation, "langue" and "word" in the saussurian sense, and (...) also what Noam Chomsky and Roman Jakobson call "competence" and "performance". The structure of language precedes and is superposed to all manifestations of the word, multiple concrete acts, different each time that can not be performed without the relation that exists between them (1976:25)."

This point of view is contradictory with what we quoted from her earlier in the paper, but we now find a coincidence with Guillermo Sastre's ideas:

Paz understands the word as language. This conception gets inscribed, of course, within the old attempt of the poets to find correspondences in the universe. Except that Paz now realizes (like the structuralists) that the poet is not in the center of these correspondences, he is not the sole translator as Baudelaire believed; if the poet translates, his translation is inscribed in the whole of the symbolic system that surrounds it: it is only an other view, not the only one. The best of Paz' poetry is dominated by this vision: "I thought that the universe was a

vast system of signals, a conversation between unbounded beings, he says in *Águila o sol?* From this perspective it is frequent to find in his poetry texts where the metaphoric system is based on elements of language (1977:53)."

Lets us retake from the last quotation the idea of language as a "vast system of signals" and compare it with what Greimas says of Saussure:

"We believe that the originality in Saussure's contribution resides in the transformation of a world vision which was peculiar to his time — and this consists in the seizing of the world as an enlarged net of relations, as an architecture of forms full of sense, forms that carry with themselves their own meaning — in a theory of knowledge and a methodology of linguistics. Far from getting satisfied with a descriptive phenomenology or a pure description as Hjelmslev would say, his vision is closer to poetry than to the exact sciences (1977:116-117)."

Paz' thought, like that of many thinkers, evolves. Thus his notion of the "image", central in his poetry and in his essays, if in his first epoch he conceives it as a self-sufficient object, in his second period he opens it to produce an infinite series of interpretative possibilities. Let me quote him:

"Obscure my eyes opposed images,
and these same images
others, deeper deny them,
burning babble,
waters that flood a deeper and denser water."
(1960:247)

Is the image as verbal form, unique and unrepeatable whose meanings are opposed, if the metaphore of the "other end" that in the fusion of the synchronic and diachronic emerges like the coming together of the opposed.

I finish my thoughts, but they are only a beginning. It seems to me that the signs in Paz germinate like actors of a comedy; they unfold according to a previous script, like the musicians whose role they develop according to the position they occupy within the score. Something like the theater of signs whose movement engenders images and symbolizations that create and recreate real worlds as well as imaginaries. Signs that speak and speak to us in voices sometimes opposed so as to shed sense and build their way constellations of meaning that are knit and interknit under analogical schemes, binary structures, often contradictory.

The signic painting, one by one follow each other like the flowing of a river which in its trajectory adquires the forms of the contours where the river goes: symbolic rush that ascends, like an spiral of senses where the end and the beginning are casted in his poetic journey.

Signic movements, yes, like an infinite semiosis that begins in a time and space, but it is not a beginning, its a continuation; firmness that emerges, like the clay of the artisan whose creations at the beginning are only mental images, feelings, forms and virtual movements that later end up materialized in vases invested with forms and meaning; secondness, a certain artisanal style appears, a norm that becomes law and habit. Thirdness, that imprisons and restrains the soul, thirdness that we have to break to go back to firmness: the sensations, emotions, images. Something alike I seem to perceive in Paz' creative art, as we can see, for example in *El laberinto de la soledad*.

One more link of our chain to go back to our beginning, is it correct to say that Octavio Paz is anti-structuralist? Yes and no. A contradictory answer, which coincides with Paz' thought. Yes if we take into consideration that he rejects all sorts of mechanisms and closed visions of the word; yes in the sense that he criticizes the undynamic practices that used to characterize the structural views, no longer held by linguists and semioticians; yes, if the approach to the word is merely technical. No, if we remember his conception of language: virtuality and performance merged, synchronic and diachronic views united; no, if we remember his universe of signs, the plurality of interpretations; no, if we remember that in his thought gets knitted a structuralist color. His insistence in the notion of *relation* is not accidental. It seems to me, finally, that Octavio Paz, like Ferdinand de Saussure, conceives the universe like a huge network of relations, like a building full of meanings; to approach this building is necessary to provide oneself with a plurality of views. I close this paper with one final quotation from Octavio Paz: "there is not ever one single explanation for a historic fact, not even for the most simple fact" (1982:128).

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SPACE AND ICONICITY IN *THE GENERAL IN HIS LABYRINTH*

In Gabriel Garcia Marquez' historical novel, recounting the last days of the great South American Liberator Simon Bolivar, the labyrinth of the title actually refers to a series of labyrinths that are contingent upon matters of history, geography, and biography. Each of these related considerations may be conceived in terms of spatial relations; more specifically, they appear contiguous with a set of labyrinthine pathways that consistently and conclusively result in a dead end. The General's role in history is ultimately choked off by endless intrigues and political machinations. His final wanderings along the Magdalena River in the northwestern region of the southern continent allow for plenty of doubling back and forth from one seemingly strategic location to another that nonetheless leads him nowhere. His life story ends in like fashion with his being literally choked on his own blood, as his hollowed-out chest collapses of its own weight, even as the man himself is reduced to less than eighty pounds, a mere shadow of his former vigorous self. Thus history, geography, and his own biography collaborate in leading the General only to his death. In this novel the labyrinth of the world does not give way to the paradise of the heart, as Comenius would have it. Rather, the labyrinth affords a kind of instantiated madness, contained, to be sure, but nonetheless born from solitudinous rumination over a past that is gone and a future that will never be, yielding a thoroughly desperate and unrelieved isolation.

The image of the labyrinth draws on both iconic and symbolic properties. As a basic human symbol, the labyrinth has a pictorial history of five thousand years, which has contributed to the felt presence of an archetype or "copies of an archetype," cultural approximations that partly explain "its openness to all kinds of signification" (Sem 1986:219, 230). Further, "the labyrinth has frequently served as a sign for the entanglements of plots and plotting," and thus bears an additional, venerable conventional aspect. We know of it culturally from ancient Greek myth and the story of the Minotaur. Modern novels likewise exploit "the labyrinth's iconic verbal properties as well as its symbolic resonances" (Paris 1991:35, 37) in an effort to attain some level of

truth in a world that has lost its spiritual moorings. In iconic terms, the labyrinth — inherently a spatial construct and “a quest form, a mode of examination or exploration” (Gutiérrez 1983:90) — mirrors the wanderings and travails of the hero in the search for meaning and resolution to the vicissitudes of life.

Significant for both author and critic is the fact that “The labyrinth image... is characterized by a high degree of self-reflexivity on the signifier level and an equally high degree of openness and indeterminacy on the level of the signified”: that is, “the sign itself is so abstract, its features so basic and unmarked” (Scann 1986: 221, 223). The very word, then, particularly when situated in the title of a work (as in García Márquez’ novel or Octavio Paz’ profound meditation on Mexico, *The Labyrinth of Solitude*), appears semantically loaded right off to a degree that implies the need not only for an attendant semiotic analysis but also a phenomenological account. A “profoundity,” in other words, of suffering, of seeking, of striving, goes with the territory¹.

Complementing the various figurative understandings that draw on intertwining spatial relations, an inclusive notion of a metaphysical labyrinth affords García Márquez’ novel its master model, felicitously captured in the phrase, “the *space of passage*” (Fletcher 1983: 329). A second, related concept derives from the image of the circle. Seemingly paradoxical in their linkage, the circle, with its attendant suggestion of endless repetition, and the ancient notion of the labyrinth, “the image of lost direction” (Frye 1973: 150), affording only an apparent contrastive series of dead-ends, together represent the governing spatial relations of the novel². The two are complementary in the sense that the circle permits infinite traversals along its circumference, while the labyrinth is likewise conceived as endless, permitting an infinite series of reiterations along its circuitous path. The traveler pursuing a circular route or following a labyrinthine passage ultimately gets nowhere, as he “twists and turns between ‘walls’ round and round, but also back and forth” (Fletcher 1983:334), which effectively characterizes *The General in His Labyrinth*.

Thus, with no clear destination ever actually determined, the General’s final journey is described repeatedly as an utterly hopeless affair, with the hapless hero “alone in the midst of the world. ... wandering without direction through the mists of solitude” (1990:153-54). All we know for sure is that “he was starting out on his return trip to the void” (85). We are told that “the officers of his entourage were sick to death of all their coming and going to nowhere” (161), while the General “continued to slog his way through this endless journey to nowhere” (163). The latter repeated expression, echoing throughout the book, amounts in effect to a kind of refrain signifying that what is depicted is indeed a “blind men’s journey” (164), from which the General

“no longer had a place to escape” (154). Yet all such repetition and reiteration not only sounds in thematic terms the death knell of a grand and heroic enterprise but mirrors both structurally and verbally our two linked spatial forms, the labyrinth and the circle, with their inherent reliance upon just such repetitive behaviors. The various repeated locutions of the text thus clearly serve as verbal analogues to the spatial models that are at its core. Just as the General floats on the river, indecisively and uncertainly, so does it appear that he “would leave his work adrift” (164), a life’s work that is constantly reevaluated and cruelly denigrated in light of the endless ebb and flow of historical and political change that leaves unresolved the sum total of a life that, regardless of all such reiterations, as the author states in the very last line of the book, “would never, through all eternity, be repeated again” (268).

A related analogue, the absence of a destination in this novel is equivalent to the related issue of the absence of any origination. “The damn problem is that we stopped being Spaniards and then we went here and there and everywhere in countries that change their names and governments so much from one day to the next we don’t know where the hell we come from” (184). This sense of equivalence, of relating — even equating — one situation with another (the absence of an end point with that of a beginning) is also peculiar to a book in which ontology can be debated, while teleology is thoroughly negated. Thus the General is given to say: “I’ve become lost in a dream, searching for something that doesn’t exist” (221), according to which sad vision all goals and ideals are eradicated, while life in relation to dreams is subordinated, so that “the vast empire of his dreams” (256) takes on a reality that reality itself cannot match.

Other equivalences established in the book strike a lighter note. “It was too modest a house for so splendid a tenant, but the General reminded him that he was as accustomed to sleep on the floor of a pigsty, wrapped in his cape, as in a duchess’ bed” (179). Yet all such equivalences derive from spatial imagery capacious enough to embrace the void that adheres to a life as well as to the spacious expanse of a dream, to a pig sty as well as to an elegant boudoir. In another series of equivalences that underscores the negativity, uncertainty, and lack of resolve that characterize the last days of the General, who has certainly seen better ones, the (figuratively) fallen hero observes: “Nobody wants us here, and... nobody obeys us... It all evens out” (109). Yet that understanding, amounting to a belated philosophy of acceptance and compromise, heralds the end of a remarkably eventful life and the march — through the labyrinth — toward death.

From one perspective — that of the encoding process — the spatial imagery evoked here bears a certain literal meaning: the aim of the book after all is to depict the General’s wandering, his seemingly endless meandering,

within a recognizably lush, tropical setting rife with warring factions, whose single point of agreement is their common resentment of and resistance to the General and his dream of a united continent, variously stated but regularly reiterated.

His ultimate hope was to extend the war into the south in order to realize the fantastic dream of creating the largest country in the world: one nation, free and unified, from Mexico to Cape Horn. (48)

Everything I've done has been for the sole purpose of making this continent into a single, independent country. (203)

The first words on the first page attributed to the General read: "Let's go... as fast as we can. No one loves us here." So the lands which he and his loyalist troops traverse remain war-torn and riven with bitterly opposed factions whose (self-)destructive behaviors are presented in ways that appear as firmly entrenched as the lands they refuse to yield. By contrast, in the shift in perspective from the work's aesthetic formulation to its critical evaluation — a requisite shift from the author's to the reader's viewpoint — the book demands to be understood in terms that are figural rather than literal. Our aim is to respond to that demand.

On the second page of the novel, the reader is informed that the General's "resolute gestures appeared to be those of a man less damaged by life, and he strode without stopping in a circle around nothing." The words belonging to the latter phrase may well serve as epigraph both to the novel itself and to the critical endeavor at hand. His striding in a circle can be taken as both concrete and figurative, but that he goes "around nothing" clearly extends our understanding into a paradoxically richer realm of interpretation that embraces a more significant figurative dimension. Yet that greater significance belongs to the domain of the reader rather than the character. The latter sees things as hopeless. "Nobody understood anything" (10); "at times he walked around and around the room talking to himself" (71). Thus "isolated in the midst of nothing" (199), his lifelong endeavor, he knows, will not come to fruition. The reader, in a related effort to comprehend, is granted understanding on two levels — the literal and the figural. In addition, the author provides a wealth of frequently non-dialogic but always pithy utterances. Rarely indulging his figures in dialogue, he allows them lapidary speech that seeks no response. Their words remain isolated and alone. For the General in his labyrinth such absence signifies the psychology of the dead-end; for the reader it signals a related phenomenology, whose labyrinthine quality it is our goal to explore.

As opposed to the psychological, the physical — and at times physiological — sense of the general's labyrinth is manifested in various concrete ways. First, the body as labyrinth also figures as part of the subject of the

novel. As the General's doctor observes: "Everything that enters the body adds weight, and everything that leaves it is debased" (216). But the General, ironically, becomes only more and more reduced in stature, literally and figuratively, while the story of his last days reveals only a series of debased ideals. Again, in both literal and figural terms, judging from his own image, the General is right to say: "We are the human race in miniature" (77). That observation of course also has meaning on a much higher but sadder level. Instancing this poignant plane, as well as the notion of the body as labyrinth coming to a literal dead-end, we are told regarding a one armed officer, whose limb had been lost in battle: "He felt the movements of his hand, the sense of touch in his fingers, the pain bad weather caused in bones he did not have" (128). Again, we see symbolically that this is a novel about nothingness, the void, an emptiness that is both physical and psychological, and that finds its representation in terms that are necessarily spatial.

The General's labyrinth is also manifested concretely in geographical as well as architectural expression. First, the world itself — "the heaving excitement of nature" (125) — can strike fear into the heart: "Night fell at two o'clock in the afternoon, the water raged, thunder and lightning shook the earth" (87). "Then the jungle began, and everything became contiguous and unchanging" (91). In terms of the kind of change imposed on the land by man, we find alteration that also amounts to a characteristic alternation. "When he abandoned the south to march north, and vice versa, the country he left behind was lost, devastated by new civil wars. It was his destiny" (113). More than that, it is his country's destiny. In spatial terms, that destiny is realized as a collapsing of sorts, a folding of north into south, "and vice versa." On the one hand, the geographical preoccupation of the book offers hope. "For there was the sea, and on the other side of the sea was the world" (132) and the chance for a new life. But the closer to home, the sorer the perspective. "The nation was falling apart from one ocean to the other" (241), we are told. And it is ultimately this perspective that counts in this tale of reiterated wanderings in a labyrinth that ends in death.

Buildings and houses can also be daunting, reverberating (if not exactly reiterating) with the echoes of a bloody past. "The phantasmagorical echoes in its rooms were attributed to the spell of his soul in torment" (135); "the words, amplified and repeated by the echoes in the house, pursued the General all night" (142). But it is in spatial terms, primarily and logically, that the architectural structures of the novel have their greatest effect. "The building was immense and gloomy, and its very location caused a peculiar malaise because of its untamed vegetation and the black precipitous waters of the river that hurtled in a thundering explosion down to the banana plantations in the lowlands" (44). As with virtually every other place in the novel, the General

had been there before, lending sense and credence to the notion of the world — the General's world — as being a labyrinth that allows one to traverse its circuitous paths endlessly but with no way out.

It was the fourth time he had traveled along the Magdalena, and he could not escape the impression that he was retracing the steps of his life. (97)

He had lived that moment in another place and another time... It was an old dream repeated in reality. (228)

Thus each place belongs to the undepicted past as well as to the novelistic present, "idle repetitions of a drama too often seen to be believed" (17). Yet in such "repetitions" there are no apparent boundaries between the "immensity" (and gloominess) of inside and of that belonging to outside, between interior and exterior, between architecture and geography. The General's labyrinth thus admits of no evident distinction between being lost in a man-made world and wandering in the natural world. Similarly, the borders between civilized man and his primitive counterpart are erased within the General's own being, as he "tended to his insomnia by walking naked through the deserted rooms of the old hacienda mansion, which was transfigured by brilliant moonlight" (49). Within this same transfigurational space, the general himself is transformed.

This transformation, as is generally so with the predominant concerns of the book, appears overwhelmingly negative. A hallmark statement of this essential negativity we find scrawled on a wall, with the General as its target: "He won't leave and he won't die" (13). Yet, in horrific transformation, he is virtually disintegrating before the eyes of his men and those of the world.

Those who saw his scrawny ribs and rictic legs did not understand how he stayed alive with so little body. (74)

His white thinning hair and that look of final turmoil... gave her the terrifying impression she was talking to a dead man. (82)

"Tell [him] I died! That's all, just tell him I died!" (109)

"We'll kill ourselves..."

"No deader than we are already." (110)

"I refuse to accept that with this journey our life is ended." (129)

"I don't exist." (141)

"He has the face of a dead man." (142)

It seemed senseless to make peace with a man she already considered dead. (192)

[He] looked like a seated corpse in the darkness of the carriage. (234)

Likewise, the General's place in history, just as his place in reality, appears destined to oblivion. Everything seems to change — for the worse. "No one would have believed he was the same man, or that this taciturn place he was leaving forever, with all the wariness of an outlaw, was the same city. Nowhere had he felt so much a stranger as in those stiff, narrow streets" (40) that he had walked so many times before and that were his domain in the past. Only now, in the dismal present, not only is the place no longer his but he himself is no longer what he was. "I am no longer myself" (44), he says, in words which can be understood both literally (he has wasted away) and figuratively (his power has also deteriorated), in both physiological and psychological terms. And it is just such paired linkages that make the book — with its temporal gradations and spatial configurations — centered on the General's travails a set of analogous, iconic labyrinthine constructs that mirror one another seemingly endlessly.

Exemplifying this kind of pairing or linkage, affording a series of echo effects that resonate throughout the pages of the novel and that are manifested in both temporal and spatial correlations, one of the General's innumerable women from the past emerges for only a moment in his devastated present. In acknowledging a transformation that belongs not only to time but also to space — that elusive sphere that the body occupies at any given moment — the ghost of a long-ago love declares: "It's me... although I'm no longer the same" (76). A like (abortive) transformation is recorded on the previous page when it is noted that "He danced for almost three hours... attempting perhaps to reconstitute the splendor of long ago out of the ashes of his memories." Here, too, time is transformed into space or, better, into spatial configurations manifested in a dance designed to achieve a precious alchemy that will convert ash into forgotten splendor. In addition, it is a failed transformation that also attempts to proceed from one figurative domain to another.

Every feature of the book is intertwined with and reflects every other on both the sentential as well as the thematic level. Thus, in terms of geography, which derive as much from legend and history as from the lay of the land, the General's journeys, his struggles for independence, appear similarly endless. "Since the beginning of the wars for independence he had ridden eighteen thousand leagues: more than twice the distance around the world." In ostensible response to such clearly evident intermeshing of legend and geography, the immediately following sentence reads: "No one had ever disproved the legend that he slept in the saddle" (43). In a linked passage that again derives as much from (mythic) biography as from geography, the reader is told: "Less than two years before, when he was lost with his troops in the not too distant jungles of the Orinoco, he had been obliged to give orders to eat the horses for fear the soldiers would eat each other" (48).

Derived in similar manner, and infused, as is so much of the text, with a flagrant flair for poetry that inevitably enhances the sense of the intertwining of an imponderable history with an unconquerable geography, we read: "The last stage of the journey... was along a heartstopping precipice through air-like molten glass that only physical stamina and willpower like his could have endured after a night of agony" (66). Taking place in the here and now, which temporal and spatial loci had also shared (at one time) in a repeated sense of there and then, the entire work, in effect, amounts to a recapitulation of a single extended night of agony that Garcia Marquez terms both figuratively and titularly "The General in His Labyrinth," a labyrinth that is here perceived as multifaceted, participating in intertwined, iconic reflections of history and geography, the linked domains of the physical and the psychological, of legend and biography.

Further, the geographic or, better, the spatial sphere of the book extends from interior to exterior and back, and likewise alternates between realistic depiction and fantastic assumption. Illustrating the slippage between the sense of an interior and exterior labyrinth, and between concrete and figurative depiction, we are told that "The bookcases in the various houses he lived in were always crammed full, and the bedrooms and hallways were turned into narrow passes between steep cliffs of books and mountains of errant documents that proliferated as he passed and pursued him without mercy in their quest for archival peace." That statement is shortly followed by the remark that "his life of fighting obliged him to leave behind a trail of books and papers stretching over four hundred leagues from Bolivia to Venezuela" (93), a spatial image suggesting immense proportions that leaves the reader in wonder. A similar elision of the seemingly realistic with a hint of the fantastic emerges when the river is likened to "a swamp with no beginning or end" (101), which analogy once again suggests the sense of a (grotesquely muddy) labyrinth, affecting both body and soul, which serves as the novel's master model.

In terms of our other chosen model, the image of the circle — with its attendant morbid promise of the sojourner's remaining within a certain circumference or well-defined sphere, and never getting anywhere — suggests a like slippage from our guiding concept of spatial relations to that of psychology but with the same dead-end clearly evident. Thus we find the General's long-time and long-suffering servant reiterate: "Only my master knows what my master is thinking" (14, 23, 178), a repeated remark that conveys nothing but insinuates much. Similarly, the novelist also relegates certain problematics to a level of discourse that (like the General's labyrinth itself) leads nowhere ("no one ever knew if it was political perversity or

simple distraction" [116]). Early in the novel the General himself declares his political intentions of the moment thus: "I will stay on as Generalissimo, circling the government like a bull round a herd of cows" (19). One of those cows, in turn, "reassons" as follows: "All we know is that she's well because we haven't heard anything about her" (226). That "logic" is quickly reiterated: "[She] was fine, because they had heard nothing about her" (227). Clearly, what is wrong with such circular reasoning is that it is based on nothing. Yet it conforms aptly with the governing metaphor of the novel, whose passages lead nowhere, and with the hopelessness of the book's protagonist, who "remained floating in nothingness" (112).

That protagonist also thinks in such terms. "My first day of peace will be my last one in power" (14), he says, still dreaming. Later, the reader is informed: "From then on, that would be his fixed idea: to begin again from the beginning, knowing that the enemy was not external but inside the house" (202). Such thinking is again obviously iterative in its commitment to start over (once again), but it also presents yet another instance of the immediate linkage or slippage between the literal and the figural; for while the enemy is concrete to be sure, his being "inside the house" is once more clearly metaphoric. Still, like circular thinking contributes to the humor as well as to the overwhelming sense of hopelessness and futility that characterizes this chronicle of the great Liberator's incommensurably palfry last days.

"There is great power in the irresistible force of love," he sighed without warning. "Who said that?"

"Nobody," said [his servant]. . .

"Then I said it myself," said the General. (58)

"Don't tell me you've conquered nostalgia," he said.

"On the contrary: nostalgia has conquered me." (67)

"I don't know anything anymore, General," said [the colonel]. "I'm at the mercy of a destiny that isn't mine." (67)

Thus other figures in the novel also participate in similar forms of "logic" or related modes of varying self-defeating perceptions. In response to these and the General's own sense of an impending inglorious end, we hear various plaints and plans: "I will go where I am wanted" (15) — which appears to be nowhere. "Whatever happens, we will go to Europe" (67), which notion is also doomed to failure. For as the novelist tells us in an understatement that only heightens the sense of a desperate situation: "Even [Bolívar] did not seem to have a clear idea of his destination" (61), so that at the end of the book that coincides with the end of a life, the devastated hero states in a seemingly well-documented plea that serves as the source of the novel's title

and of its principal metaphor: "Damn it... How will I ever get out of this labyrinth!" (267). To which exclamation, in accord with everything that precedes, there is and can be no answer and no exit.

In the midst, then, of loyalty, bravery, and an excess of high ideals, negativity — the psychology of the dead-end, no exit, and no (life-affirming) answer — nonetheless prevails. Such an all-encompassing, debilitating vision finds its full summation in the following cruel observation: "The time he has left will hardly be enough for him to reach his grave" (37), which sad assessment implicitly but convincingly underscores the inextricable union of temporal and spatial relations in characteristically stark and morbid expression. Less so but equally revealing of a psychology that has reached the end of the road, if not of the labyrinth, the following exchange suggests the irrefutable loss of an ideal.

"Stay," said the Minister, "and make one final sacrifice to save our country."

"No..." he replied. "I no longer have a country to sacrifice for."
(37)

That sense of loss is later underscored by a remark that suggests the slippery quality of what we might otherwise consider a concrete and "solid" geography but one that is itself subordinated to the vagaries of a sickly and weakened mentality. "At this stage I even wonder if Venezuela exists" (62). Later, the General will give up "wondering" and simply state directly: "[The city] doesn't exist... Sometimes we dream about it, but it doesn't exist" (102). Of course, it does exist. But the justification for such peculiar perceptions is not hard to find, since we are told that "America is half a world gone mad" (71), a view that characteristically finds its reiteration and like declaration in the words: "For us America is our own country, and it's all the same: hopeless" (165). Clearly, the former statement provides the rationale for the latter: it is hopeless because it is founded on madness. And on dreams that are as obsolete as the stricken dreamer himself.

NOTES

¹ Thus "What is remarkable throughout is the fact that usually no attempt is made to deal concretely with the labyrinth as signifier. Such seems to be its semantic potential that simply to name it in its metaphoric functions is enough to produce the desired effect" (Fern 1986, 225).

² Yet the image of the labyrinth may go beyond Frye's notion of "lost direction" to suggest "lost origin... lost plan; lost orientation, lost position" (Fletcher 1983:340), all of which applies to the General's lost days, as chronicled in this fictive biographical novel.

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INTERTEXTUALITY AND PARODY

1. Intertextuality and Parody

1.1. In literary analysis, the question of various relations between texts represents one of the most interesting problems. For the meaning construction of literary texts, these relations can frequently be decisive. In such cases, the full meaning of certain texts becomes only interpretable if these relations are also taken into account, moreover, the meaning is constructed even through this *intertextual* relations, through the complex interrelations of textinternal and -external elements and structures. In this way, the theoretical problem of intertextuality has its relevance for the meaning analysis of actual texts. Among the different types of intertextual relations, literary parody occurs often and is of great importance in some periods of literature/culture, so that it is employed then with preference (which itself is a symptomatic sign for certain trends and evolutions of this literature/culture). In our time, the question of parody and of parodistic writing become most important with postmodernism, as different forms of parodistic references to texts, elements of texts as well as genre and writing conventions are very often used. This fact can also be considered as a conscious and deliberate play with meaning and meaning construction, i.e. as a revelation of semantical/pragmatical/cultural devices and conventions of literature and of literary texts.

In the following, I will give first a brief survey about some views of parody, and secondly, I try to define it from an intertextual point of view, where I consider intertextuality as a semiotic phenomenon. Parody will be then dealt with as a special type of intertextual relation between texts.

1.2. I am not intended here to give a complete survey about the different views of parody, I shall only concentrate on some aspects of this problem and in connection with it, I indicate some important opinions about it. In case of a parody, as the etymology of the word also suggests it, there is always a relation between at least two texts, i.e. between a parodied and a parodying one. The parody cannot be understood without this reference to his underlying "model", i.e. to the text which it parodies.

This is this property which is pointed out by Russian Formalists: the essence of the parody consists in the mechanization of a certain procedure¹ and, as I want to emphasize it, in its intentionality, which aims at its recognition by the recipient of the parodying text. The mechanization and its displaying are defined by Shklovsky also as the necessary qualities for parodying texts. He considers e.g. Sterne's *Tristram Shandy*² as one of the best examples for a parodistic novel, and he points out that it refers to the construction principles of "the novel of adventures"³ in distorting its established and therefore stereotyped elements, construction rules and stylistic features. In this way, Shklovsky determines the parody as a special relation between a text and other texts/text construction rules, i.e. as an intertextual one, without employing the expression itself.

It is also necessary for a parody to function as such, that behind the level of the given text/work of art there is a second one which is parodied, and that in a parody there is also a displacement, i.e. a discrepancy between the two levels, the two texts (the parody of a tragedy will be always a comedy, as Tynanov points it out)⁴. The recognition of this second level behind a given text as such is also considered here as a condition for its existence as a parodying one⁵. Lotman continues in a certain respect this theoretical line, as he classifies parody as belonging to the category of the "aesthetics of opposition"⁶, which is understood as an opposition between texts, or texts and structuring models/devices. Although Lotman regards the parody as the most significant type of the "aesthetics of opposition", it can never be for him a central category or genre, because of the fact that it deconstructs a certain structural stereotype, but it never creates a new structure⁷. Arguing in this manner, Lotman insists more on the repetition of a structure or a genre model (which is really an aspect of parody), but he recognizes her lack of creativity. As the repetition is always a repetition turning the repeated structure or genre convention into its opposite, so that it creates in this way also a new meaning or displays the rigidity of the parodied structure, repetition and creation are combined intimately; if parody itself doesn't create a new structure, it can contribute to the birth of new structures or genres.

1.3. It is exactly this creative aspect of parody which dominates by Bakhtin who is the ancestor of the theory of intertextuality (without using this term). His notion of 'dialogism' presupposes multiple relations between texts⁸. Although Bakhtin supposes that it exists not only a 'dialogue' between a text and other texts but also a 'dialogue' inside of one and the same text, and he puts this aspect into the centre of his investigations about the so-called "polyphonic" novel which is represented for him e.g. by Rabelais or Dostoevsky, for his considerations about parody it is even this dialogical, i.e. intertextual aspect

which becomes decisive. For "all authentic novels", he presupposes "a dialogized system made up of the images of 'languages', styles and consciousnesses that are concrete and inseparable from language"⁹, and novels represent a genre which includes not only a representation of something in the world, but also a representation of another discourse about that thing, they are therefore a "double-oriented discourse"¹⁰. This speaking on two levels is then the essence of the parody, the parodying text refers to his model and "imitates" it, its structuring rules, its form, but it is itself a speaking on another level; in *Dan Quixote* e.g. the parodic sonnets represent this way of speaking: "what results is not a sonnet, but rather the *image of a sonnet*"¹¹.

Returning to the ideas of Bakhtin, Kristeva generalizes the notion of 'dialogue' in supposing that it means "an intersection of textual surfaces rather than a point (a fixed meaning), as a dialogue among several writings"¹² (referring to simultaneously or previously existing texts, too). The existence of a text in this "con-textual" space is called by Kristeva "intertextuality" and she supposes further that "any text is constructed as a mosaic of quotations; any text is the absorption and transformation of another"¹³, i.e. she enlarges the domain of intertextual phenomena which, by Bakhtin, were restricted only to a certain type of texts (to the 'dialogical' ones). One can agree with Kristeva that all (literary) texts are embedded in textexternal (i.e. 'intertextual') relations and as such, they reflect their cultural environment. But her notion of 'intertextuality' becomes — above all because of her extending the notion of text which means all cultural, i.e. not only textual structures and because of her general ideological and critical aims — both too vague and indistinct for the establishment of precise equivalents between texts and therefore also for the discovering of some distinct procedures of text and meaning construction¹⁴ which becomes necessary if the functioning of an intertextual type of writing (e.g. parody) will be described. Without further discussing Kristeva's theory¹⁵, it has to be mentioned that she mentions parody as a category of "ambivalent words", i.e. words "with two significations"¹⁶. Parody consists then in the opposition of the two significations of this ambivalent word¹⁷, therefore she relies mainly on the idea of "double-oriented discourse" of Bakhtin.

Intertextuality research considers the parody in general as a type of intertextual writing, and even this quality of double or ambivalent speaking, the referring of a text to another one is mostly emphasized. Lachmann employs the original term of Bakhtin, that of 'dialogism' and she stands therefore more in the original Bakhtin-line of thinking, but, at the same time, she continues also the traditions of Russian Formalism, so she combines the results of different "schools". On this theoretical basis, she argues for a conception of parody as a reference of a text to another, earlier one¹⁸, which signifies also a certain meaning constitution through the interplay of the parodying text and

the parodied pre-text¹⁹. Holthuis considers parody also as a type of intertextual writing, as the prototype of an "over-encoded" (or better: double-encoded) text, which receives his meaning through the reference to and the hidden presence of the parodied text or genre²⁰. Speaking primarily about satire but understanding also certain forms of parody (as satire is based also on a parodistic display of literary conventions and structures), Weiß accentuates the referentiality, i.e. the referring to an underlying "model", and the communicativity, i.e. the perceptibility of the intention of parodying as the difference qualities of such texts²¹.

Genette represents a specific line of intertextuality research as his purpose is above all a classificative treatment of phenomena traditionally considered as 'intertextual'. In his interpretation, intertextuality is only a type of the so-called 'transtextual' relations. 'Transtextuality' represents for him a broad class of phenomena, it embraces all sorts of relations between texts, so that intertextuality is interpreted by him in a narrower sense as by Kristeva²². Parody belongs then to the type of 'hypertextuality' and can be defined as a relation between two texts (called "hypertext" and "hypotext" where the first uses the second as a specific "model"), and this relation is a relation of derivation (the hypertext is derived from the hypotext)²³. Furthermore, the essence of the parody is seen by him in a citation, which is divergent from its original meaning, from its original context or from its original stylistic level, and this is what Genette considers as a minimum of parody²⁴. In addition to that, he is mainly interested in the distinction of the different types correlated with parody, and he tries to find out the distinctive features of parody, travesty, charge, pastiche²⁵. This purpose seems for me very suitable if one aims above all at a well-defined typology of different phenomena, but as I am considering the general and common features of parodistic text (and meaning) construction, I think that these efforts of a distinctive typology cover up the common traits consisting in a certain type of reference between texts and text constructing rules.

2. Parody as Intertextuality

2.1. In spite of the diversity of the phenomena belonging to intertextuality²⁶, it must be stressed that, on an abstract level, they all can be understood as different manifestations of a basic phenomenon, namely of a special form of reference, i.e. *meta-reference*.

From a semiotic point of view, texts can be considered as complex and hierarchically structured signs which are itself composed of signs²⁷. In this case, intertextuality can be understood as a throughout *semiotic phenomenon*²⁸,

i. e. above all a *semantical problem*, which covers both the textexternal semantic relations (the reference to textexternal — but here also textual — relations) as well as the textinternal semantic relations (i.e. the internal meaning structure of the text). From this semantical point of view, intertextuality is first of all a question of the text production/construction, while in the text reception, further pragmatic aspects are to be considered.

Intertextual phenomena represent a complex relation consisting of the reference of a highly structured and linguistically organized sign (text) to another sign which itself has a linguistic/textual character. This reference can be called therefore a meta-reference, for the text referred to itself refers on his own to the textexternal world so that the referring text establishes through the embedding of elements of the text referred to a reference of second — or eventually of higher — order²⁹, which could be represented in the following manner:

$$R_n = R \{ T_{ref}, [R (T_{ref}, W_n)] \}$$

where R_n = intertextual reference relation

T_{ref} = the referring text

T_{ref} = the text referred to

W_n = textexternal fictional possible world.

The question of meta-reference is at the same time more complex as it seems to be, because of the fact that it is, in most cases, not a (global) reference of a whole T_{ref} to a whole T_{ref} , but some elements of a T_{ref} (and only their precise delimitation is often very difficult) refer to different elements of a T_{ref} (while — as it will be shown — there are often elements of several T_{ref}). There appear then 'simple', i.e. object- and meta-referential relations within a T_{ref} respectively, although the intertextual, i.e. meta-referential elements influence highly the referential status of the whole text. In case of parody, this meta-reference is mostly a reference to a whole text or even to a certain manner of text structuring (i.e. genre conventions), but within a parodying text, some single elements can also occur which themselves refer to some elements of (an) other text(s) and which have their functions in the construction of the parodistic meaning of the T_{ref} .

Through the meta-referential relation between T_{ref} and T_{ref} an embedding of "strange" texts/elements of texts in the "proper" text is brought about, so that these intertextual relations influence largely the internal meaning organization of the referring text. Several different forms of embedding result in this way, the embedded elements of the text referred to, which also have their "original" meaning, can have several functions in the meaning construction of

the referring text, e.g. they can reinforce, intensify, modify it or they can be contradictory to it in several ways (these functions can serve later as a basis for a classification of intertextual phenomena).

It is, however, the most important to recognize that the meaning of the referring text will be constructed primarily through the embedding of the elements of the text referred to, while the elements of T_{id} become, in this case, constituents of the meaning of T_{re} , i. e. they are *integrated* in it:

$$M(T_{re}) = R_i [M(T_{re}), M(T_{id})]$$

where M = meaning

R_i = relation of integration.

The integration of meaning (elements) between the referring text and that referred to is naturally not a simple relation, it comprises several forms/versions which can be discovered and systematized through detailed text analysis. Moreover, the intertextual meta-reference can be further subdivided, while first, it can be a meta-reference to own texts/elements of texts of an author and secondly, it can be one to texts/elements of texts of other origin. In the first case, we can speak about *selfreferential*, in the second about *not-selfreferential* intertextuality. Parody can also be self-parody and parody of "foreign" text and genre models: if we accept the view of Shklovsky that Sterne's *Tristram Shandy* is a parodistic novel, then we have to do with a not-selfreferential parody. The literary work of E. T. A. Hoffmann can give more complex examples for parodying, some of his texts combine self-parody with not-selfreferential parody: in *Die Königsbraut* he offers above all a parody of his own tale-structure established in the most excellent way in *Der goldne Topf*, but at the same time, he parodies also some Romantic conventions of writing and of thinking.

In addition to these cases, the research of intertextuality could be extended on such special fields as translation and film-version (of literary texts) which are to be considered then as a changing of code, respectively of medium²⁰. It is all the more important as filmic parody is also possible²¹. However, all these further specifications can be led back to the outlined meta-referential relation, i.e. they can all be interpreted in that theoretical frame.

2.2. Moreover, intertextual phenomena can be analysed in addition to this essential semantical aspect from a *pragmatical* one, too. In the reception of texts the intertextual elements fulfill mostly the role of making the text reception more difficult and complicated, for its right acknowledgement presupposes the recognition of the intertextual elements as well as their func-

tioning in the meaning construction of the referring text. This recognition becomes in some texts more difficult as in others (the perceptibility of intertextual relations and elements is a further aspect of their classification), and it depends greatly on the interpretative abilities and the knowledge of the actual recipient if he can fully understand the text. It is therefore throughout imaginable that one and the same text may be very differently interpreted by different recipients with regard to its intertextual relations, whereby a full or complete interpretation should clear up all the embedded intertextual phenomena (i.e. both R_1 as R_2)²². This fact influences highly the preferences and antipathies of recipients which they can manifest against such "intertextually charged" literary texts, and it can perhaps explain some receptional problems of modern and postmodern literature, too. If parody is concerned, the conscious recognition of the underlying text which is parodied is a necessary condition for its functioning as a parody, if this is not the case, it does not produce the desired effect.

2.3. As it has been shown, intertextual phenomena are from a great variety which must lead not only to an attempt to explain them all in a common frame but also to different classifications in order to bring about their systematization²³. The semiotic perspective outlined here allows us to systematize the various intertextual phenomena from the three aspects of text analysis, while a complete system has to take into consideration all possible interferences between the various categories, too.

2.3.1. On the *semantical level*, this is the manner of the meaning integration (R_i) which serves as a distinction feature. In this respect, it is not necessary to further distinguish between selfreferential and not-selfreferential intertextuality, for the integration takes place in both cases in the same manner, the difference between them is to be found in the origin of the text referred to and not in the manner of its embedding into the referring text.

Two main categories can be distinguished here and both of them can be later further subdivided:

(i) the *'confirming'* integration which consists in the reinforcing of the meaning of the (elements of the) text referred to through its/their embedding into the meaning structure of the referring text²⁴.

(ii) the *'diverging'* integration which consists in the "deformation" of the original meaning of the (elements of the) text referred to through its/their embedding in the referring texts, so that 'diverging' is meant here in the widest sense of the word. In that category belong e.g. such traditional forms as meaning reversal, paraphrase, irony, parody, travesty, etc. In this frame it

becomes clear that parody always establishes a certain opposition between the parodying text and the underlying text or genre which is parodied. This opposition appears on all levels of the texts concerned, and this feature can be considered as the most important and common trait of all types of parodying texts.

In this respect it is interesting to recognize the fact that some periods of literary history, e.g. that of German romantic literature or modern and postmodern literature show a special preference for such procedures of intertextual embedding. The great part of the literary work of E. T. A. Hoffmann could be analysed from this aspect of ironical-parodistic reference and integration of intertextual elements in the own texts, so that we can discover also some traits which will later be generally used in Modernism and Postmodernism, whereas in the latter, "intertextuality is not just used as one device among others, but is foregrounded, displayed, thematized and theorized as a central constructional principle"³⁵. At the same time, I suppose that some features of certain texts of E. T. A. Hoffmann remind of this later way of writing, the actuality of this author derives, for a great part, also from this fact.

2.3.2. The second aspect of classification is of a pragmatical nature. On the *pragmatical level*, the perceptibility of the intertextual reference between T_{rg} and T_{rd} is the basis for a further systematization. The question will arise here if and in which manner the meta-reference between the referring text and that referred to is apperceptible, i.e. marked³⁶. There are two main categories to be registered:

(i) *marked* reference between the referring text and the text referred to. A great variety of different elements (e.g. titles, subtitles, names of figures and of localities, prefaces and epilogues, genre and structural conventions, etc.) can function as signals of markedness which all refer, in this way or in other, to the text referred to. It is throughout possible that several different 'signals' of markedness, i.e. intertextuality markers occur in a referring text which all allow that the recipient, if he has a corresponding knowledge, remarks the text or, in many cases, texts referred to. The recognizing of a parody as such is indispensable condition for his adequate functioning, if it is not fulfilled, the parodying meaning will be also distorted.

(ii) *unmarked* reference between the referring text and the text referred to. The reference between the texts remains, so to speak, a hidden one, but it is throughout possible to find it out through a detailed semantical analysis of the referring text for the complete meaning becomes understandable only after the discovering of the not explicitly marked intertextual elements. It is problematic if unmarked or hidden forms of parody are possible, perhaps in the sense that

in some cases, the parodying intention is only remarkable after and through a deeper semantical analysis of the text.

(iii) Some '*mixed*' forms are possible, too which combine the markedness on the one hand with an unmarkedness on the other, so that the complete interpretation of the meaning of the referring text becomes at the same time more easy and more difficult.

Such a procedure is demonstrated in Paul Celan's poem *Tenebrae*, where the title functions as an intertextuality marker whereas the reference to Hölderlin is not explicitly marked and is therefore accessible only for recipients knowing the poem referred to. Another type of mixed markedness is to be found e.g. in the novel of Christoph Ransmayer *Die letzte Welt*, where the intertextual elements are in the text of the novel itself not explicitly marked, but the Ovid-reperitory following it as an appendix creates the missing markedness. Such mixed forms are also thinkable for parody, if there are some explicit markers of the parodying intention, but if there are also some "hidden" parodying elements on other textual levels which are accessible only through a detailed semantical analysis of the text.

The question of the markedness, respectively its perceptibility are closely connected with the knowledge of the actual recipients, too. In this way, it is throughout possible to read a parody inadequately. Accordingly, it is impossible to establish clear and definite signals of markedness for all time: some signals can function for some recipients as markedness while others can be totally unable to remark them. In this connection, it is only theoretically possible to find out some types of markedness which can fulfill their marker-function for a supposed ideal recipient. It is the same also for parody where we can not establish general rules for markedness: single elements as titles, names, figures, expressions or even broader textual parts, elements or whole texts as well as text structures structuration rules/conventions can function as such markers.

2.3.3. The third aspect of classification of intertextual phenomena is of a more *formal*, or, in the widest sense of the word, of a *syntactical* character, for the classification should be made on the basis of the quantity, the extension and the items of the intertextually related texts/elements of texts. One has to clarify in this respect which and how many elements/texts are considered. The following variants are theoretically possible:

- (i) one T_{rg} refers to one T_{rd} ;
- (ii) one T_{rg} refers to several T_{rd} ;
- (iii) several T_{rg} refer to one T_{rd} ;
- (iv) several T_{rg} refer to several T_{rd} ;

Although all the four variants are imaginable, the first two cases occur more often, and, in intertextual research, they are analysed with a greater attention¹⁷. All these types appear also in parodying intertextual relations, it is then the matter of the actual text analysis to discover all the possible references and to reveal the meaning construction through this referring. Moreover, parodistic texts often refer to text structuration rules or to genre conventions, so that the range of the texts referred to parodistically can not always be clearly delineated. This is the case in *Don Quixote* and in *Tristram Shandy* or in some texts of E. T. A. Hoffmann who refers to some conventions of German Romanticism in displaying them as conventions, so that he employs all the possibilities of intertextual referring¹⁸.

3. Conclusions

At the end of my investigations, I think that parody can be clearly defined in the terms of intertextuality, if intertextuality itself is dealt with in a semiotical theoretical frame. It has become possible to find out some common features characterizing all types of parody, which are, at the same time, closely related to each other:

- (i) Parodying texts always speak on two levels, the text referring parodistically evokes the text(s) or other sorts of "models" which it parodies
- (ii) It follows from (i), that a parody represents a repetition of a certain model: of a figure, of a whole text structure or a literary genre and its rules, but it is never a mechanical repetition, rather a creative deconstruction, deformation of the underlying model.
- (iii) The supposition of the simultaneous repetition and deformation inherent to parody leads to the necessity of interpreting it in intertextual terms, as a sort of meta-reference between texts and as a type of diverging (oppositional) meaning integration of intertextual elements.
- (iv) The intertextual treatment raises the pragmatical condition for parodistic text construction, i.e. the perceptibility of such a text as parody. Parody functions only if it is recognized as such, therefore some forms of obvious and/or hidden markedness are also to be found.

On the basis of the theoretical treatment of parody in the frame of intertextuality, further investigations about the different types and forms of parody become also possible. Furthermore, we need detailed text analysis of parodying texts, which can reinforce and differentiate these findings.

NOTES

¹ Cf. TYMANOV 1988: 311 — "Das Wesen der Parodie liegt in der Mechanisierung eines bestimmten Verfahrens, wobei diese Mechanisierung natürlich nur dann spürbar wird, wenn das Verfahren, das sich mechanisiert, bekannt ist."

² Sokolovsky analyses some elements (techniques) of *Tristram Shandy* which, in his opinion, contribute to the parodizing character of the novel, and he declares that it results from the displaying of the making of it, from the autoreflexive reference of the text to itself (cf. SOKOLOVSKY 1988: 251).

³ "Seine hat auf dem Hintergrund des Abenteuerromans gearbeitet, mit dessen äußerordentlich festen Formen und seiner formalen Regel, mit einer Hofeier oder Heirat zu schließen. Die Formen des Sterneschen Romans sind eine Verschiebung und Verflüssigung der üblichen Formen." (SOKOLOVSKY 1988: 267).

⁴ This is the opinion of Tymanov, hinter der Ebene des Werkes steht eine zweite, die stilisiert oder parodiert werden soll. Für die Parodie aber ist die Unstimmigkeit zwischen beiden Ebenen, ihre Verschiebung unerlässlich, die Parodie einer Tragödie ist eine Komödie (TYMANOV 1988: 307). I doesn't insist here on the question of the differences of the two notions "Stilisierung" and "Parodie" used by Tymanov, I concentrate only on that of "parody".

⁵ Cf. TYMANOV 1988: 335.

⁶ Cf. LAUTMAN 1990: 414.

⁷ *Ibid.*, p. 415.

⁸ "Jedes Wort (jedes Zeichen) führt über seine Grenzen hinaus. Es ist unmöglich, die Analyse (von Erkenntnis und Verständnis) allein auf den jeweiligen Text zu beschränken. Jedes Verstehen ist das In-Beziehung-Setzen des jeweiligen Textes mit anderen Texten und die Umdeutung im neuen Kontext (in meinem, im gegenwärtigen, im künftigen)." (BAKHTIN 1979: 352).

⁹ BAKHTIN 1988: 131.

¹⁰ "Language in the novel not only represents, but itself serves as the object of representation. Novelistic discourse is always criticizing itself." (BAKHTIN 1988: 131).

¹¹ *Ibid.*, p. 133.

¹² KRISTEVA 1980: 65.

¹³ *Ibid.*, p. 66.

¹⁴ I can agree with Pflaiz who concludes: "Das ist nicht nur eine beschreibende Phänomenologie der Texte, sondern darüber hinaus ein poetologisches Programm — die intertextuelle Programmik der Postmoderne, die sich selbst als ein neues alexandrinisches Zeitalter versteht und [...] die babylonische Bibliothek aller Geschriebenen und das imaginierte Museum aller Hilder in einem fortgesetzten 'polylogischen' [...] immer neu reorganisiert, kollagiert und dekonstruiert." (PFLAIZ 1987: 199).

¹⁵ For a more detailed discussion of the theory of intertextuality by Kristeva and others, cf. OREZ (in prep.). In the following, I mention only some opinions about the problem of parody, but I am not intending to give a complete criticism of all representations of it.

¹⁶ KRISTEVA 1980: 73.

¹⁷ *Ibid.*, p. 73: "Here the writer introduces a signification opposed to that of the other word."

¹⁸ "parade die Parodie existiert nur auf der Folie des Parodierten, das durch das Parodierende hindurchschimmer" (LAUTMAN 1990: 66).

¹⁹ *Ibid.*, p. 68.

²⁰ Cf. HOLTJUS 1990: 119.

²¹ Cf. WOLF 1985: 247.

²² Genette defines intertextuality as "une relation de coprésence entre deux ou plusieurs textes, c'est-à-dire, idéalement et le plus souvent, par la présence effective d'un texte dans un autre" (Genette 1982: 8).

²³ It must be remarked here that hypertextuality comprises not only parody, for it is a broader notion, it is "toute relation unissant un texte B (que j'appellerai *hypertexte*) à un texte antérieur A (que j'appellerai, bien sûr, *hypotexte*) sur lequel il se greffe d'une manière qui n'est pas celle du commentaire. [...] Pour le prendre autrement, posons une notion générale de texte au second degré [...] ou texte dérivé d'un autre texte préexistant." (Genette 1982: 11f.). The expression "se greffer" reminds me on the definition of parody as a "parasitic genre" given by an excellent Hungarian writer, Frigyes Karinthy who wrote a series of perfect literary parodies parodying many writers of different nationalities as well as various literary genres (for the definition, cf. KARINTHY 1979: 122).

²⁴ *Ibid.*, p. 24: "La forme la plus rigoureuse de la parodie, ou *parodie minimale*, [...] n'est donc rien d'autre qu'une citation détournée de son sens, ou simplement de son contexte et de son niveau de dignité".

²⁵ *Ibid.*, p. 33ff.

²⁶ For an approximative enumeration cf. PRISTER 1987: 197.

²⁷ J. S. Petöfi argues for such a conception, while — on the basis of a long and rich tradition of semiotics — he outlines a "semiotic textology" and insists on the semiotical spectrum of the aspects of the analysis comprising both formal and semantical and pragmatical features of texts (cf. PETÖFI 1985: 1).

²⁸ This possibility is also pointed out by Stierle (cf. STIERLE 1983: 13f.), but he considers the semiotical character of intertextuality as only one aspect among others, although it is perhaps the basic feature of intertextuality determining largely the meaning construction of such texts. Plett argues also for a semiotical point of view, but he disregards even the decisive semantical aspect of intertextuality (PLETT 1991: 7f.). It is to be stressed that Kristeva argued for intertextual understanding of text functioning also in a semiotical (semiological) frame, but her interpretation of this discipline had other kinds of presuppositions and of ideological background.

²⁹ In such cases, one can speak of certain intertextual "chains". A similar phenomenon is mentioned by Plett as "serialization" of intertextual relations (cf. PLETT 1991: 23f.), while it is to be remarked that it is more promising to take always the relation between-referring text and referred text(s) into account (as it is the case with Celan's poem) without extending this investigation on an unlimited chain of texts which are basically repeating the meta-referential relation.

³⁰ Cf. the contributions about changing of code and of medium in Broich-Pfister 1985 and the investigations of changing of code in Hess-Lüttich - Posner 1990, as well as some remarks of Plett who considers intertextuality essentially not only in a textual sense (PLETT 1991: 20).

³¹ As a single example I would mention here *Bryan's Life* which constitutes an episode of *Monty Python's Flying Circus*. It refers intertextually not only to the Bible but it parodies at the same time some cultural and political evolutions of our time and, which is more important in this respect, a certain type of Hollywood film making.

³² For this question, cf. also the "perceptual modes" by Plett (PLETT 1991: 15).

³³ I may refer in this respect to the most contributions in Broich-Pfister 1985 which all deal with some aspects of a complete classification without really realizing it. Plett gives also a certain classification whereby, on the one hand, he is occupying too much with some details and, on the other hand, he does not take certain important aspects into account which is the consequence of his neglecting of the semantical aspect. Moreover, some overlapping categories result from this proceeding, so are e.g. his syntactical categories "quality" respectively "interference" of a fundamental semantical character (cf. PLETT 1991: 9 and 11).

³⁴ As an example for this 'confirming' integration, cf. my analysis about a short story of Gabriele Wohmann in Orosz (in prep.).

³⁵ Cf. PRISTER 1991: 214.

³⁶ It is the case of markedness/non-markedness of intertextuality, respectively of their concrete forms which are dealt with also in Broich 1985a. It must be remarked here that contrary to the meaning of Broich who considers only marked forms as intertextual phenomena, other

phenomena can be also called intertextual for the markedness is, in many cases, dependent on the receptional abilities of the recipients and therefore it can not always clearly be decided. Plett distinguishes also explicit and implicit markedness, whereby he abandons the decision about markedness to the competence of the recipient, and in addition to this he interpretes the category of explicit markedness in a very narrow sense (cf. PLETT 1991: 12).

³⁷ Plett mentions these variants, too but he analyses first of all not the reference between one (or in some cases even more) T_{in} and the text(s) referred to but the origin of so-called "inter-text series" (cf. PLETT 1991: 23f.), i.e. of historically developed chains of intertextually related texts or of works realized in other media (opera, symphony, film, etc.), so that the field of research becomes infinitely enlarged (the whole history of literature or of arts could be then understood as an infinite chain of intertextual relations). A certain limitation seems to be necessary here. In other investigations, the type (i) is called "single text reference" (cf. BROICH 1985b: 48f.), whereas the type (ii) is classified as "system reference" (cf. PRISTER 1985: 52f.).

³⁸ For a detailed analysis of the intertextual writing of Hoffmann and of his parodistic tale *Die Königsbraut* cf. Orosz (in prep.).

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POSTMODERNISM AND GEOGRAPHY

1. Postmodernism and neostructuralism *

Since the early 1970s, the cultural life of the advanced capitalist societies seems to have shifted away from the premises prevalent during the previous 'modern' era, towards what has been called 'postmodern' culture. For many the advent of this postmodern culture marks the end of the modern era as well as of modern culture and thought, a position that, as we shall see, is rather precipitately reached.

The emergence of modernism as a cultural tendency, built upon the views of the Enlightenment and its belief in rational thinking, may be traced back to the mid-19th century; after its 'heroic' phase in the interwar period, it reached its peak, in the form of high modernism, immediately after World War 2. Postmodern culture became evident in the early 1970s, but its immediate roots may be sought in the previous decade. Its character of opposition to modernism may best be understood as an opposition to the Enlightenment movement and the central assumptions of that movement. What has been called postmodernism is coextensive with the whole of the cultural system of the societies in which it emerged. It represents a change of direction within philosophy, epistemology, the sciences and the arts.

In order to understand the nature of this approach, it may be helpful to have recourse to the theoretical views offering it legitimation, which mainly follow from what is usually called French poststructuralism. At this point, some clarification is needed. The term 'Poststructuralism' should not be understood as referring to something chronologically later than structuralism and profoundly different from it. During the 1950s and especially during the 1960s there appeared, first in France (or rather, in Paris) and then in other European countries (such as Italy and the former Soviet Union), a set of pronounced, related tendencies in a series of disciplines. There was

* This text was based on a previous article of mine entitled "Postmodernism, geography, and the social semiotics of space", *Environment and Planning D: Society and Space* 11: 255-278, 1993.

Lévi-Strauss's anthropological structuralism, which fast went beyond the limits of social anthropology; the 'classical' semiotics of Barthes's first period (see his *Éléments de sémiologie*, 1964), of Greimas and of Eco; and, at the same time, appeared the "poststructuralist" tendency, represented by writers such as Lacan, Derrida and Kristeva. These tendencies, which were more or less simultaneous, constitute European semiotics.

Thus, the 'post' in poststructuralism should not be taken as referring to the historical origins of the trend indicated by this term; at most it should be understood as connected to the developments in semiotics that followed from the 1970s onwards. I would argue that the 'poststructuralists' in no way went beyond the structuralist paradigm; they merely formulated their own interpretation of it and, in some cases, led it, as Derrida does, to its extreme consequences. I thus subscribe to Frank's (1989) view in referring to them as 'neostructuralists'.

'Neostructuralism' creates a terminological asymmetry with 'postmodernism', something which I believe is desirable. Postmodernism does not stand in the same relation to modernism as neostructuralism stands to structuralism. Postmodernism is both historically later than modernism and altogether different from it; their relation is established only at the very general level of the opposition of modernism versus antimodernism, the term antimodernism representing the basic ideological tendency of postmodernism.

A final point to be clarified is that not all French neostructuralists are the same, as also not all postmodernism is internally coherent. Witness to that is Norris's critique of the North American use of deconstruction in literary criticism, a critique he carried out in the name of Derrida's views (Norris 1990: 139-140).

2. Marxist geography and postmodernism

As is the case with the whole of the domain of social sciences, postmodernism is having an important impact in the field of human geography. This impact is creating a twofold shift of scope: an interrogation of the kind, value, and objectivity of theory, and an orientation of geography toward new or renewed objects of inquiry. As to the former, the responses range from an awareness of the importance of culture and symbolism in spatial matters which yet does not abandon the Marxist 'grand narrative' — a dominant trait of Anglo-Saxon geography since the 1970s — to a greater or lesser suspicion of such holistic theories. Concerning the object, there has been a pronounced interest in geography as a *system of meaning*, either per se or in connection with a wider framework. For example, Gregory (1989: 91) writes "There is a

poetics of geography, for geography is a kind of writing". Matless (1992: 4g, 52) incites geographers to "examine their own discourse", for "the potential of geography would seem to lie in conducting a genealogy of itself"; Barnes and Curry (1992) study the all-pervading role of metaphors in both modern and postmodern discourse; Driver (1992) argues for a critical perspective on geographical knowledge and focuses on its relationship to politics and culture; and Harley (1992) on the one hand rejects the idea of progress in cartography and sees maps as ideological texts and, on the other, considers the early European maps of the New World in the 16th and 17th centuries as symbols of political and religious imperialism, and the indigenous maps as an instrument of ideological resistance to colonialism.

This postmodern approach opens new and fertile fields of investigation and sensitizes geography as a science to its own premises and relativity, but it cannot and should not, in my opinion, displace the major concern of geography, the study of geographical *reality*.

I shall focus here on two books from this growing literature, both of which revolve around the nature and role of space in contemporary social practices and their impact on geographical theory. These books are Ed Soja's *Postmodern Geographies. The Reassertion of Space in Critical Social Theory* (1989) and David Harvey's *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change* (1989). The reason for this selection is that, in terms of their object, the two authors remain faithful to what I feel is still the core of geography and that, by so doing, they are closer to practical and planning considerations that geographers can hardly neglect. As to their approach, it has the merit, as we shall see, of retaining the right for geography to deal with the real world, albeit through a (flexible) appeal to a currently (and I believe provisionally) discredited 'grand narrative', that is, Marxism.

Soja complains that over the last century time has been privileged over space in social theory and that this has continued to be the prevalent feature of predominantly anglophone Marxist geography since the 1960s. Space has been seen solely as a social product, and historical materialism has been used to connect it with social processes. From the late 1970s a debate began in Marxist geography over the epistemological status of space, and the opponents of this view argued for a more dialectical relation between space and society, redressing the nature of geography as a mere reflection of social processes. Inspired mainly by Henri Lefebvre, Soja argues that there is a sociospatial dialectic — not implying a resurrection of geographical determinism — and that the socially produced spatiality of society also conditions and shapes society. This fact reveals space as an equally important factor with time in critical social theory and historical materialism. The application of historical materialism to geographical matters is not sufficient; historical materialism

must be spatialized with the creation of a historical and geographical materialism, a project undertaken by Marxist geographers of the 1980s and which will lead to the disassembling and rearrangement of Marxist concepts in geography. Today, it is the making of geography rather than history that is more revealing theoretically, and this is the premise of postmodern geographies. Such geographies offer a kaleidoscopic field emerging from the postmodern crisis condition and are destined to have a deeply restructuring effect on critical social theory.

Soja's (re)constructive postmodernism adopts the rationality of Western Marxism, but is not confined within its limits. It reacts against rigid categorical thinking, combines apparently opposed things, and rejects totalizing 'deep' logics, thus involving a temporary suspension of closed paradigms. Postmodern critical human geography should be erected on the radical 'deconstruction' of past 'narratives' and space and should resultate the 'meaning' and 'significance' of space in historical materialism.

Harvey follows up to a point a path similar to Soja's. He also observes that social theories privilege time over space. Progress and the accumulation of capital demand the annihilation of space through time. This is the reason for the reduction of space to a contingent category in modernist thought, which emphasizes 'becoming' rather than 'being' in place. Harvey, like Soja, treats space as inseparable from time, but also uses this complex as the epistemological link between material social conditions and culture. More specifically, he observes that crises of overaccumulation — the first of which occurred in the mid-19th century — set off the search for new spatial and temporal resolutions, which in turn led to a strong sense of time — space compression — that is, the sense of the shrinking of the spatial world and the shortening of time horizons — expressed with and in important cultural and aesthetic movements and philosophical insights. The last crisis of overaccumulation, starting in the late 1960s and reaching a peak in 1973, is associated with postmodernity, which is a historical-geographical condition. Postmodernity is associated with the (local) transition from Fordist modernity to flexible accumulation and the emergence of new cultural forms.

Neither Soja nor Harvey renounces the possibility of what the latter terms 'nonabsolute metatheory'. This common acceptance brings them both in direct confrontation with Derrida's elimination of metalanguage — and this is not intended to be a negative observation. This flexible modern attitude is combined with the use (and misuse) of neostructuralist or generally semiotic concepts, a use arising from the attempt to bring together political economy and culture, and a misuse that should be attributed either to the inaccurate use of certain concepts, or to the epistemological clash of certain other concepts with the Marxist paradigm. Harvey is well aware that the approach to post-

modernity as a material historical condition is blocked by postmodern discourse and that we are witnessing the transition from modern interpretations, focused on the material and political-economic, to the idea of autonomous cultural practices.

The relation found by Harvey between postmodern culture and capitalist development is in accord with Jameson's thesis that postmodernism represents the cultural logic of late capitalism. Jameson expresses his agreement with Mandel that postmodern society corresponds to a new stage of capitalism and is not a completely new type of social formation, the alleged 'postindustrial' society. Postmodernism, for Jameson, is not a clear-cut phenomenon but a 'cultural dominant', which has a different function in the economic system of late capitalism from the one modern culture had in the previous phase. Contrary to the postmodernist assumption of the autonomisation of culture, he argues that it is exactly late capitalism that destroyed the relative autonomy of culture and that culture has become inseparable from each and every component of society (Jameson 1984: 55-58, 87)¹. This contemporary aspect of culture is also stressed by Harvey, for whom postmodernism represents the extension of the power of the market over the whole of cultural production, something already understood by Lefebvre.

I hope the above discussion has shown that the two dominant themes in Harvey's and Soja's books are the new status given to space and the refusal to accept the neostructuralist isolation within the universe of meaning. But, if in fact the neostructuralist dismissal of reality seems ontologically untenable and politically suspect, the neostructuralist stress on semiotic, signifying processes (directly inherited from classical structuralism and semiotics), and therefore on the role of culture (not only as a theoretical standpoint on geography but also as an object of geography), poses a central problem for 'postmodern' science. The two authors do not offer us any systematic solution to this problem (see Dear 1991: 544). Soja (1989: 5, 121-122) only observes that there is a connection between postmodernism and cultural and theoretical restructuring, and also hints at the importance of cognitive (that is, meaningful) space in the formation of geographical space, but he does not offer a way of integrating the signifying processes revolving around space with the material processes studied by geographers.

Harvey seems more aware of this semiotic factor. He observes, in the manner of Baudrillard, that images themselves have been transformed into commodities, but distances himself from Baudrillard's position that Marx's analysis of commodity production is outdated because of the shift of capitalism from the production of commodities to the production of signs. For Harvey, competition in image building between firms and the creation of positive connotations for their products is vital for their economic competition, and thus

investments in this area of the ephemeral image become of prime importance. Money and commodities have become the principal bearers of cultural codes. Harvey concludes that there are today important shifts in all aspects of society, and one of the areas of greatest theoretical development is the recognition of the importance of images, and of aesthetic and cultural practices (Harvey 1989: chapter 17 and page 355).

The views expressed by Soja and Harvey lead us to certain fundamental questions concerning human geography, which are also of pertinence for the semiotician:

- a. Are their theoretical approaches in accordance with the premises of neostructuralism and postmodernism?
- b. Are they right in emphasizing space and historical-geographical materialism as the new focus of geographical theory?
- c. Is the quest for meaning an interest introduced in human geography by postmodernism, or was it already part of the field, and if yes, what kind of approaches have been used in order to deal with the meaningful aspects of space?
- d. Which are the theoretical consequences of the cultural factor for human geography?

We shall deal in the following section with the first two questions and in the final section with the remaining two.

3. Geography and meaning

In order to answer the two first questions, it is convenient to recall the nucleus of neostructuralist and postmodern thought. I shall first refer to certain authors among the neostructuralists who contributed to the establishment of the new paradigm, namely Jean-François Lyotard, Jacques Derrida, and Michel Foucault.

According to Lyotard (1979), social pragmatics is constituted by differentiated classes of 'language games' — a concept borrowed from Wittgenstein and indicating different kinds of utterances (such as denotative, prescriptive, performative, evaluative), which obey their own rules specifying their own properties and possible uses. Scientific pragmatics is an example of a denotative game, and it is not independent, for postmodern science, which is for Lyotard the science of the 'postindustrial' or 'informational' societies, of the prescriptive game which, by establishing the presuppositions for the scientific game, provides metaprescriptions. Given the divergence of these language games and of their rules, there cannot be any common metaprescriptions for

them, nor any universal consensus on them, something partly caused by the impact of new technology on knowledge, thus, the concept of a sociopolitically legitimating 'grand narrative' — whether the emancipation of humanity or the dialectics of the 'Spirit' — should be abandoned. Accordingly, there is no generalizable metalanguage underlying science which could draw into its orbit the particular and differing metalanguages. Lyotard sees this 'heteromorphy' of the language games as positive, on the grounds that it resists submission to the systemic socioeconomic realities and the operational demands of the system, and thus to (sociopolitical) terrorism.

Postmodern science is, for Lyotard, conscious of its discontinuity and counterproposes a legitimation model based on *difference*, a model opposed to the closed system and implying the production of innovations, given that it encourages proposals for new metaprescriptions. Consensus is accepted, but not a universal one, only local consensus is limited in space-time, corresponding to the multiplicity of equally limited metaprescriptions. In this manner, to the 'grand narrative' it opposes the 'small narratives' of inventive imagination, also and primarily occurring in science, with their antimethod and open systematization (Lyotard, 1979: mainly sections 10 and 14; see also Frank 1989: 82-85).

Although Lyotard accurately identifies an existing tendency in postmodern science, the main characteristic of his approach is probably its enclosure within the semiotic system of language. He may refer to capitalist society and technology, but his whole argumentation presupposes a textual deployment of science independent from the referent, that is, reality. This is not accidental, but constitutes the cornerstone of neostructuralist and postmodernist thought. It constitutes, for example the epistemological foundation of Foucault's whole work on history. In fact, for Foucault, discourse absorbs reality, and thus history, which is a history of ideas, is based on the (minute) analysis of *discursive* events. Because, for Foucault, every kind of discourse in a specific historical period, from the above discursive events to scientific theories, obeys certain general conditions of knowledge which constitute the epistemological domain of *épistémè*, historical facts or their scientific analysis must be seen as taking place within the *épistémè* of their time and cannot be considered as referring to reality and thus as being objective (Foucault 1966: 11-14, 384-385 and 1971: 42, 53-62, 78-79).

One of the principal proponents of the textuality of science and philosophy is Derrida. He starts from Saussure's insight concerning the differential nature of language and semiotic — that is, cultural — systems generally. For Saussure, the nature of linguistic entities is differential and relational, a concept corresponding to his views on the arbitrariness of linguistic entities and the systemic nature of language. The differential and the systemic nature of

these entities both demonstrate the formal character of the semiotic systems, a character to which Derrida subscribes and on which he founds his whole philosophical construction — see the critical edition of Saussure's *Cours de Linguistique Générale* (1915), edited by de Mauro (1972: 159-166, 359, 365-366). But from Saussure to Derrida a radical philosophical transformation has taken place. What was for the former an epistemological necessity aiming at the delimitation of the field of linguistics, that is, the use of the law of pertinence, became for the latter an ontological thesis, i.e., that the only reality is the one by Saussure's specialized viewpoint.

Thus, the key concept of Derrida's approach is *différance* (or *gramme*), the structured movement that produces the differential effects in the semiotic systems, differences without which there exist, for Derrida, neither signification process results in a formal game of differences. In this manner, given that the linguistic entities are interconnected, each one of them is constituted by the *traces* in of the other entities of the system. No entity is present by itself, but relates to other elements which are not present. The same is valid at the macrolevel of whole texts. It is these interconnections that produce every specific text, which is thus the transformation of other texts. The result is that there is no signification *per se* in a text, as it is different from itself before it is even posed.

On philosophical grounds, Derrida's project is the radical critique, or deconstruction, of what he considers to be Western metaphysics and with it, of the central premodern and modern philosophical concept of the subject, as opposed to the object. The subject for Derrida (as any other concept) is nothing but a derivative of the movement of *différance* and, consequently, the system of differences, and there is no such thing as the presence of a subject in itself outside and before the semiotic movement of *différance*. Thus, it does not hold that the semiotic codes emanate from the subject, because in such a case meaning would precede *différance*; on the contrary, the subject is constructed through the semiotic. Similarly, none of the conceptual oppositions of metaphysics, such as the opposition of subject versus object, is pertinent, because their terms imply the actual presence of a present entity.

As with the subject, objectivity also would be an effect of *différance*. Matter has been identified with objective reality, something presupposing an idealist view independent from the working of *différance*. Thus, the concept of matter, far from offering an escape from metaphysics, is itself a metaphysical concept, and the same is the case with dialectics in the Marxist 'text'. In the same vein, there cannot be a metalanguage, or more precisely a text 'transgressing' another text in the direction of a referent (reality) outside the semiotic. Every aspect of what we consider as reality, as outside the text (such as history, class struggle, politics, or economy) is only an effect of the

reference of the text (Derrida 1967: 227 and 1972: see also Frank 1989: mainly 4th, 5th and 13th lectures). In spite of his levelling out of all kinds of discourses, including scientific discourse, Derrida (1972: note 23) states that he does not want to adopt a *discourse* against truth or science and he rejects relativistic empiricism. This rejection of relativism is consistent with the quintessence of his theory, that is, the death of the subject. Derrida's position may, in fact, be considered as a 'grand narrative' in Lyotard's sense. If Lyotard is right in arguing for the postmodern character of scientific 'small narratives', then Derrida's theory, which has the character of a universally valid 'grand narrative', should not be taken as postmodern. Whereas for Lyotard difference (between the 'small narratives') remains an empirical observation, difference is subsumed by Derrida in the overarching principle of *différance*. But what is unquestionably postmodern with Derrida is his enclosure within the text, the same enclosure found with Lyotard and Foucault. This limitation within the semiotic, dragging with it the exaltation of the processes of semiosis, should in my view be considered as the actual cornerstone of the neostructuralist and the postmodern approach.

All of the postmodern bibliography corroborates the above point. I shall take as an example of the postmodern approach Linda Hutcheon's (1988: 24, 40-42, 54, 88-90, 149, 229-230) theoretical views. Following her, postmodernism is in accord with Lyotard in questioning centralized, totalized, hierarchized, and closed theoretical systems, without however destroying them — a recession from Lyotard's strong position. In the context of this recession, she does not deny the possibility of historical knowledge, but believes in its provisionality. Nevertheless, her argumentation revolves around the strong position, to the extent that she speaks about the indeterminacy of historical knowledge and she equates history with fiction on the grounds that they both are discourses: the rationale for this equation is the (accurate) observation that past events do not have meaning by themselves, but they acquire it through systems of thought — here, she is following Foucault. And these systems are human constructs, with the result that theory gives way to intertextual play. Thus reality is a human construct and history is a discursive reality.

According to the same author, what she calls historiographic metafiction shows that language refers to something that is a textualized and contextualized referent. This kind of novel rightly denies, for the author, the separation between fictional reference to and scientific description of the past — a position in accordance with Derrida. Referent and reality are not given, but are mediated by language. At this point she comes to the support of Derrida concerning his "il n'y a pas de hors-texte", arguing that he does not deny the real world, reference, or the access to an extra-textual reality, but he points out that meaning is derived solely from within texts through deferral. In the same line,

Hutcheon argues that historiographic metafiction does not negate the existence of reality, but asks questions about how we know that and how reality is or was in the past; she adds that this kind of questioning simultaneously opposes and rejoins Marxism. Historiographic metafiction would not devalue the referential function, but renders problematic both the assertion and the denial of reference.

Postmodernism in general — as is the case with historiographic metafiction — would not “liquidate referentials”, but puts into doubt the traditional realist transparency, as well as the Baudrillardian reduction of reality to simulacrum, i.e., the radical substitution of signs of reality. In respect to history, postmodernism does not show any radical relativism or subjectivism. Postmodernism in general and postmodern art more particularly support that we only know reality and give meaning to it through signs and this is not a wholesale substitution. Hutcheon’s support of Derrida as to the possibility of having access to extra-textual reality, and her agreement with historiographic metafiction concerning the assertion of the reference could be interpreted as an avoidance of the strong position of an absolute enclosure within the semiotic. But, as also in the case of the grand narratives, in reality she inclines to the strong position, something also demonstrated from her observation that “perhaps by definition, the referent is a discursive entity”.

There is a fast growing bibliography on postmodernism and a great number of characteristics attributed to it. Sometimes, and repeatedly in the architectural bibliography, its emphasis on meaning is pointed out. Rarely, however, is its absolute enclosure within the semiotic acknowledged as its major specificity and more rarely is this specificity given its actual philosophical affiliation Kantian transcendental idealism.

I believe that this is the central issue with postmodernism, and we absolutely must clarify our thoughts concerning it because of its grave philosophical and political consequences. I would not disagree that the neostructuralists, as did the structuralists, opened new perspectives for treating meaning, even in cases where we had not realized that meaning acts as a mediator. I would not doubt that they offered very original, concrete analyses. I would even accept that these analyses may also refer or seem to refer to an external reality. What I have tried to demonstrate, however, is that reality and knowledge of it have no place in the *ontological* presuppositions and the *epistemological* positions of postmodernism and the neostructuralists. To take the case of Derrida, oral observations on his part, or magnanimous interpretations (see Norris 1990: 38) of sentences that have or have acquired the ambiguity of a Delphic oracle (such as “il n’y a pas de hors-texte”), cannot replace the lack of reference to reality in the very structuring of his philosophy. Derrida’s approach does not allow for any variant of a knowledge of reality, as is also the case with Kant’s ‘noumenal’ (that is, nonexperienceable) world.

We are in a position now to answer the two first questions at the end of section 2. Soja’s and Harvey’s approaches cannot be considered as postmodern, since they both rely on a ‘grand narrative’, Marxism. This conclusion is undoubtedly negative from the postmodern standpoint, but not for the present author. It seems to me that grand theories, coherent and explicit to a greater or lesser degree according to the case, are both omnipresent and inescapable. I cannot see how, if the domain of sciences were structured according to postmodern predictions, that is, through small, local theories, the latter could, in general, be constituted independently from grand premises, or how they could avoid resulting in grand theories. This is not abstract reasoning. It is the very real experience of the fragmented constitution of the scientific domain by (the inescapably modernist) positivism: small segregated fields, imperialistically extrapolating from the partial to the general and producing, for example, exclusively psychological theories of society or exclusively semiotic theories of its material processes. The conflict would be — and has been — one between grand, not small, theories.

As to the central positioning of space in the geography of the postmodern era, the previous discussion of neostructuralist and postmodern thought opposes this thesis by Soja and Harvey. The main issue with this thought is the centrality, indeed exclusivity, of meaning and the signifying processes, not the centrality of space, and consequently the centrality of semiotics, not geography, in the social sciences. This ‘pansemioticism’, eliminating any kind of discussion of material processes, is the result of an imperialistic extrapolation of semiotics — a new idealism of central interest as a sociological phenomenon —, but it reminds us that it is erroneous to neglect semiosis and thus culture in the analysis of social realities. From a postmodern stance, then, on geographical matters, meaning should have priority over space.

4. Objectivism and subjectivism in geography

I shall now try to answer the last two questions at the end of section 2. The issue of meaning was not introduced in human geography by postmodernism. There is a general debate on this issue within geography going on now for about three decades. We should note, however, that the revival in geography of that issue is contemporaneous with the systematization of semiotics, the rise of neostructuralist thought and the first appearance of postmodernism in architecture and the arts. To refer only to postwar geography, the principal approaches within this context may be classified into two groups. I would include in the first group new geography and Marxist geography. The new geographers adopted the positivist principle of pertinence,

according to which the constitution of a scientific field presupposes the exact delimitation and then the isolation of the theoretical object of research. Space as such is defined by new geographers as the exclusive object of geography. This positivist isolation of space, as well as the equally positivist search for spatial laws of universal validity, led them to the position that geography, including both (and as one unit) human and natural geography, should formulate only morphological laws, that is, specifically spatial laws of universal validity — a tendency that also appeared within the framework of the semiotics of space. Human geography is contrasted by them to the systematic social sciences which would formulate the process laws of society, indeed independently from society's geographical manifestation. Thus, new geography seeks for its universal and naturalized laws in geographical space as such, space being seen as a natural, not social, reality.

Marxist geography emerged as a reaction to this kind of geography, to remind us that society matters. As is well known, for Marxists space cannot be autonomized from society because it is socially and historically produced. Being a social product, space cannot obey either purely spatial or universal laws, but is shaped according to the regularities of the societal processes, which are historically bounded. In spite, however, of the radical differentiation between Marxist and new geographers, there is a crucial common characteristic between the two: the exclusive concern with the material aspect of society and space, a viewpoint that I shall call *objectivism*. In the case of Marxist geography, this is far from being a natural outcome of Marxist theory, as Marxism offers a theory of ideology structurally related to its theory of material processes; we have only to remember Castells (1975: part III) and Lefebvre (1974: 42, 48-57), both of whose work has been foundational for Marxist geography and neither of whom neglect semiotic processes and the semiotic aspect of space. Unfortunately, the broadening of the horizons of geography offered by these authors was not duly exploited in anglophone Marxist geography.

The second group of postwar approaches in geography consists of what is usually called humanistic geography and behavioural or cognitive geography. Proponents of humanistic geography opposed the concept of *place* to the concept of *space* current in geography. Space, for humanistic geographers, was an abstract and neutral way of conceptually and indirectly analysing geographical entities, whereas place implied the transformation of space through its direct and intimate experience in consciousness. This existential recuperation of space, which invests it with meaning, values, and feelings, would deliver the inner structure of space. Thus for humanistic geographers it is thoughts and feelings that shape the urban and architectural environment (Savinen and Sell 1980: 531 and Tuan 1977: 5, 17).

Contrary to humanistic geography, that takes its inspiration from phenomenology, behavioural geography is positivistically oriented and draws heavily for its theory on environmental psychology. Its starting point is the psychological processes of the human mind, which realize a subjective representation of reality inseparable from sensation, cognition, values, emotions, and desires. One of these mental processes, that leads to the formation of our image of the world, is the cognitive mapping process, which is connected to environmental information and leads to the creation of mental or cognitive maps — a term by which we should not necessarily understand a kind of *cartographic* representation. When spatial choices are faced, the combination of these maps with decision rules and evaluation causes overt spatial behaviour, which either coincides with spatial movement or causes changes in the spatial structures (Golledge and Simson 1987: 11-13, 38-39). This psychological reductionism shows the individualistic premises of behavioural geography.

As was the case with Marxist and new geography, humanistic and behavioural geographers use different epistemological paradigms, but they may be grouped together on the basis of their common orientation. This common orientation is directed not towards material aspects but towards ideology and the meaningful aspect of space, a viewpoint that may be called *subjectivism*. I believe that the opposition between objectivism and subjectivism is a central issue for geography, at least equally as central as the issue of space. It is an issue indicating both the importance of signifying processes in geography and the need for an epistemological synthesis between the opposed parts, a synthesis bridging the split of human or better social geography.

Subjectivism became more widespread in geography from the mid-1960s, but it goes far back into the history of geography. Both these facts demonstrate that it is not postmodernism that introduced the quest for meaning in geography. It gave, however, a new impetus to subjectivism, a new orientation to it, as well as new research objects. Postmodernism in geography corresponds to the extreme consequences of geographical subjectivism. It not only brings the semiotic or ideological or cultural into the heart of geography, but it also wishes to eliminate any other aspect of geographical space and any other competitive approach. Contrary to this latter tendency, I believe that any kind of semiotic geography simply cannot get rid of the material processes shaping space and with them of Marxist geography, the most powerful tool at our disposal up to today, a view also supported, as we saw, by Soja and Harvey. This does not of course deny the urgent need for integration of the semiotic-cultural as an inseparable part of geographical theory. Semiotics — and I am thinking more of the 'classical' semiotics of Barthes' first period, Greimas, Eco, and the Moscow-Tartu school, to mention certain names, than of neostrikturalism — is in a position to assume the cultural component of

geography. Things in this respect are not simple, not only because there is not merely one semiotic theory, but also because 'classical' semiotics is positivist. Also, its articulation with Marxism and what I still believe to be a powerful Marxist geography presupposes an unruly synthesis of conflicting paradigms.

However, I would still counterpropose the use of semiotics rather than psychological theories in geography. The reason is threefold. First, the great majority of psychological theories are founded on epistemological individualism, a fact posing insurmountable obstacles in a *social* geography (and only allowing the constitution of a psychogeography). Second, these theories are all more or less limited in their approach to the study of meaning, and their use in geography has impoverished them even further, as with Kelly's (1963) personal constructs and Osgood's (1952) semantic differential. Finally, the in-depth analysis of systems of meaning has blossomed during the last thirty years. I do not mean with these comments to underestimate the contribution of the mainstream subjectivist approaches to space, especially when the presence of the semiotics of space has not yet been strongly felt in spatial studies, but I believe that they can be subsumed within semiotic theory as a theory of culture. The domain of semiotics is further broadened if we add the Peircean approach (for example, Peirce 1931: 134-173) to semiotics as formal logic and the extensions towards the nonhuman world, of which Sebeok's (1975) zoosemiotics is a characteristic example.

The issue of the articulation of semiotics with Marxism is not new. The earliest, and extremely successful, realization of this articulation can be traced back to the Soviet Union in the 1920s, and is represented by the Bakhtin school, while more recent approaches, presenting great affinities with this school, are due to Bourdieu (1971) and Godelier (1973 and 1978) — authors who are not usually considered as semioticians. The derivative integration of semiotic with Marxist geography sheds new light onto the geographical enterprise; reshapes humanistic and behavioural geography; and offers a specific position in geography and an important object to the much contested cultural geography. Thus, it seems to me that, starting from the synthesis of semiotics with Marxism, we are able to reconcile geographical subjectivism with objectivism, and thus a renewed cultural with a wider social geography.

NOTE

¹ We might note that, although this represents a new situation for capitalism and although within capitalism it takes on a unique historical aspect, it is in fact typical of precapitalist societies. In these societies [as, for instance, the work of Eliade (for example, 1965) on the history of religions or Godelier (for example, 1973, part I) on social anthropology show] culture and ideology are inseparable from everyday practices and from the functioning of the economic system.

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SEMIÓTICA: SENTIDO E SIGNIFICAÇÃO

SEMIOTICS: MEANING AND SIGNIFICANCE

CODE AND STRUCTURE: FROM DIFFERENCE TO MEANING

1. Code and Meaning

1.1. *Structural Code and Processual Code*

Let us observe a painter in front of his easel. He chooses different colors from his palette, mixes them, and applies them with repeated brushstrokes to the canvas. After finishing the painting, he places his signature on it. We have here watched a process in which colors and, finally, letters have been selected, combined, and distributed; a process in which a given material becomes a complex cultural sign, a work of art.

This process is a rule-bound activity, even though the rules may be ambiguous or used unconsciously. The rules governing the selection and combination of elements are known as *codex*. Because all codes are not semiotically pertinent, a general definition of code is too broad to be directly useful for semiotics. Nevertheless it may serve as our point of departure to approach the field of semiotics.

Let us imagine that we have two phenomena which may be separated from one another. If it is possible to establish a rule for the relation between them, the most elementary condition for the existence of a code has been fulfilled, namely that the code and the rule are identical. If the elements are characterized by merely one distinctive property, e.g., a straight line and a curved line, and if the rule determines their size, distance, repeatability, as well as their horizontal and vertical position *vis-a-vis* one another, we can generate most of the letters of the Latin alphabet by *combining* these elements according to the code. This, to return to our painter, was indeed what he did when signing his painting.

These elements may also be more complex, and be determined by two or more properties. They may, for instance, have form (straight, wavy, open, closed, etc.) as well as color; or they may be characterized by several colors (occurring simultaneously); or by several forms. Such features are not created by the code, since the latter presupposes the former. What the code does create is

their *relevance* (also called *pertinence*). This enables us to choose among the various features, so that some of them become relevant and others not. Through the pertinent features the given element acquires a *specific identity*, and may then be separated from other elements. In some cases this relevant distinctive feature may be color; in others, it may be form. Although form and color are commonly present in all cases, it is possible that the qualities of an element's form are irrelevant to its overall identity. This means that the relevance of the chosen features (that is, the identity of the element) depends upon the context in which the element is placed; and the combinations of different elements, which are found there, are governed by a code. Moreover, these elements will often have different features which can become relevant in different rule-governed contexts, without needing to be relevant at the same time. The fact that the elements can be coded in more than one way, is known as *overcoding*. This is the case of most of the phenomena in our everyday life: I mostly choose my good old winter shoes because they are warm and not thin and cold, or sometimes because they are black and not white; now and then because they are cross-country boots and not sneakers; on other occasions I do not choose them, maybe because they are sturdy and not elegant. My shoes are ostensibly characterized by more properties — or by an absence of certain properties — than are relevant in individual cases. Only few things, if any at all, are exhaustively coded by such binary oppositions as +/–, on/off, yes/no.

If, in the painter's view, the only relevant combination is one of form, he will produce alphabet characters. His signature on a contract is valid, regardless of whether he uses a blue, green, or red pen. If he chooses to make color the relevant feature, the coding process will certainly not involve writing, but maybe a work of art with blurred forms, like Jackson Pollock's paintings. If both a specific form and a specific color have been chosen as essential features, the painter may place his signature in the corner, or he may paint a particular detail on the canvas.

When described in these terms, the artist's creative talent appears to be disconnected from the creative process itself, and the creative process appears to be deprived of its artistic value, trivialized, even robotized. First the artist selects the elements to use, whereupon the codes function automatically. This reduces the role of the painter to that of the paintstore clerk operating the paint-mixing machine to produce one particular color of paint, using the color chips provided by the manufacturer. But this is also the way in which the Danish artist Carsten Schmidt-Olsen pretends to work. He has programmed an industrial robot to execute a complex series of movements; the robot is able to dip a brush into a can of paint, and applies the paint to the canvas according to a preestablished program, or code. The artist can make corrections before or after the painting process, but during the process itself, the program is automatic and works without human intervention. This enables the robot to produce paintings that are exactly identical.

There are two types of codes: *digital* and *analog* (cf. Wilden 1972: ch. VII). Both types of codes are operative when dealing with colors and/or forms, but their relative dominance may vary. Digital codes are based on the ability to clearly differentiate between the entities which are selected and combined: it follows the *either-or* principle. Primary colors like red, yellow, and blue are not defined by not being mixtures of one another, but are each unique; they are therefore susceptible to being digitally coded. In the paintstore, for instance, exactly measured quantities of different paint colors are mixed in standard combinations. This procedure enables the satisfied customer to take home paint color nr. 305 and apply it to his wall. If the paintstore clerk changes, however minimally, the quantity of one ingredient color, the resulting color would no longer be the same. All chromatic variants are the result of a digital code, based upon numerical principles. The Latin alphabet contains digitally coded forms, such as straight and curved lines. For instance, the letter C consists of a curved line, and the letter I consists of a straight line. P of one of each type of line, B of one straight and two curved lines, M of several straight ones, etc.

Colors can also be coded analogically. This process takes place when paint colors are mixed on a palette. In this case, the code does not govern the relation between the colors, but their relation to the object represented in the painting. The colors of this object can be reproduced to be more or less similar to the real-world colors of the object represented. On the canvas, the green color can be mixed to approach the color of grass. Here the code is analog; it follows the *more-or-less* principle. Though the letters of a signature are digitally coded vis-a-vis each other, thus enabling us to see them separately, a forged Picasso signature is analogically coded in relation to the master's own handwriting.

In the paragraphs above we have discussed the subject of codes in general, semiotic and/or otherwise. We have seen that a *general code is a rule for the selection and combination of relevant properties belonging to elements with predefined properties*. But after the painter finishes his painting, having selected and combined colors and forms according to complex and sophisticated combinations of analog and digital codes, and after having signed the painting, he has thereby created a new and meaningful object. This painting has a conventional meaning, because it is a particular kind of object, to wit a work of art. But as an individual work of art, it also has a meaning which is open to interpretation, and can in turn become conventional — e.g., by being taught to others in a school situation — and this conventional meaning can become the commonly recognized interpretation of it. Through this interpretative process, the codes used in this particular work of art may become norm-forming, which again means that the work of art is part of the canon. When this happens, the codes have created *meaning*, changing the perspective in a semiotic direction. What has happened here and how has it happened?

The basic requirements for operating semiotic codes involve more than the presence of two elements, each with one distinctive feature, and a rule governing their combination. A combination of the elements O and X in a series according to the rule that each element must alternate with the other, generates the following cluster of elements: OXOXOXOXOX..., but without necessarily creating meaning for that combination. In order to create meaning, there must be at least two sets or groups of elements, the essential features of which have been selected in advance, and combined into a code. One such set can be O and X held together by the alternating code; another set can consist of two persons whose relation is coded in the same way, so that they alternately choose O and X. By interrelating these two internally-organized elements together by another code, something new happens: the person who is the first to score three successive elements in a series wins the game. The result of the combination between the elements of both sets is an independent phenomenon, a tic-tac-toe game in which O and X have become pieces and the persons have become players. The whole has become a social activity, which is code-bound and may be repeated.



Fig. 1 — Structural and processual codes

For those partaking, the game can receive a strictly context-bound meaning, e.g., by referring to victory and defeat. Independently from the individual players and the associative meanings they may give to objects and phenomena in their environment, the board game *Monopoly* can thus refer to basic features of the free-market society that invented it. Social activities like games and play can further refer to culturally-determined and possibly ritualized differences between adults and children, work and leisure; they can express moral standards regarding their binding or not-binding nature; or they can exemplify fundamental socializing operations, stages in the psychological development of humans.

If we again use color and form to define a set of elements, they may be coded according to a fixed order of three elements (red, yellow, green) and define them as traffic-light elements. Another set of elements is defined by three properties, which are digitally coded in fixed pairs and are thereby defined as a set of elements relating to road users: movement (stop/go), source of movement (motorized/nonmotorized), and spatial location (road/sidewalk). If a dynamic code is established to interconnect both sets of elements, the systematic change between the three colors of the trafflight will order the road users to stop or go. In other words: since this code process is a repeatable social activity, it can become meaningful. A closer examination of the further conditions and real-life occurrences of this possibility for meaning naturally leads to an examination of the relevance of codes for semiotics.

As argued above, semiotics operates with codes on two different levels, which are simultaneously active. On the first level, we have codes connecting a set of elements into a well-defined but not necessarily closed system — pieces and players, traffic lights and road users. On the next level there is a code connecting at least two such systems. The first are called *structural codes*; the second, *processual codes* (cf. Eco 1984: 164–188). Semiotics is only marginally interested in the build-up of systems according to structural codes, but semiotics commonly takes for granted the existence of collections of elements that have a more or less clear structure, and are capable of creating meaning — possibly new meaning — through the use of processual codes. Processual codes can be viewed as a kind of translation from one structure into a different one. O and X can be translated into human action, and vice versa, thereby becoming a game. A series of three colors can be translated into interaction, thereby controlling the flow of traffic. The processual codes are semiotic codes proper; therefore, they shall simply be called 'codes' in what follows.

The task of processual codes consists of establishing a hierarchy of elements, which are chosen from the two preestablished structures. This may mean that, during a game, the elements can change place in the hierarchy. The same is true for the painting process: color, or form, or certain colors

together with certain forms, can graduate from a subordinate role to a highly meaningful position. The hierarchization may be described in this way:

1) some features receive *priority* (e.g., the form of the pieces used in certain games, the players' skill, their rating or, in golf, their handicap, that regulates players' formal access to competitive playing);

2) other features are placed in a *subordinate* position. For example, in some games, the form of the pieces is of minor importance and a missing piece can be replaced by whatever object the players may decide. Another example is the uniform colors of the players' clothing, which can be changed if necessary to avoid confusion — this happens in soccer when both teams are dressed in similar colors);

3) again other features are *excluded* as irrelevant (e.g., the material from which the pieces are made, the players' mood and eating habits, and so on).

Such a processual code focuses on a particular meaning-domain within a universe full of meaning potentialities, many of which remain ineffectual in a given situation. The semiotic process never operates with the code in its totality, but with a segment of it. While everything can be coded, not everything that is coded is actually relevant at the same time. The *linguistic sign* illustrates how a processual code works semiotically. In language, structural codes organize a series of elements, arranging them into an expression structure with clearly identifiable elements. Other, partly identical, structural codes organize a series of units, arranging them into a semantic structure, or content structure, with certain identifiable content entities. A phonetic, or letter, aspect is combined with a lexicon. In short: the alphabet versus *Webster's Dictionary*. The expression level is closed whole: we only have a limited set of expression elements (vocals, consonants, written characters) with a limited set of properties (voiced, voiceless, rounded, unrounded, made up curved and straight lines, etc.). The lexicon is open; though there is no exhaustive list of meaning possibilities within a language, this does not mean that the meaning of language is a chaotic affair. Though it is possible to compose dictionaries, any attempt to define meaning units, however thorough, must remain incomplete because there is a steady stream of new meanings, not to mention the fact that the lexicon is anchored in the whole cultural encyclopedia (cf. Eco 1984: 46-86).

A linguistic sign is the result of semiotic, processual codes connecting an expression and a content. In a tic-tac-toe game, each player is supposed to choose the same element every time, and each element is connected to one particular player. This creates a one-to-one relation between piece X and player X, and between piece O and player O. The language situation is

different: the combination of letters 'ice' may be a noun meaning 'frozen water'; a verb meaning 'to cover with ice'; a word fragment, as in 'slice'; or a suffix, as in 'notice'. Likewise, the meaning content 'female person' can be realized, on the expression level, by many different, often less flattering combinations of alphabet characters. Both structures are semiotically connected by a processual code, which excludes a one-to-one relation and always has a provisional character (Larsen 1993). This makes their relation a dynamic process: expression level and content level are subject to shifts vis-a-vis one another, comparable, in geology, to the movements and interrelations of tectonic plates. This implies that meanings may be changed, and may be translated from one semiotic system into a different one, thereby giving a content a new expression. This also implies that different media of expression have different ways of marking how cultural meanings are expressed and developed, such as when the so-called verbal culture competes with nonverbal, pictorial culture to express the fundamental meanings of a particular period (Hess-Lüttich and Posner (eds.) 1990).

The scope and use of semiotic, processual codes is therefore a complicated affair. John Fiske (1990: ch. 4) has described its complex nature in five basic features (which I have slightly modified to allow a better understanding of the problems involved in the use of processual codes in semiotics), thus:

1) The codes presuppose the existence of *two or more already structured sets of elements*, whereby the codes establish the rules that enable us to select one or more of these elements and combine them into a whole. The rules governing the combination of a set of pieces, O and X, with two persons, create a game;

2) The codes create a *meaningful whole*, in which the selected elements are placed in a hierarchy. Thus the whole can refer to something other than itself. E.g., a game referring to social experiences, to victory and defeat, to moral, aesthetic, and psychological values;

3) The codes are transmitted by *appropriate media of expression* and channels of communication. There still may be different media operating simultaneously: a game may be played with words as well as with gestures. But each code functions differently in each medium. For this reason, semiotic codes are never purely formal, but must be partly dependent on the presupposed elements and the distinctive material characteristics of the medium of expression;

4) The codes depend upon an *agreement* among their users. If the rules of the game are not followed by all players, there is no game. And a not insignificant number of linguistic and bodily reactions can result. The codes presuppose, but may also contradict, the shared cultural background which serves as their framework;

5) The codes perform an *identifiable social or communicative function*, even if they may raise doubts in our minds: "Are you fighting for fun or is it serious?", we may ask when things in the children's rec room are heating up.

Let us in what follows exemplify how codes work in practice. When we ask ourselves: "What is going on here?", this generally means that we are only able to see the codes in light of some, but not all, of the five above-mentioned items, preventing us from using and understanding the codes. Most often we are able to see that some persons are engaged in some rule-bound activity, but we may not understand by which rules. We are usually able to see that some meaning is conveyed, but which meaning may not always be clear, and we can also see that they receive information through various channels of expressions, but not exactly from which ones. It is not sufficient to have a general acquaintance with rules, nor to have knowledge of certain codes, nor to trust that semiotic codes depend upon a consensus. We can never be sure that this consensus is known or acknowledged by all, and should always be prepared to modify and adapt the way we use codes.

1.2. Streets and Codes

A Danish woman stands on a street corner in a medium-sized American town. Like any American city intersection, two streets of the same size cross each other at an angle of 90°, not just there but all around her, since the whole street pattern forms a uniform grid, a network of straight horizontal and right angled lines. The traffic moves in an orderly fashion, yet there are no traffic lights. The cars approach the intersection from several streets at the same time, in a slow-moving flow. Without stopping long they intertwine and separate again: not a honk, a scratch, or a curse. The drivers are apparently familiar with the code which regulates the order in which they may cross the intersection. The Danish pedestrian needs to cross the street but, unlike the drivers, does not understand the code. And since she would like to reach the other side of the street in one piece, she must find out first how the system works. Traffic is too heavy to wait until all cars stall or no cars are left at the intersection, and there is no crosswalk.

How does the Danish pedestrian proceed? She could of course go a bit further down the street. With some luck the traffic may be lighter there, and the semiotic code she is trying to figure less rigorous or even irrelevant elsewhere, so she gets off the hook. But the street pattern at the next block has an identical intersection, so the displacement is not of any help. One has also the possibility of challenging the code, of flinging

oneself into the street hoping that the drivers' code include rules about how to handle situations such as a violation of the code, or an encounter with different codes. But Danes are law obeying people, so this pedestrian makes an effort to behave in accordance with local traffic customs.

The knowledge she is about to acquire about the semiotic codes must include all five points mentioned above. She can learn them in three ways (Fiske 1990: 77):

a) She can use common traffic *conventions* which derive from supposedly shared experience: e.g., she may act in a way that is familiar to her, assuming that her behavior will be understood in the foreign environment; that is, she starts with 4) and 5). This method relies on conformity to local practice which she is not sure of, and is for this reason a dangerous hypothesis with not guarantee of success;

b) She can use *direct information*: she may ask a American to explain the whole system and instruct her how to behave in that system, that is, she may ask the native to translate a meaning content from one medium — traffic conduct — into another — language. If she uses this method, she is relying on 2) and 3);

c) She can decide to decode herself the *signals* sent by the traffic situation, that is she can proceed through indexical signs (Larsen 1991). But since all Americans drive cars, she finds herself alone on the sidewalk, without being able to receive information about the traffic conventions from anyone. She will have to start with 1) and find out which sets of structured elements are present. So, she must try to figure them out on her own.

It is not hard to see that one of the structures that are relevant to the situation under investigation is the *static* street grid, which is based on the difference between two elements — the sidewalk and the road — and the relationship between them. The sidewalks never cross the roads, and generally are, like the roads, at right angles to each other. Another structure consists of *moving* elements: road users, both motorized and nonmotorized. The code we are looking for is that which regulates how motor vehicles should move together, and how the pedestrians should stay safe from the motor vehicles. Some of the codes involved are easily recognizable as conventions: the motorized road users always drive on the right side of the road, while pedestrians can move in both directions on all sidewalks. Violations of this rule are penalized: honkblowing, cursing, and possibly paying a fine. All this allows us to say that the code controlling the movement of vehicles and pedestrians defines the situation as a whole as the phenomenon known as *traffic*: and that

it conveys meaning in the form of social organization, use of the road, etc. So much for 1) and 2) on Fiske's list.

But this does not suffice. The features and codes which the Danish pedestrian on the American street has selected do not yet solve her problem with safely crossing the street. Since we are dealing with city traffic, we know that there must at least be some rules, but we still lack proper codes, perhaps both structural codes (the right elements and their relevant distinctive features) and processual codes (the relevant movement codes). Without them, it remains a difficult task to turn the traffic flow into a meaningful hierarchical whole.

We need to find the basic clue to decoding the traffic situation, the code that regulates the shift between stop and go: go car, stop pedestrian; go pedestrian, stop car. We may first look at the structure of static elements; as in Denmark, the relevant signal may lie in the structure of the street plan. According to Danish regulations, main direct roads and through-streets grant drivers the right of way against local cross-traffic, which is obligated to give way. This is often indicated — that is, it is overcoded — by painted road markings. However, the American situation often differs. So, the relevant signal may perhaps lie in the second structure, that of moving elements such as automobiles and pedestrians, who are her fellow road users. If so, it might perhaps help the Danish pedestrian to wave her arm and thus give a signal — unless, of course, the drivers are only supposed to notice each other. But her waving has no effect. Hence there must be some clue in the cars: their size? the driver's appearance? the license plate? the speed? We are now checking 3) on Fiske's list, concerning the medium in which the code is expressed.

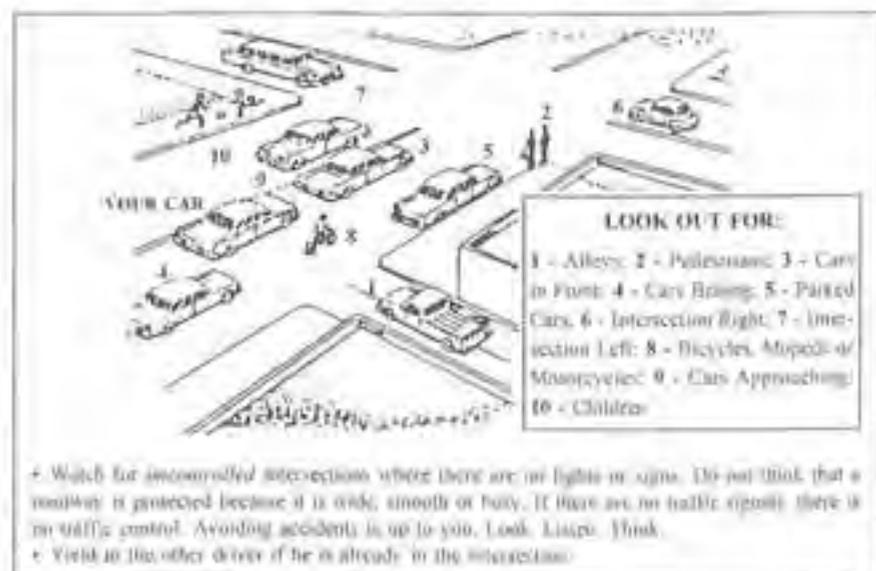


Fig. 2 — From a driver's manual

Now let us imagine that our Danish pedestrian suddenly gets a bright idea: the drivers probably take into account who arrives first at the intersection. First come, first served; a solid, respected social convention. This idea can be tested in two ways. One can step out on the street in the hope that the cars will stop to let one cross. If one gets hit by a car, or creates a chaos in the flow of traffic, this approach has proved to be wrong. Or else one can wait a while and observe the traffic. After having seen about a dozen times that the car which arrives at the intersection first also goes first, one begins to believe that this is indeed what happens. And if one is able to see that the drivers seem to remember the order in which they arrive, and respect this order, even if they have to stand in line before crossing the intersection, the procedure which they follow should be clear. At this time, the Danish pedestrian is convinced that the processual code, 'first come, first served', is operative in American traffic; according to 4) and 5) this code depends upon an agreement among its users and performs an identifiable function.

On seeing that the car in front of her has arrived last, and therefore has to wait the longest time, she safely crosses the street. She did not realize that the pedestrian almost always has priority, a dangerous hypothesis for a trial-and-error test. But she is safe now.

2. Code and Structure

2.1. Code and Law Book

Semiotics has often been identified with structuralism. Structuralism has many faces, but the common denominator with semiotics is that both fields consider the relations connecting things more than the things themselves, whether the elements thus taken together convey meaning or not (Petitot 1986). Shortly defined, a structure is a network of relations connecting interdependent elements together. Within structuralism, such a closed whole is called an object. The definition of a structure implies the identification of the object. By this token, atoms together form a structure: a molecule. Similarly, an ice crystal has a structure, a sentence has a structure, and a city also has a structure. In other words, the notion of structure is synonymous with what has been previously referred to here as a structural code — namely, the rules linking the parts of a closed whole.

The notion of natural language as a structure has in this century enjoyed considerable popularity. Since semiotics has taken structural linguistics as its model, many scholars have not drawn a clear line between semiotics and structuralism.

We speak of a 'structural code' and not simply of a 'structure.' This is because, within semiotics, the concept of structure cannot stand alone but

depends upon other mechanisms, processual codes, in order to convey meaning. Semiotics is not based on the concept of structure but on the concept of the *sign* that results from the cooperative action of various structures. Structure, like code, is a central concept within semiotics, but it is too general to qualify as its cornerstone (Larsen 1992).

Within semiotics, the concept of structure refers not only to various interacting components, which together form a sign. It can also be used to characterize the relationship between signs and the reality to which they refer. What knowledge do we gain when we conceive signs as structures that refer both to each other and to their environment? We gain an *epistemological* perspective (Derrida 1967). On the other hand, the concept of structure has also given us analytic criteria. How do we proceed when analyzing something which can be considered as a structure? (e.g., Greimas 1966). This is a *methodological* perspective.

Raymond Boudon has addressed both these perspectives in his book, *A quoi sert la notion de structure?* (1968). Here the notion of structure is disengaged from its traditional identification with static, closed structures. Through Boudon's argument we can place the concept of structure within the history of the concept of code. Hereby, he fine-tunes and clarifies the association of structure with code, which in the received view is as closed as it was vague. At the same time, his analysis underlines the permanent relationship between code and structure in the history of the concept of code. He makes us see that the lack of precision in the definition of this relation is not only due to the shortcomings of researchers, but is essential to the history. His analysis enables us to understand that today a clear differentiation between code and structure is necessary to give both concepts a well-defined, relevant place within semiotics.

Historically, the word *codé*, like the word *book*, refers to the wooden surface upon which the characters were originally written. *Codé* comes from Lat. *codex*, hence *codex*, meaning 'trunk of a tree', 'wood tablet'; *book* comes from Old Engl. *boc* meaning 'beech wood'; Greek *hybios*, 'papyrus', is the etymological origin of the Bible, the Book. Since it was, for practical purposes, particularly important to write down laws, *codé* or *code* came to mean the law book as well as its content, the law itself. *Code Napoléon*, the French legal code, still refers today to the legal code introduced by Napoleon in 1804, as well as to the material form, the actual law book, in which it is codified. A code is thus a *content-directed* set of rules, which govern the relation between a general body of social norms and concrete facts involving human behavior. This broad definition also includes the rules of conduct given in an etiquette book, which are not enforceable and fall outside the legal domain.

However, when we refer to a coded text, more often than not, we think of the material surface of an object or phenomenon as something that must be read like an enciphered text, which needs to be decoded, or interpreted, to discover its underlying meaning. This implies that a code is a regulating mechanism which can be *abstracted* from its material manifestation, such as a book, and from the phenomenon it aims to regulate, such as a form of human conduct. In this way, a code becomes an abstract organizing principle, that can be transferred from one phenomenon to another, and is capable of characterizing it without taking its material manifestation into consideration. At this point the code approaches, and is assimilated to, the modern, formal concept of structure.

This semantic slide is equally an epistemological development, which occurs in tandem with the move away from the old conception of the immanent order of Nature, as illustrated by the medieval metaphor, the great book of Nature (Blumenberg 1986). Nature as we perceive it is written like a law book. It possesses an internal order, which is a message from God to humanity, written in a code. The Bible serves as our aid to uncovering and understanding Nature's order. Once one has deciphered the law of Nature, it then serves as a law for one's own life and for human society. This means that the code of Nature operates in two directions: 1) it is the order creating and maintaining the world humans inhabit, and 2) by recognizing and using this agreed code in their own personal and communal lives, they link it back to the God-given order. For the creation of meaning no distinction needs to be made between structural code and processual code, nor need there be two or more differentiated sets of elements linked up by a processual code. In the final analysis, all these phenomena could be considered to be identical.

This may be exemplified by Abbe Morelly, an Enlightenment writer from the circles around the French Encyclopedia. In 1755 he wrote a book titled *Code de la Nature*, meaning *Law book of Nature*. Reading in the Nature's "law book" Abbé Morelly attempts to find the hidden order which he believes to be the very essence of Nature and act as the code which man uses to deal with Nature. Subsequently, he tries to formulate this code so that man can apply it to his own moral and social life. He offers, among other things, a master plan to build a city and to organize life in it. Nature's law can be translated into language, moral conduct, or urban planning, but all remain identified by Morelly with the immanent order of Nature.

When Boudon puts forth a notion of structure, belonging to the context of *intentional* definitions, he identifies structure with the immanent order of things. Structure is not an aspect of the thing, but the thing itself. The intention of a phenomenon or object, so Boudon, is referred to when we inquire about the phenomenon's own inherent purpose, what it means according to its nature. In this early view, the structure found in an object expresses its inter-

tionality, its own nature and purpose, abstracted from the situation in which it is placed.

Prior to the publication of Abbé Morelly's book there were already some philosophers who questioned this approach. How can we judge an object using language, logic, and more or less fallible perceptions and instruments, and how can we then reach an insight in its inner and true nature? And, further, how can we be sure that there will ever be a complete identity between the object's structure as it appears to us, and the rules generated by this object from its immanent structure? The structure as we perceive it might as well result from the language and other instruments used to analyze and describe it. And in the course of the process of transforming an immanent structure into the object as we perceive it, the structure may undergo radical changes. This is, e.g., the case of a map or chart: the geometrical structure which a surveyor applies to an area disregards the earth's curvatures and distorts Nature by projecting features from a round body on a flat surface.

About 150 years before Abbé Morelly's work, a different conception of the book of Nature was advanced by, e.g., Galileo Galilei and, somewhat later, by Sir Isaac Newton. Instead of representing it like a message written in a meaningful language, they put forth the view that the book of Nature was written in geometrical and other mathematical sign-systems and was ruled by the mechanical rules of Nature. These rules can not only be abstracted from Nature but also from meaning, thereby becoming semantically empty formulas used to describe gravity, causality, and other natural phenomena. When Galilei claimed that Nature's book was written in geometrical language (Galilei 1933: 121), he thereby stated that this language had been constructed by us, and that we had done this to understand the workings of Nature. For the Danish linguist Viggo Brøndal language is a geometrical grid with which we cover the world, enabling us to orient ourselves in it (Brøndal 1948: 35). Geometry competes here with the old metaphor of Nature's book.

Boudon's own concept of structure, which is connected to the geometrical metaphor of the order of Nature, is placed in what he calls a context of *effective definitions*. The basic assumption which serves as his point of departure is looser than was the case in the context of intentional definitions. We simply assume that there are phenomena which show traits that invite to systematization in different ways, although no specific system is yet defined. Boudon calls such phenomena *system-objects*. Their *structure* is a construction we make based on a selection of the traits which can be systematized. Thus the structure defines the object through a specification of the systematic possibilities of the system-object, the structure being only one of different possible specifications, none of which provides the final truth about an object. Instead, they give it an identity which enables it to function in a specific context and

on specific explicit conditions. This is why Boudon uses the expression 'context of effective definitions'.

It is relevant rules of the construction process-specifying the object (processual codes), and their building blocks (elements organized by a structural code into system-objects with an as yet unspecified order). This opens the way for structural codes and processual codes to play an active and independent role in the creation of meaningful objects.

2.2. Types of Structure

To return again to our example of the Danish pedestrian standing on an American street corner, she felt no need to identify the essential structure of American traffic rules nor, for that matter, of the American way of life. She wanted to find out the structure of the traffic flow, so that she might safely cross the street. Instead, the woman might have structured the systematizable features of the traffic as a system-object by studying the relationship between the number of male and female drivers, or the relationship between cyclists, pedestrians, and automobile drivers, and take the result as a basis for cultural studies comparing Danish and American gender role patterns and transportation habits. It is equally possible to take traffic counts and build a structure upon it. Whether one or several of this alternative structures that defines the object will be accurate or not, and to what degree, will, however, depend upon the properties of the object(s) studied and the context in which the object(s) must function. The concept of structure in a context of effective definitions is predominant in semiotics.

Within the context of intentional definitions there is only one structure: the object's own structure, which is merely repeated in different forms before referring back again to itself. In a context of effective definitions, Boudon distinguishes between four different *system-objects*, each of which build upon structural codes allowing for construction of different *structures*:

	finite definition	Infinite definition
direct test	(1) traffic lights/ marriage	(2) opinion poll
indirect test	(3) literary genres	(4) psychological structure

Fig. 1 — Types of System-Objects and Structures

1) Some system-objects are built of interrelated elements with a finite number of distinctive features. The three-colored traffic lights will serve as one example of this; another illustration is the marriage system in some Native American tribes in South America, which is determined by kinship relations. Here we have a finite number of roles (mother, brother, father, sister, uncle, etc.) which together form a system in which the interrelations decide which marriage is allowed and which not. Both the structures constructed on the basis of possible marriages, and those based upon possible light signals for drivers and pedestrians can be tested directly or empirically in social reality.

2) There are also system-objects built of elements that are defined by an infinite number of distinctive features, which are only delimited for particular purposes. This happens, e.g., when the results of an opinion poll or a questionnaire about consumer behavior are used to structure the population statistically. Such structures can also be confirmed or invalidated empirically.

3) The case of the traditional literary genres — epic, lyric, drama, with their various respective subdivisions, such as the novel and the comedy — is significantly different from 1) and 2). Here we have a system-object with a finite number of distinctive features, which are formulated within a particular literary theory. While different theories will use different criteria to focus on different features, no theory can deal exhaustively with the full body of literature. This is why there is an ongoing debate, and indeed controversy, about the validity of the principles of literary classification: The failure of a given structure does not entirely depend on its lack of capacity to account for certain literary works, but also on the degree of coherence of the argumentation given by the literary theory. This means, for instance, that if two literary scholars use the same body of novels to exemplify and support the existence of the novelistic genre, they need not necessarily refer to the same concept of literary genre. In this case, the truth value cannot be decided empirically (cf. Boudon 1968: 176f.) and the validity of each theory is determined by its own internal coherence, which in turn determines which empirical perspective the scholars adopt. Literary genres as system-object allow for structure that must be tested indirectly, non-empirically.

4) Finally, the fourth type of system-object must be mentioned here. This type is defined by an infinite number of distinctive features and delimited according to particular circumstances. It may be exemplified by the treatment, within psychoanalysis, of a patient's network of association as they emerge in the course of the therapeutic analysis. The structure of such a network can only be tested indirectly, and its truth value can never be confirmed to be 'true', only 'not false' or 'not yet true or false'.

The idealized concept of structure advanced by classical structuralism and structural linguistics only cover type 1): a closed system of interrelated elements. Meanwhile, Boudon has demonstrated that type 1) does not occupy a privileged position within the context of effective definitions; it is only one of several possibilities. However, by placing the concept of structure put forth by semiotics — that is, the collaborative union of structural codes and procedural codes — within this context, it becomes clear that the structural code not necessarily is a closed system: it is a perceptual framework composed by elements with a meaning-creating potential, and no more.

The closed structure has so far been *methodologically* predominant, both within semiotics and within the long list of disciplines which have turned to linguistics for their model. One semiotic system — natural language — is hereby taken as model, which makes other semiotic systems — such as film, theater, pictures, fashion, food, sports events and architecture — linguistic systems, or linguistic *analogies*. To use this procedural method, two analytic steps must be taken:

1) firstly, the phenomenon must be divided into an expression aspect and a content aspect. For example, a building is the expression — through the architectonic elements used in its construction — of a number of functions, while the content, or meaning, of the building consists of its spatio-functional possibilities;

2) subsequently, a classification must be made of elements on both sides, in such a way that they form opposite elementary structures. Within architecture, the expression aspect is based on the relationship between openness and closedness, big openings and small openings, height and depth, light and dark, and so on; and the content aspect is based upon the relationships inherent in certain functions. These may be symbolic functions, such as power, they may be social functions, such as family life; or they may also be psychological functions, such as intimacy.

This methodological basis has been widely used to develop a semiotics of architecture, a literary semiotics, a visual semiotics, a semiotics of culture, of cinema, of the theatrical arts, a psychosemiotics, a biosemiotics, etc. It must be underscored that semiotics addresses not just one but all four types of system objects as well as the structural code they build upon. If we take as our object of study a theater performance, we find it to be a highly complex phenomenon consisting of many different system objects: light, sound, movement, gestures, dialog, props, costumes, and so forth. All such elements cannot be understood as a meaningful structural whole on the basis of a verbal, linguistic

model alone and of the methodological analogies produced by this model (Johansen and Larsen 1990, Helbo *et alii* 1991). For this reason it is important that linguistics and its closed conception of structure be used, but only as one of a number of sources of inspiration.

This also implies that general semiotics needs to modify the principle applied by structural linguistics, that the sign has a predominantly conventional, or arbitrary, relation to the reality it refers to during the semiotic process. It is of course undeniable that the meaning of the series of sounds, or the series of letters, 'h-o-u-s-e', is only 'house', because there must be agreement in order for verbal communication to be successful, not because houses possess certain properties. And though a children's drawing of a house shows features which are more characteristic of the way children draw than they are characteristic of the house they draw, there are bound to be some common features. General semiotics must operate with more types of signs than just those provided by linguistics.

The children's drawing shows that the semiotic view on the relation between structure and reality should steer a middle course between the various classical epistemologies, which are all radically dichotomous. This we have illustrated by the idea of Nature's book as developed by Abbé Morelly and Galilei. Semiotics is not, as suggested by Galilei's reading of Nature's book, a purely *nominalistic* field of research, i.e., semiotics does not adhere to the idea of structure as an arbitrary order we impose upon the world from the outside, and which is valid as long as we agree upon it, regardless of how the world actually behaves. Neither can semiotics be exclusively identified with the kind of *realism* defended by Abbé Morelly, that is, supporting the idea that the identity of an object's structure repeats, and is a direct reflection of, the identity of the object itself.

In addition to the above it must, however, be stated here that nor is a purely *extensional* view on the object congenial to semiotics. From a semiotic viewpoint, an object's structure is not identified solely by stating it to be a member of a particular class — that is, by establishing the so-called extension of its structure. This was what Galilei and Newton recognized: that Nature belongs to the kind of things which obey mechanical laws, and that all things which fail to obey such laws are either supernatural or unnatural. If we recognize a butterfly by a structured set of properties, we would, in an extensional perspective, still not know anything about what a butterfly is: we would only know that it belongs to the kind of things with properties which are organized by the same structural code. But having said this, it must be underscored that neither does semiotics analyze its object of study entirely from an *intensional* viewpoint. Following Abbé Morelly's intentional approach, this would mean that the object in itself is shown by its supposed relevant features constituting its essence: in other words, by building a city in

accordance with Morelly's law book, his natural code, it would naturally become a natural city.

Semiotics adopts a *predominantly* realistic and intensional position. Semiotics acknowledges that semiotic systems have conventional character, and that they can be used to make outside classifications of the elements populating our reality. Yet semiotics emphasizes and concentrates on the fact that the relevant features found in system-objects are real; that is, that their existence in reality is independent from the semiotic system used to organize and structure them. Semiotics underscores that these features must be relevant because they are instrumental in making the object meaningful, in giving it a meaning that determines a description of what it is without exhausting the range of possible descriptions. Semiotic systems are themselves part of the world they refer to, and semiotic codes are equally an integral part of the world they are supposed to organize. Thus the purpose of a semiotically relevant distinction between types of code and types of structure can only be to enable us to account for how codes and structures are integrated into reality.

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I THINK I AM A VERB

"I think I am a Verb" est le titre d'un article que Thomas Sebeok a inséré en position initiale dans le volume qui vient clore, en 1986, sa tétralogie¹ sémiotique (et qu'il a métonymiquement autant que métaphoriquement intitulé à son tour *I think I am a Verb*) et en position finale dans le volume *American Signatures*, publié en 1991. Ce titre reprend en partie l'une des dernières notes que le Général Ulysses S. Grant (1822-1885), ex-dix-huitième président des États-Unis, adressa, quelques jours avant sa mort, au médecin traitant John H. Douglas, qui avait lutté, à ses côtés, pour ajourner la fin, pour gérer un cancer à la gorge et donner au moribond la chance d'écrire ses mémoires sur la guerre civile². La note, qui se conserve dans le fonds Ulysses S. Grant de la Bibliothèque du Congrès, est la suivante:

I do not sleep though I sometimes doze a little. If up I am talked to and in my efforts to answer cause pain. The fact is I think I am a verb instead of a personal pronoun. A verb is anything that signifies to be; to do; or to suffer. I signify all three.

Traduite mot-à-mot, la note est donc, dans un français que nous n'essayons pas d'assouplir: "Je ne dors pas, même si parfois je m'assoupis pour un moment. Si je me réveille, on me parle et, dans mes efforts pour répondre, je cause de la peine. En fait, je pense que je suis un verbe plutôt qu'un pronom personnel. Un verbe est ce qui signifie être; faire; ou souffrir. Je signifie les trois".

Sebeok (1986a) a clairement indiqué les raisons de sa fascination et la portée de son analyse:

Grant's words are, of course, touching; they are evocatively elegiac; and they are resplendently eloquent — but the quality which, magnetlike, drew me to this particular string of five sentences, constituting, in themselves, one complete utterance, inhered in their orphic semiotic understanding, compressed with stunning clarity and surety. What could Grant have meant by this note?" (p. 200).

Les mots de Grant rejoignent en effet, spectaculairement, ceux par lesquels Charles Sanders Peirce définit l'être humain comme signe. Ils permettent de cerner de plus près le "soi sémiotique" (*semiotic self*) qui préoccupe intensément Thomas A. Sebeok à partir du deuxième volume de sa tétralogie et auquel plusieurs articles sont systématiquement consacrés dans *I think I am a Verb*. C'est en les interprétant à la fois au niveau de la sémiotique générale et dans le détail intertextuel de leur rapport avec le théâtre shakespearien (mais aussi avec Descartes, Tennyson etc.) ou dans la trame de leur structure phonologique et des rythmes-empreintes qui scandent l'ensemble (*I think/ I am/ a verb; to be/ to do/ to suffer*) que Sebeok reprend et nous redonne dans l'ici-maintenant d'une autre fin de siècle les mots énigmatiques du Général.

Dans ce qui suit, je me propose d'ajouter quelques notes pragmatiques à cette analyse. C'est à Bloomington, en 1970, que j'ai fait la découverte, grâce à Thomas A. Sebeok, de la curieuse autodéfinition (ou déclaration), *I Seem to Be a Verb* était le titre d'un livre de R. Buckminster Fuller qui venait de paraître et qu'il me signala à l'époque. Premier signal présageant une rencontre qui, chez Sebeok, allait aboutir à l'article et plus tard au livre de 1986. Cette formule, qui ne faisait aucune référence à Grant⁸, resta dans ma mémoire, en dormance. Et aujourd'hui, j'aimerais entrer dans le jeu sémiotique⁹ que son recyclage il y a dix ans par Thomas A. Sebeok a rendu désormais possible et auquel l'être individualiste¹⁰ que nous traversons est particulièrement propice.

Les quelques remarques ci-dessous ont trait à la valeur et au fonctionnement pragmatique de l'étrange auto-définition que le Général marqua sur le papier il y a plus d'un siècle ainsi qu'aux relations qu'elle entretient (a) avec l'ensemble de la note, (b) avec les deux volumes de Sebeok mentionnés au début de cet article, et (c) avec la sémiotique en général et son horizon actuel.

Le premier aspect, qui s'impose à la lecture la moins avertie, concerne le caractère *inattendu* de la formule. Inattendue pour son auteur même, car il y a comme un souffle d'hésitation — *I think* (je crois, je ne suis pas sûr, c'est ce qui me vient à la pensée en cet instant) — avant de lancer le mot: *I am a verb* (Je suis un verbe). McFeely (1981) a écrit des pages importantes sur la fonction de découverte de soi¹¹ qu'a eue, dans la vie du Général l'étape ultime de l'agonie-livre et la note qui nous occupe s'insère pleinement dans ce processus réflexif, avec les surprises paradoxalement réconfortantes qu'il apporta à Grant:

Finally there was something to be done that was worth doing. All the failures of his first forty years and the terrible successes of the next four, which had been given gaudy celebration for almost twenty more, yielded to a splendid struggle to create the *Personal Memoirs of U. S. Grant*¹². He pressed himself, not to write, for that he did with discon-

certainty, esse, but to finish the book before he died. There was simple Grant logic in his determination. He was performing this task to support the family, and, of absolutely essential importance, there was fulfillment for him in the nature of the job itself [...]. All his life he had struggled to get his story out, to get his life laid out before himself and before the world, so that in some way it could matter. Now — and only now — he succeeded" (p. 504).

Inattendue pour nous de la part d'un Général et ex-Président dont la pensée immédiate, à la différence de celle du sémioticien qu'est Thomas Sebeok, ne saurait inclure *naturellement* et comme allant de soi les oppositions entre parties du discours⁸ ou les aspects essentiels du sens véhiculé par les verbes⁹. Dépayssante, dans sa technicité linguistique émergente, alors que nous savons qu'elle fut écrite par un homme que le cancer avait épuisé et qui n'avait plus que quelques jours à vivre¹⁰ lorsqu'il jeta sur le papier les mots qui nous interpellent.

L'étrangeté, sinon le caractère insolite de la formule ne sauraient avoir échappé à Ulysses S. Grant lui-même. Et ceci soulève tout de suite une nouvelle question et amène ainsi notre deuxième remarque. Selon les biographies de Grant, la note aurait été adressée — comme beaucoup d'autres le furent à la même époque — à John H. Douglas, M. D.¹¹, médecin réputé, qui soigna le Général avec dévouement et se trouva à ses côtés au moment de sa mort. Or, et tous ceux qui ont écrit là-dessus s'accordent sur ce point, les relations entre Ulysses S. Grant et son médecin restèrent des relations sobrement professionnelles, sans épanchements imaginables. Douglas était plutôt *matter-of-fact*, précis et discipliné, prudent et discret dans son dire, Ulysses S. Grant clairement réticent dans l'expression de ses sentiments. De par son caractère personnel (disant le moi sémiotique plutôt que le moi biologique de son auteur) et bizarrement confessorif la note du Général s'insère mal dans le cadre (va en fait plutôt contre la trame de celles-ci) des relations qui unirent, des mois durant, le malade à son médecin.

Il suffit, pour s'en rendre compte, d'interroger dans leur ensemble les notes que le Général écrivit à John Douglas. Je cite quelques exemples extraits de Pitkin (1973): "My mouth hurts and cocaine ceases to give the relief it did" (p. 69); "The injection worked very well, and I hope at not too great a cost [le Général appréhendait l'effet de la morphine sur sa voix]. The pain left me entirely so that it was an enjoyment to lay awake. I did get asleep, however, from the mere absence of pain, and woke up a short time before four" (p. 79); "I do not think I slept the last time because of the medicine, which put me to sleep the first and second time, so much as from a general breaking up of my loss of sleep. I think I had better try it once more" (p. 137). Même lorsqu'il

parle de sa mort prochaine, le ton du Général reste celui du discours pour autrui, où l'unicité personnelle de son agonie est traduite et masquée plutôt que montrée directement. Ainsi, à peine arrivé à Mount McGregor, il écrit à Douglas avec sa netteté habituelle: "I can feel plainly that my system is preparing for dissolution" (Pitkin 1973, p. 64). Lorsqu'il marque, le même jour, dans une note destinée à sa famille, "I feel that I am failing [...]" c'est pour enchaîner tout de suite sur l'indication de choses à faire dans l'immédiat. La veille de sa mort, à midi, ce que Ulysses Grant mande dans une note à son fils aîné c'est: "Fix the clock right. It only struck eleven" (Pitkin 1973, p. 137).

Plus simplement, et sans pouvoir avancer plus loin, notre deuxième remarque est donc purement négative. Il nous semble que John H. Douglas est loin d'être le destinataire probable de la note en question. Fut-elle adressée à quelqu'un de plus proche? À quelqu'un qui, de par son intimité avec le Général pouvait en subir sans être choqué l'étrange effet de distanciation quasi-désinvolté et imperceptiblement ludique? Pour aborder cette question (à laquelle, bien entendu, nous ne saurions et nous ne visons pas à apporter une réponse factuelle), il nous faut revenir au texte dans son ensemble et à ce qu'il suggère.

Les deux premiers énoncés ne nous semblent pas appartenir à la gamme des propos que l'on adresse communément à son médecin traitant. Douglas était, la plupart du temps, dans le cottage de Mount McGregor où il pouvait surveiller de près son malade. Que le Général se donne le mal de lui écrire une note quant au fait qu'il ne dort pas malgré quelques brefs moments d'assoupissement apparent serait pour le moins étrange de la part de quelqu'un qui frappa ses contemporains plutôt par son aptitude au silence et à la retenue¹⁸. Pourquoi détailler l'évidence et adopter, si tard, la tautologie comme modalité du dire?

Le deuxième énoncé — "Si je suis réveillé on me parle et, dans mes efforts de répondre, je cause de la peine" — me semble cependant également exclure comme destinataire l'un des proches (Julia sa femme, les enfants, le valet ou le *mixer*). Car, s'il leur avait été adressé, il y aurait eu une contradiction douloureuse entre l'appréhension de la peine qu'on cause involontairement en ne réussissant pas à masquer la torture articulaire (il ne faut pas oublier qu'Ulysses Grant avait un cancer à la gorge qui ne lui permettait pas d'avaler et qui le réduisit au silence ou aux conversations écrites pendant la plus grande partie de son séjour terminal à Mount McGregor) et celle, tout aussi grande, provoquée volontairement par l'assertion expresse du fait.

Ce que les deux premiers énoncés nous paraissent suggérer et ce qui nous permettrait de les relier directement à l'auto-définition bilan qui les suit (et à ses retombées sémantiques) — Sebeok a signalé d'ailleurs le caractère imitatif de l'énonciation qui sous-tend la note — c'est qu'en fait le Général

affirme faire semblant de dormir plutôt que d'être (sauf à de rares et brefs moments) vraiment assoupi. L'examen des deux énoncés nous suggère ainsi le saisissement avec lequel Ulysses S. Grant se rend compte (et, en écrivant qu'il est devenu sur le tard, l'écrit sur le champ) du fait qu'il se réfugie dans un sommeil simulé plutôt que d'attrister ses proches par le spectacle douloureux des souffrances qu'il n'est plus à même de contenir (comme il l'avait fait au début¹⁹).

Notre troisième remarque consiste ainsi en une ré-interprétation sémantique partielle de la note qui nous semble exprimer la distanciation subite (voire la défamiliarisation) du Général devant l'auto-exclusion par rapport à la vie et à la parole commune de ses proches et l'isolement (par le biais d'un sommeil feint) qu'il se découvre pratiquer alors qu'il est encore, et pour si peu de temps, en vie.

L'auto-démascèlement révélateur qu'opèrent les deux premiers énoncés de la note appartient à ce qui, du Général envers ses proches, reste à jamais indécible et rime parfaitement avec l'étrangeté de la définition bilan qui lui fait suite. Si notre lecture est juste, il provoque en fait un bref arrêt dans la réflexion du Général lui-même. Et ce qui suit, après un double palier prudemment préparatoire — *The fact is*, d'abord, *I think* ensuite — avance vertigineusement vers le secret paradoxal de son être, qu'il n'arrive à dire, gauchement autant qu'extraordinairement, que par le biais de l'opposition entre pronoms personnels et verbes. Il devrait être un pronom personnel — un *je*, un *moi*, un sujet qui s'approprie sa vie, ses actes, sa douleur même. Il est un verbe, une existence, un faire, une souffrance qui se partagent avec d'autres et pulsent anonymes. Ou plutôt, il devrait signifier l'unicité et l'unité d'un être humain, qui plus est, d'une personnalité. Il se sent cependant signifier, sans marges et sans limites et à leur niveau le plus humainement et le plus humblement général l'exister blotti sous son masque de sommeil (voir le premier énoncé), le faire-souffrir (voir le deuxième énoncé de la note), le faire (n'oublions pas que le Général Grant mourut quelques jours après avoir conclu la tâche heureuse autant qu'éprouvante des 1100 pages des *Memoirs*), la souffrance biologique.

Ainsi, et ceci est notre quatrième remarque, l'opposition verbe/pronom personnel sert à exprimer métaphoriquement la sortie du ou l'extériorité par rapport au dialogue vécu, à l'interaction verbale spontanée, dominante-préante (pour utiliser les beaux mots d'Ulrich dans *L'Homme sans qualités* de Musil) avec ses proches. De par son caractère incongru, elle est le signe du fait que la note appartient au dialogue intime automodérateur (auto-consolateur) de Grant avec soi-même plutôt qu'à la communication (avec Douglas ou avec ses proches).

Le Général mime le sommeil afin d'avoir un alibi pour son silence et, ce faisant, se découvre avoir subi une mutation existentielle autant que langagière.

il a cessé d'être un sujet qui se dit et se vit dans l'intersubjectivité spontanée et propice des échanges quotidiens. Il se limite désormais au magma de la parole, de l'univers et de la signification intérieures, dans lesquels l'existence, le faire et la souffrance se confondent et s'effacent tour à tour, sans forme et sans fin.

Ainsi, l'extinction du moi que Sebeok retrouve à juste titre dans la note qui nous occupe s'accomplirait chez le Général par la traversée d'une zone aride de la parole refusée, car ne pouvant plus maîtriser l'indicible et maintenir les frontières entre le secret intérieur du moi biologique et ce qui peut en être dévoilé sans danger aux autres (à ceux que le moi sémiotique reconnaît comme proches), et l'accession tardive et comme cachée à une auto-signification.

La note du Général nous émeut, entre autres, par la manière paradoxale dont elle témoigne de la dissolution du moi sémiotique de son auteur. Elle dit l'abandon de la communication (voire la dépossession communicationnelle) au moment même où le Général, cet homme qui sembla conjuguer le silence extérieur et le silence intérieur comme peu d'autres dans sa position et ses rôles successifs, réussit enfin à s'auto-signifier dans un clin d'œil terminal, à mettre en mots perspicaces (voilés et directs, ludiques et graves) son ipséité, l'empreinte secrète de son *Innenvelt*, le timbre de la pensée qu'il consacra à sa manière personnelle de sombrer.

Se dessine ainsi l'image d'une sortie subjective de la sémosis vécue (et humainement assumée) dans laquelle la "mort" de la parole (*speech*), de la communication, précède la "mort" du langage (*language*), de la signification¹⁴. Cette dernière (la signification) semble, par contre, exaltée dans une vision ultime quasi-postmoderniste, à la fois mythique et *tongue-in-cheek*, et nous revenons ici au propos sémiotique d'ensemble de Sebeok (1986):

Certainly human language is a flexible tool in ultimately interacting with the significant surround; but it also serves as a toy in the manipulation of that world, as well as of past worlds, future worlds, and an infinite number of fantasy worlds" (p. 41).

Le sujet se désiste graduellement non seulement des obligations et charges envers ses partenaires dialogiques mais aussi, et surtout, du souci de réalité de la signification et de l'obligation de "normalité" des propos intérieurs. Le mot du Général s'inscrit ainsi dans la rêverie sémiotique (le *rapture of musement* de Peirce) plutôt que dans le discours quotidien d'un sujet. On pourrait même le lire en tant que jeu existentiel imperceptible avec le soi perçu comme signe précaire en dérive, y voir le symptôme¹⁵ d'un ensemble plus vaste de réflexions qui, à la fin de la vie d'Ulysses Grant, l'aida à signifier ludiquement autant que gravement sa vie, son agonie et sa mort.



Restent à dire quelques mots sur les deux grands contextes méta-sémiotiques dans lesquels Thomas A. Sebeok a choisi d'insérer son article mis sous le signe des mots énigmatiques d'Ulysses S. Grant.

Dans sa forme première, en tant que texte indépendant, l'article portait le titre "Grant's Final Interpretant". Ce titre attirait l'attention des lecteurs sur la dernière somme sémiotique d'un individu (U. S. Grant) qu'il ne mettait en relation avec Charles Sanders Peirce et avec la démarche sémiotique de Sebeok qu'indirectement (par le biais du terme peircien de *interpretant*).

L'article a été par la suite inséré en guise d'Introduction dans le volume que Sebeok a également intitulé, *I think I am a Verb*. De par ce fait, et sans que l'auteur l'ait autrement explicité, il devient manifeste que l'article en question (et, indirectement, les mots éponymes du Général Grant) occupe une place privilégiée dans la réflexion (et le vécu) sémiotique de Sebeok. Et que le "Je" du *I think I am a Verb* s'étend, de Ulysses S. Grant par Sebeok et Peirce interposés, à tout moi sémiotique.

Marquons quelques éléments de cette symbiose. L'article examine l'auto-définition, le bilan (le "dernier interprétant") et la dissolution d'un moi sémiotique en dialogue poignant avec son moi biologique. Or, les problèmes du *semiotic self* avaient commencé à préoccuper tout spécialement Thomas A. Sebeok dès le deuxième volume de sa tétralogie, *The Sign & Its Masters*, paru en 1979, alors que la question de l'univers intérieur et de l'opposition entre langage et parole, signification et communication, symptôme et signe constituent quelques-unes des lignes de force sur lesquelles s'achève le parcours de la tétralogie. Si nous ajoutons à ceci les remarques, plus techniques, concernant le rythme ternaire selon lequel évoluent la pensée de Peirce (comme celle de Freud et, en fin de compte, ajouterions-nous, la note du Général), celles sur le pronom personnel qui apparaissent dans l'article "One, two, three spells Liberty", celle sur la sémiotique médicale ou la réflexion sur le jeu et les rapports entre signification ludique et existence sémiotique qui étoilent le propos de plus d'un article, le volume *I think I am a Verb* se trouve être en dialogue permanent avec ce qui, de la méditation d'Ulysses S. Grant, peut être versé dans la somme des grands dits sémiotiques.

Par contre, dans le volume *American Signatures*, l'article remplit une fonction ponctuelle d'exemple. Il semble illustrer une attitude "locale" face à la signification, au verbe vécu, à l'individualisme sémiotique et au secret de l'être, alors qu'il remplit, dans la composition du livre, la même fonction de clôture (de salutation terminale) qu'il avait assumée comme titre du dernier volume de la tétralogie.

Dans la foulée de l'article sur Grant se dessine ainsi une direction qui, loin d'être épuisée dans la pensée de Thomas A. Sebeok, m'apparaît au contraire comme ouverte et extrêmement actuelle. Quels sont les rapports vécus (et leur mise en signe) entre le soi biochimique (*biochemical, immunologic self* dans les textes de Sebeok) et le soi sémiotique, social, culturel (*semiotic self*)? Comment pouvons-nous penser la naissance (le surgissement) d'un moi sémiotique et quelle est la relation que celle-ci entretient à la naissance (au surgissement) du moi biochimique? Peut-on distinguer entre des types de vies (de cultures, de pensées) d'après la coupure ou la continuité (toujours relatives) qu'on s'efforce de pratiquer entre le moi biochimique et le moi sémiotique? Est-ce que les systèmes équilibrés s'associent plutôt à la coupure et les systèmes dissipateurs plutôt à la continuité entre les deux facettes du *self*? Y a-t-il des "styles" de mort sémiotique, dans lesquels c'est tantôt le moi biochimique et tantôt le moi sémiotique qui disparaissent en premier, l'autre lui survivant pour un temps ou, comme nous avons essayé de le suggérer en passant, un scénario général dans lequel la sémosis s'éteint par étapes (d'abord la communication, ensuite la signification) et le moi sémiotique disparaît avant le moi biochimique? Il me semble que les films expérimentaux en *travelling* continu (sans *focusing*) de Marguerite Duras¹⁶ ou la prose insolite de Beckett dans *Soubresauts*, de Sarraute dans *Tu ne l'aimes pas* ou dans *Ich sterbe*¹⁷ nous mettent déjà devant des cas artistiques de nature à illuminer l'analyse des pulsions conjuguées, entrelacées, conflictuelles du moi sémiotique et du moi biochimique finissants. Je crois aussi, au terme de ces propos que le domaine sémiotique dans lequel s'annoncent les possibilités de recherche rendues imminentes par la dimension *I think I am a Verb* de la réflexion de Thomas A. Sebeok est celui de la pragmatique. Il s'agirait d'intégrer à la tradition majeure de la sémiotique à côté de la réflexion de Morris, de Peirce et de Jakobson, et la renforçant, les travaux sur l'interaction verbale de Austin, Wittgenstein ainsi que la réflexion contemporaine sur le sujet, l'individu, l'intersubjectivité et l'individualisme. Les mots du Général et le cadre que leur ont prêté les travaux de Thomas A. Sebeok nous mettent sur la voie.

NOTES

¹ La tétralogie sémiotique de Thomas Sebeok inclut les volumes *Contributions to the Doctrine of Signs* (1976), *The Sign & Its Masters* (1979), *The Play of Misement* (1981) et *I Think I am a Verb* (1986). Elle se déploie durant une décennie: 1976-1986.

² Il s'agit de l'ouvrage en deux volumes intitulé *Personal Memoirs of U. S. Grant*, publié à New York, après sa mort, en 1885-86.

³ Cf. Sebeok (1986a), p. 206.

⁴ Comme on entre, après une période de ruminations solitaires ou d'apprentissage dirigé, dans les jeux de langage (*language games*) de Wittgenstein.

⁵ Le choix, par McFeely (1981), de U. S. Grant en tant que sujet de son livre est mis résolument sous le signe de l'individualisme et opposé au holisme des études historiques antérieures. C'est en tant qu'individu, plutôt qu'en tant que militaire ou président que Grant peut intéresser et "parler" aux Américains d'aujourd'hui, souligne McFeely: "Grant did not make war for reasons or in ways that enoble the Civil War. He did not rise above limited talents or inspire others to do so that make his administration a credit to American politics. If Ulysses Grant was, in any measure, 'the concentration of all that is American' and we still believe in democracy, his story is troubling. In fact, it suggests that we must rethink both the worth of war and the uses we make of politics if we are to build a society in which a Ulysses Grant can be heard in a constructive way. His voice is heard clearly in one realm. Edmund Wilson in *Patriotic Core* taught us to take Ulysses Grant seriously as a writer. All the present study has tried to do is to take him seriously as a man. Now, almost a century after he died, myths of glorification or denigration can be discarded. This is the generation of his grandchildren's grandchildren, and these Americans — who are not in all ways different from the person Grant was — deserve to know a man they would recognize if they met him in a crowd" (p. 522).

⁶ Voir aussi, à ce propos, les mots de William Tecumseh Sherman, reproduits par McFeely (1981): "Grant's whole character was a mystery even to himself — a combination of strength and weakness not paralleled by any of whom I have read in ancient or modern history" (p. 495).

⁷ Sur le caractère gravement sélectif (et inattendu à son tour) des *Mémoires*, voir aussi le passage suivant: "There is no account of events after the Civil War, the eight years of his presidency are ignored. This omission could be attributed to the obvious fact that he had run out of time, but nothing in the structure of the book suggests that the postwar presidential events had ever been part of his conception of the work. He edited those disappointing years out of his story. Instead, he told of the years in which he was alive [...]" (McFeely 1981, p. 511).

⁸ Même si peu orthodoxes, car, comme le souligne Sebeok (1986a), c'est plutôt l'opposition nom/verbe que pratiquent les linguistes.

⁹ Cette singularité (voire imprédictabilité) de U. S. Grant ont frappé plus d'un de ses proches. Parlant d'Adam Badeau, collaborateur et historien de ses campagnes que le Général dut éloigner dans la dernière partie de sa vie, McFeely (1981) écrit: "Badeau never quite understood Grant. Indeed, he told Adams that during the war he and Rawlins and others on the staff 'could never follow a mental process in his [Grant's] thought. They were not sure that he did think.' It would have been closer to the truth to say that Grant himself did not know what he thought until he wrote it" (p. 498).

¹⁰ Pour la signification généralement reçue de l'épisode terminal de Mount McGregor, tel qu'il fut perçu par les contemporains de Grant et contrastant profondément avec le bilan "sémiotique" du Général, nous citerons un bref passage de Ross (1959), p. 304 (reproduit dans Pitkin 1973, p. 65): "For the time being Mount McGregor was the most conspicuous spot in the world, for the General had travelled in every country and history was assuming the proportions of a classical tragedy. Here was a great public figure watching himself die. He knew what he had. He knew what the papers were saying. He was a witness to his own agony as well as being its subject. Enemy voices were stilled at last. The peaks and abysses of his career were all in view, but catalyzed in his final show of courage".

¹¹ Cf. Thomas A. Sebeok (1986a), p. 200, qui reprend en ceci McFeely (1981), p. 516.

¹² Dans son *Autobiographie* (vol. 2, p. 69), Mark Twain notait: "General Grant never used flowers of speech..." (cité d'après Woodward 1928, p. 499). En 1877, James A. Garfield aurait dit: "No American has carried greater fame out of the White House than this silent man who leaves us today" (cité par McFeely 1981, p. XV). Fuyant des visiteurs loquaces qui l'assaillirent sur le porche de la maison de Mount McGregor, le Général écrivit à son fils aîné: "They will talk me to death if I stay out there" (Pitkin 1973, p. 66).

¹³ Il y a, dans les biographies consacrées à Ulysses S. Grant de nombreux passages à ce sujet. Je reproduis le suivant, consacré à la censure involontaire qu'aurait opérée "en amont" de la

parler même du Général, la clairvoyance aimante et courageuse de Julia Grant, sa femme. Il y agit des tous premiers moments où le Général éprouve l'horrible douleur à la gorge et de sa décision violente de ne pas y penser afin de ne pas se trahir: "[...] he knew that if he held fast to his knowledge she would scize it in him. When she asked, 'How's your throat this morning, dear?' he must answer, 'Better, I think.' If he added in his heart, 'But that means nothing, she would hear him, and so he kept silence even to himself' (Toulé 1940, p. 579). À nouveau, ce qui compte ce n'est pas l'exacitude factuelle et nous ignorons quels sont les documents à partir desquels ont été écrites les lignes ci-dessus. Ce qui nous intéresse c'est, au niveau des faits ou de leurs interprétations, la forme fautive que prend la relation entre le soi biologique et le soi sémiotique, avec la coupure qu'y instaure — et maintient pour un temps — la volonté du Général.

¹⁴ Pour les rapports entre communication, signification et sémiotique, cf. Sebeok (1986), p. 10: "[...] 'communication' is clearly one of the twin facets of *semiosis* (the other being 'signification') it had best be regarded as the defining feature that criterially distinguishes the vital from the inanimate". À noter que, dans le texte de Sebeok, figurent déjà les prémisses de ce que nous sommes en train de suggérer. Car, si la communication, plus que la signification ou même l'interprétation à celle-ci, distingue le vivant de l'inanimé, il n'est pas surprenant, et nous nous attendons même, à ce qu'elle disparaisse avant celle-ci dans la biographie sémiotique du sujet. Voir aussi, à propos de l'opposition langage/ parole, le passage suivant: "The 'functions' of human language fall into two, now interpenetrating classes — internal representation or modelling (as underlies *thought*), which we label 'language,' and inter-individual communication or 'speech,' both species specific faculties [...]" (p. 41).

¹⁵ Cf. Sebeok (1986), p. 47: "The fact of privacy forms as a criterial distinctive feature that demarcates any symptom from any sign".

¹⁶ Où le *travelling* correspondrait au verbe et le *focusing* au (pr)nom (personnel) de la définition-bilan d'Ulysès S. Grant.

¹⁷ Nous avons examiné en détail cette dernière dans Golopentia (1991).

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DEICTIC VERBAL CONSTRUCTIONS IN ENGLISH AND LANGUAGE AS A SECONDARY MODELING SYSTEM

Introduction

As a signifying phenomenon, *spatial deixis* raises many intriguing questions about the role played by the perception of space in linguistic representation. In this paper, the term *spatial deixis* will be used to designate the semiotic process by which humans relate the spatial location of objects, beings, and events to each other. In addition to *spatial*, deixis can also be *personal* — a form of reference identifying who is taking part in a situation — and *temporal* — a form of reference relating time with respect to the situation (Crystal 1987: 106). Particularly interesting as a linguistic phenomenon is the extension of spatial deixis into the semantic domain of mentation concepts. In English, for example, this extension manifests itself in the form of verbal constructions made up of *think* and a locative/deictic particle — *think up, think over, think out*. These can be called *deictic verbal constructions* (DVCs) for the sake of convenience. A DVC can be defined formally as a construction made up of a verb referring to some abstract mentation concept or activity and a deictic particle implicating location (for extensive theoretical treatments of deixis, see, for example, Bühler 1934, Frei 1944, Jakobson 1963, Fillmore 1973, 1982, Lyons 1977: 636-724, 1982, Jarvella and Klein 1982, Weissenborn and Klein 1982, Mazzoleni 1985, McNeill 1987: 52-83, Auer 1988, Andrews 1991: 29-43, Hanks 1992, Duchan, Bruder, and Hewitt 1995).

In this paper, it will be claimed that the presence of such constructions in language constitutes supporting empirical evidence for Thomas A. Sebeok's notion that language is a "secondary modeling system," serving the mind's propensity to encode and represent abstract information in ways that call forth sensory experience (e.g. Sebeok 1994: 105-127). The DVC *think up*, for example, elicits a mental image of upward movement, thus portraying a thought, an idea, etc. as an object being extracted physically from a per-

son's "mental terrain;" *think over* evokes the image of an internal eye scanning the "mind's territory;" and *think out* suggests the action of taking a thought, an idea, etc. out of the mind so that it can be held up, presumably, to the scrutiny of the eyes. This kind of "latent spatial deixis" constitutes a semantic means by which an abstract referential domain — mentation — is portrayed in part by a set of verbal signifiers that evoke the visual imagery of spatial location and movement by metaphorical extension. It can be argued that DVCs reflect a tendency of the mind to form abstract concepts in accordance with the laws of physical perception. DVCs betray, in other words, a tendency of human cognition to register mentation concepts in terms of a kind of "mind-space" which is itself a metaphorical model of the world of sensation.

Language as a Secondary Modeling System: A Sebeokian Perspective

Thomas A. Sebeok, one of this century's greatest semioticians, has consistently and cogently argued that semiosis is a process anchored in the mind's innate ability to transform sense impressions into memorable representational models. Although all species participate in the instinctual and experiential universe, humans are particularly well equipped with the capacity to model this universe through a host of representational media (gesture, drawing, language, etc.). At a *primary* level of representation, the models that are formed are tied closely to bodily processes (hand movements, signaling cues, etc.). Our *primary modeling system* (PMS), therefore, is iconic, deictic, and indexical; i.e. it allows us to produce and understand signifiers that are either contiguous with their referents, simulative of them, or instantiations of them. Although language appears to be neither contiguous with, nor simulative of, its referents, from an etymological perspective it can be argued that many, if not most, of its signifiers are evolutionary "outgrowths" of PMS signs. Language is, in other words, a *secondary modeling system* (SMS) that evolved phylogenetically to allow humans to portray the world around them, and within them, in an efficient, abstract, context-independent way.

The Sebeokian perspective suggests that the brain's ability to manufacture iconic, deictic, and indexical signs is a biologically "inbuilt" tendency that is tied to the operations of our sensory apparatus. Iconicity, deixis, and indexicality, which lie at the core of our PMS, reveal how the human organism responds initially to the world. It is only after primary signs have become routinized through cultural diffusion that they become free of sensory control and take on an abstract or conventional quality. It is at this later stage

that primary signs are appropriated by language and transformed into secondary signs.

As Jacob (1982: 55) has emphasized, primary modeling systems are provided by Nature. Each species possesses its own particular kind of PMS based on its specific kind of perceptual make-up:

"Every organism is so equipped as to obtain a certain perception of the outer world. Each species thus lives in its own unique sensory world, to which other species may be partially or totally blind... What an organism detects in its environment is always but a part of what is around. And this part differs according to the organism."

An organism's PMS, as Sebeok (1994: 123) defines it, constitutes "an elementary array of several types of nonverbal signs." Language, on the other hand, consists "of a set of features that can best be thought of as having been built by selection for the cognitive function of modeling, and, as the philosopher Popper and the linguist Chomsky have likewise insisted, not at all for the message swapping function of communication" (Sebeok 1994: 124). Language makes it possible, subsequently, to fabricate tertiary modeling systems, which make up what Bonner (1980: 186) calls "true culture," requiring "a system of representing all the subtleties of language," in contrast to "nonhuman culture."

Sebeok's notion of language as a SMS is consistent with the view of cognition put forward by the philosopher Karl Popper (e.g. Popper and Eccles 1977). Popper classifies the world of the mind in terms of three domains. "World 1" is the domain of physical objects and states, including human brains which can affect physical objects and processes by means of neuronal synapses — electrical-type impulses between brain cells — transmitting messages along nerve paths that cause muscles to contract or limbs to move. "World 2" is the whole domain of subjective experiences. This is the level at which the concept of Self and the neocortical operations of the mind — perceiving, thinking, planning, remembering, dreaming, imagining — emerge. "World 3" is the domain of knowledge in the objective sense, containing the externalized and institutionalized ideas, theories, inventions, etc. produced by human minds over time. It is, in other words, the totally human-made world of Culture that is transmitted to the developing individual mind through some suitable medium (e.g. language) and transmission process (e.g. education). There is evidence that many animals have a form of World 2 consciousness similar to that of humans (e.g. Griffin 1992); i.e. it is almost certain that they possess the ability to "know" a sensation and to react to it in purposeful (not just instinctual) ways. The problem is trying to determine the extent to which

animals have been endowed with the capacity to represent their knowledge in signifying ways. As the biologist Jacob von Uexküll (1909) cogently argued at the turn of this century, it is unlikely that we will ever be able to "know" how animals "know," given our different anatomical and neurological systems, and given the fact that animals do not produce artifacts.

As a World 3 phenomenon Culture is, properly speaking, a tertiary modeling system, extending language and other secondary symbolic systems into higher and more abstract domains of representation. As Sebeok (1994: 127) puts it, only human beings are "able to fabricate tertiary modeling systems" whereby "nonverbal and verbal sign assemblages blend together in the most creative modeling that Nature has thus far evolved."

Deictic Verbal Constructions

DVCs disclose a conspicuous case-in-point of how language has the capacity to take over and transform primary system signs into secondary system (context-independent) signs. Locating objects, beings, and events in one's immediate line of sight by pointing, gesturing, etc. is a form of primary deixis. Locating concepts in the mind cannot be accomplished with primary deixis. So, representing mentation concepts depends entirely on SMS signs. Language is a powerful semiotic medium because of the fact that it can also represent the world deictically, even when the world is not physically present or even when it is physically inaccessible (e.g. the mind). DVCs can be seen to provide a "metaphorical access route" into the inner world of the mind.

Here are some typical examples of DVCs in English:

- (1) When did you *think up* that preposterous idea?
- (2) You should *think over* carefully what you have just said.
- (3) *Think out* the entire problem, before coming to a conclusion.
- (4) I cannot *think straight* today.
- (5) Go ahead and *think* that problem *through*.

In (1) to (4), the internal world of thinking is portrayed as if it could be located by the "mind's eye" in some spatially-perceivable way: in (1) the movement is *up*, as if the "preposterous idea" was originally buried in, and then extracted from, some imaginary terrain; in (2), thinking about "what has just been said" is portrayed as a scanning activity *over* an imaginary territory; in (3), a "problem" is portrayed as something hidden that must be unraveled or drawn *out* from some imaginary terrain in order to be solved successfully; in (4) "proper thinking" is conceptualized as a linear process (*thinking straight*); and in (5), a "problem" is conceptualized as an imaginary

landscape, or as an internal map of the landscape, *through which* one must travel in order to unravel its intricacies. As Langacker (1988: 7) remarks, linguistic expressions of this kind "embody conventional imagery, which constitutes an essential aspect of their semantic value," so that in "choosing a particular expression or construction, a speaker construes the conceived situation in a certain way." In Sebeokian terms, DVCs can be seen to constitute verbal extensions of primary deictic signs. They represent the world of internal "objects" (thoughts, ideas, etc.) as if these could be seen and located in space. In phylogenetic terms, DVCs suggest that language must have originated as a kind of "replacement" system for a more basic iconic/indexical/deictic semiotic system, becoming increasingly more abstract over time.

To use an insight from Susanne Langer (1948), it can be said that our first tendency is to feel or experience some stimulus "presentationally," i.e. in its entirety as a global whole or perceptual *Gestalt*. We tend to represent this experience initially by means of some PMS process (iconicity, deixis, indexicality). It is when we attempt to recreate the original feeling state by *talking* about it that it starts to take on a linear, componential, and therefore "syntactic" quality. This is our "discursive" mode of representation. Linguistic modeling is therefore discursive and syntactic, never quite able to represent the referent globally or presentationally; but it has the capacity to *extend* any previous PMS process *abstractively* by means of secondary verbal signs, thus endowing the original stimulus with context-independence.

DVCs suggest that a basic underlying semiotic property of secondary modeling systems is their capacity to *extend* primary iconic and indexical signs. The question now becomes: How do such systems accomplish the extensive process? The concept of *image schemas*, as proposed by Lakoff (1987), Johnson (1987), and others, is of particular relevance to the present discussion, given that the extensive process appears invariably to involve imagistic thought. As Rauch (1992: 136) defines them, *image schemas* are "metaphorical mappings from physical space into a conceptual space." Johnson (1987: 79) characterizes them as "those recurring structures of, or in, our perceptual interactions, bodily experiences and cognitive operations." Actually, the idea of imagery in thought and language has a long tradition in philosophy, semiotics, and psychology. In this century, for instance, the great Russian psychologist, L. S. Vygotsky (e.g. 1961), claimed that concepts in the human infant start with the formation of mental images of external (physical and social) states and end with their transformation into "interior speech models," as he called the first words. The widely-quoted psychologist of art, Rudolf Arnheim (1969), also saw the conversion of mental images into words as the primary psychological process underlying conceptualization in humans.

What a DVC adds to the semantic content of a mentation concept is a deictic image schema. Klein's (1982) term, "analogical deixis," Heine, Claudi and Hönemeyer's (1987) term "space-to-discourse metaphor," or McNeill's (1992) notion of "metaphoric gesture" are all applicable to the characterization of DVCs, since they suggest the presence of hypothetical spatial locations and movements on cognitive maps which, in turn, are seemingly fashioned after real maps (Kinder 1991). Langacker (1988: 11) has designated semiotic phenomena such as DVCs cognitive routines — "cognitively-prepackaged assemblages that speakers can employ in essentially automatic fashion without attending to the details of their composition." Upon closer consideration, it can be seen that DVCs are manifestations of two more generic cognitive models: (1) *thoughts are movable objects* and (2) *thinking is seeing (visual scanning)*. These secondary system models are lexicalized frequently in common discourse in the form of DVCs such as the following:

Thoughts Are Movable Objects

- (6) *Work that idea over* in your mind.
- (7) *Turn that thought over* in your mind.
- (8) You should *rearrange* your thoughts carefully.
- (9) *Put your thoughts in order*, before going forward with your plans.

Thinking Is Seeing (Visual Scanning)

- (10) You must *look over* what you've written.
- (11) I must *look into* what you've told me a bit further.
- (12) She *saw right through* what you told her.
- (13) I'm going to *see* this thing completely *out*.
- (14) You should *go into* that philosophy further.

These DVCs seem further to substantiate the claim that mentation concepts are extensions or analogues of primary deictic processes. Thoughts, like objects, can be moved, arranged, located, etc. They can also be seen, looked into, scanned, etc. Compound words such as *broad-minded*, *far-sighted*, *far-reaching*, *far-fetched*, *narrow-minded*, *shortsighted*, etc. can now be considered, etymologically, as having been forged as DVCs. Spatialization metaphors of any kind, as Tolaas (1991) asserts, are probably traceable to basic spatial concepts assimilated during the first years of life, and even, as Gallup and Cameron (1992) claim, to our primate/arboreal heritage which seems to have put a premium on vision to describe mental states (see also Turnbull 1989: 1-3 and Palek 1991 on this point). Indeed, the origins of language and map-making probably share the same propensity to represent

our experience of space. Objects and people are *somewhere*, sharing relative location; hence, our ingrained tendency to equate mentation and knowledge with space (intellectual space).

Even a cursory glance at phylogenetically-unrelated languages reveals that this kind of secondary modeling is probably universal (e.g., Huck 1949, Dundes 1972, Brugman 1983, Sappan 1987: 68, Salmond 1982: 83-85, Viberg 1983; Watkins 1985; Rheingold 1988: 107-130, Classen 1993, Danesi 1990, 1993, Alvesson 1994, Rulien 1994, Shields 1994). In Sanskrit, for instance, the word *maya* "perceiving form in thought" contains the deictic particle *ma* "to measure or lay out." Italian has the verb *pensarci* "to think about something, to think over," which is constructed with the deictic particle *ci* "here, there." Moreover, many verbs referring to mentation were forged etymologically as DVCs: e.g. *perceive* derives from Latin *-cipio* "to seize" and the deictic form *per* "through;" *examine* comes from Latin *agmen-* "to pull out from a row" and the deictic particle *ex* "from;" *prospect* derives from Latin *spectus* "looking" and the deictic form *pro* "forward, ahead." Recently, Sweetser (1990) has persuasively argued that visual perception, physical sensation, and abstraction are all interconnected in the formation of word-concepts. Expressions such as *behold* and *catch sight of* implicate abstract thinking through metaphorical modeling. As Ong (1977: 134) also points out, the universality of such words suggests that "we would be incapacitated for dealing with knowledge and intellection without massive visualist conceptualization, that is, without conceiving of intelligence through models applying initially to vision."

In sum, the main goal of the foregoing discussion has been to suggest that DVCs provide evidence that language is a secondary modeling system that extends the basic or primary categories of signification, which are built from our perceptions of space, time, emotions, etc. DVCs are "traces" of these categories. Rudolf Arnheim, too, has argued that particles such as conjunctions and prepositions are intertwined with experiential categories. Arnheim's (1969: 239-242) explanation for their presence in language is worth repeating here:

"I referred in an earlier chapter to the barrier character of "but," quite different from "although," which does not stop the flow of action but merely burdens it with a complication. Causal relations...are directly perceivable actions; therefore "because" introduces an effectuating agent, which pushes things along. How different is the victorious overcoming of a hurdle conjured up by "in spite of" from the displacement in "either-or" or "instead;" and how different is the stable attachment of "with" or "of" from the belligerent "against.""

DVCs reveal that visual perception underlies our mentation concepts. This is why we constantly say that we have a *world-view*, *insight*, an *image* to maintain, etc. At a World 3 level, these concepts form the basis for tertiary modeling systems. At this level, the instantiations of metaphorical models take on any form, verbal and nonverbal. We say, for instance, that *justice is blind* and represent it by statues built outside or inside courtrooms with blindfolds to symbolize this metaphor. The metaphorical expression *the scales of justice*, too, is commonly symbolized by corresponding sculptures of scales near or inside justice buildings. This view of language extends it beyond the sentence level to encompass discourse, textuality, and cultural sense-making.

Concluding Remarks

Language is not, in my view, a kind of innate mental organ, as some linguists claim. Indeed, if we were somehow to shut off subsequent generations from language, there is virtually no doubt that it would disappear and have to be invented again. Language, like all other secondary modeling systems, must be transmitted to subsequent generations. What we do inherit from our biological heritage is the capacity for semiosis.

The work of the biologist Jacob von Uexküll (1909) has shown that an organism does not perceive an object in itself, but according to its own particular kind of preexistent mental modeling system that allows it to routinely convert the world of experience into one of representation. At this primary level, signs are forged by the human organism as icons, indices, etc. of the body's response system. Language, on the other hand, remodels these primary signs into symbols that remove their referents from their immediate contexts of occurrence. DVCs illustrate in microcosm how the secondary signs of language transform visually-experienced stimuli into abstract (context-independent) signs. The logocentric world of *abstraction*, as the etymology of the word suggests (*ab* "from" *trahere* "to draw"), is a derived, *extended* mind-world.

DVCs also suggest the phylogenetic possibility that drawing and language were somehow interrelated at the dawn of consciousness. The capacity to draw and appreciate pictures is a fundamental source of signification and communication in our species. The paintings of animals found on cave walls and roofs, and the artifacts that explode onto the scene in Europe 35,000 years ago, bear witness to the productivity of visual thinking. These are the "fossil records," so to speak, of humanity's first attempts at representation. The visual modality has left its remnants in language (see also Ricœur 1977,

Kittay 1985, and Gill 1991 on this point). DVCs, like many other metaphorical phenomena, point to the likelihood that language was tied etiologically to sense perception (especially vision). The visual mode of representation undoubtedly led the human organism to become aware of its own existence, to differentiate itself from other beings, to locate itself in relation to external objects. The first form of consciousness was probably visual, creating a mind-space that bestowed upon human beings the capacity to *intentionally* transcend their biologically-programmed instincts and reflex actions. The ability to summon up memorable images and models of life experiences, to reflect upon them, and to evaluate them allowed humans to direct and plan their bodily activities deliberately. Through such thinking, *intentionality* came to be the essence of humanness. The word *intention*, incidentally, was forged as a DVC, given that it derives from Latin *intendere* (*in* "in" + *tendere* "to stretch"). Consequently, it reveals the metaphorical origins of our notion of intentionality as a kind of "stretching" of the mind in order to "see" into the future. The feelings and sense impressions that primitive humans were able to convert into primary system signs and to reuse, at a secondary level, for planning bodily actions and for recreating the external world within the mind must have filled them with a sense of awe and power.

As a closing word, I wish to emphasize that the Sebeokian view of language is steeped in the biological tradition of *semeiotica* — a tradition that has always aimed to investigate semiosis as a biologically-based capacity in all species. Sebeok's program for studying human semiosis provides a plausible framework for understanding the presence of phenomena such as DVCs in the world's languages. In my view, a biologically-based semiotics will indeed allow us to get a meaningful glimpse into how the body interacts with the mind to produce signs, messages, thought, and ultimately the phenomenon of human Culture.

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SIGNES "MÉTASTABLES"

Thomas Sebeok, continuant l'œuvre de C. S. Peirce, a perfectionné, voire ré-écrit en termes modernes, la typologie du signe peircien. Outre ses descriptions du langage animal et même de la "sémiosis animale", il nous a donné ses "Six Catégories de Signes", dans lesquelles il a intégré et re-défini le concept de "signe zéro", déjà utilisé par les linguistes. Mais, dans une perspective diachronique, il a décrit les vicissitudes de la recherche sémiologique depuis Peirce et Saussure. Enfin il a été le découvreur de sémiologues dans des domaines que l'on attendait pas, tels que René Thom, pour la théorie mathématique, et Von Uexküll, pour la théorie sémiotique du "milieu" dans le domaine zoologique.

En ce qui concerne l'auteur de cet article, Thomas Sebeok lui a ouvert sa revue, *Semiotica*, pour une série de recherches sur un domaine peu exploré, la question de l'"ambiguïté dynamique" du signe et de la polarité "structurelle" contradictoire et dynamique de certains signes visuels et verbaux. Entre 1979 et 1989, donc, il a ouvert ses portes à une série d'articles sur le sujet de ce que nous nommons la "métastabilité" des signes¹. C'est un résumé de l'ensemble de ces recherches que nous voudrions donner ici.



"Métastabilité", le terme provient de la psychologie de la forme, ou plutôt de l'œuvre de psychologues issus de cette *Gestaltpsychologie*. Mais on le trouve employé, en particulier, par Jean-Paul Sartre, dans *L'Être et le Néant*, œuvre fondatrice de son existentialisme-phénoménologique des années de la guerre, dans un contexte qui a peu à voir avec la Psychologie de la Forme. Plus récemment, sous une dénomination légèrement différente, "multistabilité", cette notion a été employée par le psychologue américain de la perception Fred Attneave².

Dans ce dernier contexte, ce mot désigne, tout simplement, un phénomène qui concerne la perception visuelle. Il s'agit du renversement de forme — et

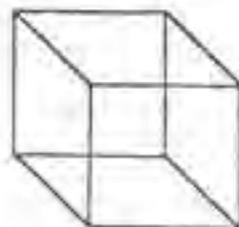
de sens — qui se produit lorsque l'œil humain fixe certaines configurations, renversement qui fait que ces configurations changent de direction spatiale ou parfois de sens (c'est-à-dire de direction sémantique) lorsqu'on les fixe du regard. C'est le cas, notamment, du célèbre "canard-lapin", de Wittgenstein, présenté comme notre figure 1).



du "gobelet" dit "de Rubin" (*gestaltiste danois*), qui fait alterner deux profils humains et un gobelet (figure 2) :



ou du cube transparent, dit "de Necker", parce que l'homme qui le découvrit fut un chercheur suisse de ce nom qui étudiait dans les années 80 du siècle précédent les cristaux non-organiques transparents (figure 3) :



"Métastabilité" implique que ces figures n'ont pas une configuration stable ou un sens stable mais oscillant ou "balançant" entre des aspects ou des "pôles" contradictoires et souvent même antithétiques.

Mais, bien que née de l'étude des formes visuelles, la métastabilité n'est pas exclusivement "visuelle" mais aussi — entre autres choses — "verbale". On pense tout de suite à certaines phrases ambiguës, par exemple, certains exemples donnés par Chomsky dans ses études de linguistique "génératives"

(cf. la célèbre phrase "*The shooting of the hunters was frightful*" qui peut renvoyer, soit aux piètres qualités des chasseurs, soit à l'ouïe exécution par fusillade (par exemple ce qui arriva à certains habitants de mon pays natal, le Massif Central, lors de la dernière guerre).



"Métastabilité" suggère aussi le phénomène de l'ironie, dans lequel, comme le dit Sartre, "on affirme pour nier et on nie pour affirmer". Aucune phrase ironique n'est pourvue de "marqueurs sémantiques" permettant de la classer comme un négatif ou un positif, quoi qu'en pensent certains linguistes³ et peut donc être sujet à un renversement permanent.

On peut donc parler de métastabilité à propos de la figure de rhétorique nommée oxymore (le "doux/amer" ou le "clair/obscur", par exemple) car les deux pôles de l'oscillation sémantique y sont nettement marqués. L'oxymore n'échappe pas à la question fondamentale que se pose Wittgenstein à propos du canard-lapin: "La figure que je vois correspond-elle à deux choses différentes — qu'elle contiendrait — ou bien, au contraire, est-ce moi qui donne deux interprétations différentes à une seule et même chose?" et son "balancement sémantique" est, en quelque sorte inscrit en lui de la manière la plus visible.



Mais c'est par l'œuvre du philologue allemand Karl Abel, que le concept s'introduisit dans la psychanalyse. Abel fut probablement le premier chercheur à parler de "sens antithétique" dans ce qu'il appelait les "Mots Primitifs", en 1884, et c'est Freud qui, dans un article du même nom (*Der Gegensatz der Urworte*), transféra les trouvailles d'Abel au domaine du psychologique. Le compte-rendu de Freud reproduit mot pour mot beaucoup de passages du livre du philologue car le fondateur de la psychanalyse pense trouver dans l'archaïsme des langues — dans l'ambiguïté métastable de leurs "mots primitifs" — une preuve (tout autant qu'une analogie) de l'archaïsme du rêve; le rêve, lui aussi dit oui pour non ou non pour oui, ne connaît pas la négation mais seulement la métastabilité:

"... Dans la langue égyptienne, cette relique exceptionnelle d'un monde primitif, nous trouvons une assez grande quantité de mots ayant deux sens; l'un d'eux signifiant l'exact opposé de l'autre. Imaginez — si

une chose tellement absurde peut être imaginée — que le mot “fort” en allemand signifie “faible” aussi bien que “fort”; que le mot “lumière” veuille dire “obscurité” aussi bien que lumière... Comment en vouloir à une personne qui secouerait la tête avec incrédulité?”⁴.

Freud fait sienne, également, les conclusions d’Abel selon lesquelles “il ne fait aucun doute qu’il existait au moins un langage dans lequel un grand nombre de mots signifiaient à la fois une chose et son opposé”.

Parmi les mots de l’étude d’Abel que cite Freud, relevons le mot “*altus*” “qui, en Latin, veut dire à la fois “haut” et “profond”, “*sacer*”, qui veut dire à la fois “saint” et “maudit”. Freud lui-même se mit à la tâche de découvrir des “mots antithétiques”. L’un de ces mots d’importance toute spéciale pour lui est le fameux *unheimlich*, créé par la langue allemande autour de la racine *heim* qui signifie la “maison”, le “foyer”.

On le sait, ce mot fournit à Freud le titre d’un article “*Das Unheimliche*” (traduit en français comme “L’étrange et l’inquiétant”⁵. Freud montre, de manière convaincante, que ce qui est “étrange et inquiétant”, souvent des paysages, des architectures, etc., est aussi le non-étrange, le plus “familier” qui soit, c’est-à-dire le sexe de la mère dont nous provenons tous. “Cet endroit *unheimlich* est l’entrée de l’ancien *heim*, “home” de tous les êtres humains, et toutes les fois aucun homme rêve d’un endroit et d’un paysage et ce dit à lui-même dans son rêve: cet endroit m’est familier; je m’y suis déjà trouvé, nous pouvons interpréter cet endroit comme étant les parties génitales maternelles ou le corps de la mère... Le *unheimlich* est ce qui fut une fois *heimisch* et le préfixe *un* n’est que la marque du refoulement”⁶.

Ici, il me faut insister sur la centralité de la métastabilité pour le système freudien: avec ce “home caché” qui est le territoire intime du corps de la mère, nous touchons à l’inceste, c’est-à-dire au complexe d’Œdipe dont on sait ce qu’il représente pour la théorie psychanalytique. Le “un-”, dit Freud, est “marque du refoulement” (“Non, non, ce n’est pas un territoire connu; ce n’est pas un terrain familier; cela ne saurait être proche de moi!”, etc...).

Cela est aussi un phénomène de dénégation (*Verneinung*) — si semblable au processus de l’ironie — “nier alors qu’il faudrait affirmer”. “Dénégation” est donc aussi de type *métastable*.

On pourrait décrire cette sorte de “névrose de dénégation” qui consiste à refuser le “renversement”; à refuser la métastabilité. Il nous est difficile d’accepter que nous sommes au cœur de l’idée d’inceste au moment même où nous croyons être en territoire inconnu. Psychopathologie, donc. Ne pourrait-on parler de certains psychotiques comme littéralement “possédés” ou, moins démoniaquement, “gouvernés” par une structure de ce type? N’est-il pas vrai qu’un certain type de psychose hystérique se traduit par l’emploi de certains

vocables alors que l’intention est d’exprimer le contraire sémantique de ce vocable, le malade disant, par exemple “je t’aime” alors qu’il veut dire “je te hais”? Ou vice versa?

Dans les deux cas, nous touchons à l’idée psychanalytique, plus large, de l’*ambivalence de l’affect*, c’est-à-dire que nous sommes au cœur des concepts de refoulement et de transfert⁷. On voudrait pouvoir dire qu’il y a une *Gestalt* spécifique de la psychose, de certaines psychoses, qui est de caractère “métastable”, ou bien, plutôt, que la psychose est une *Gestalt* de type metastable. Comment une conscience humaine “entre”-t-elle dans une telle *Gestalt*? Et comment pourrait-elle “en sortir”?

*
* *

Mais si *métastabilité* est synonyme de “renversement”, elle doit aussi avoir quelques rapports avec les mécanismes qui sont centrés sur l’idée du renversement, de la rupture ou du changement. C’est donc tout naturellement que le mot “dialectique” vient sous la plume; dialectique aussi bien dans sa forme médiévale que dans sa forme moderne, hégélienne. Cette forme de renversement brutal est-elle dialectique ou au contraire, anti-dialectique? On serait tenté d’opter pour cette deuxième possibilité. La dialectique est un processus lent: il faut le temps de l’Histoire pour qu’une idée ou une classe sociale en “renverse une autre”, et puis il n’y a plus de retour en arrière après “renversement” ou “revolution”, tandis que *métastabilité* implique un retour permanent.

En outre, l’essence de la métastabilité est le *aut/aut*, ou/ou, l’*Entweder/Oder*, à la Kirkegaard; en outre il n’y a pas de direction dans le temps, de véritable diachronie, lorsqu’il s’agit de renversements de ce type: l’on ne sait sur quel pôle commence et finit le mouvement de bascule! Et c’est pourquoi, Existentialisme (*Entweder/Oder*) et Phénoménologie utilisent l’idée métastable: il s’agit de se démarquer de Hegel, mieux, de présenter un modèle qui soit véritablement anti-hégélien. Un va-et-vient exclut, bien évidemment, l’idée de synthèse et la vision d’une situation où des oppositions irréductibles seraient *aufgehoben*, supprimées pour toujours ou, à tout le moins, pour donner naissance à une autre dichotomie d’oppositions menant, elles aussi vers une synthèse.

En effet, *Métastabilité* est aussi un concept qui peut permettre d’éclairer certains aspects de la *Phénoménologie* de Husserl — et d’ailleurs le mot “phénomène” lui-même n’est il pas intimement lié à l’idée de vision et de visuel, et donc du renversement de la perception? Husserl, qui parle constamment, dans ses *Idées*, de “fond” (*background*) et de “figure” qui se détacherait sur un

"fond" est un précurseur de la psychologie de la Gestalt. Des chapitres entiers pourraient être consacrés à l'idée d'un modèle visuel "métastable" chez Husserl, car il y a aussi, chez ce philosophe "figure" et "fond" liés comme par un perpétuel échange.

Métastabilité veut dire aussi "renversement" textuel, c'est-à-dire renversement au sein des structures narratives du texte, en particulier du texte littéraire. En effet, quelques œuvres clefs de la civilisation occidentale semblent "métastables" dans leur structure même. L'une de celles-ci est quasiment fondatrice de toute notre civilisation occidentale, c'est l'*Œdipe Roi*, l'*Œdipus Tyrannus*, de Sophocle, dans lequel, véritablement le concept de *metabole* (renversement) est tout à fait central.

Nous ne faisons que suivre, ici, les conclusions de Jean-Pierre Vernant dans son article connu sur ce sujet⁸: Œdipe est-il criminel ou innocent, criminel ou roi? Ou n'est-il pas plutôt peut-être "roi-criminel", ou bien encore "criminel-innocent", comme le canard est lapin, comme le gobelet est profil humain?

Avant Vernant, nous aurions pu aussi citer Frazer et son classique *Rameau d'Or*, (*The Golden Bough*) qui présente toute une série d'exemples de *pharmakoi* humains dans l'antiquité babylonienne, grecque et romaine.

Mais cela est aussi transposable au domaine du "politique" actuel, des "rois" du politique actuel. Innocent-criminel, ne l'est-il pas, ce soldat ou capitaine américain qui, lors de la guerre du Vietnam, déclara imperturbablement aux journalistes venus voir les dégâts: "*We had to destroy the village in order to save it*". — "Nous avons dû détruire le village afin de le sauver". Mais n'est-ce pas sur un tel raisonnement *métastable* (qui bien sûr n'est pas raisonné, et c'est précisément pour cela qu'il est "métastable") qu'a reposé pendant longtemps la stratégie nucléaire globale des blocs: "Nous devons être prêts à détruire le village — c'est-à-dire le monde — afin de le sauver!"

Il s'agit ici du "contradictoire inconscient" qui imprègne l'idée même de sacrifice quand le sacrifice devient total, et que l'on demande aux habitants du "village global" de se "détruire pour se sauver". Parlerons nous de l'idée de sacrifice dans son acception "moderne", globalisante et horrifiante? À première vue, la situation mondiale semble donner réponse à la question posée plus haut: l'idéologie-stratégique de notre temps a été une sorte de mort de la dialectique, avant qu'elle ne meure elle-même de sa métastabilité impossible.

Nous avons dit plus haut que l'ironie semble être un phénomène de type "canard-lapin". Mais (ironiquement) c'est une pensée ironique qui vient à l'esprit concernant ce phénomène qui semble le plus authentique de tous: la création artistique et, plus spécifiquement, littéraire. N'est-ce pas Aragon, en effet, qui parlait de l'art de l'écrivain comme d'un "mentir-vrai"? Ce qui est mis en jeu ici c'est la *pragmatique* de l'acte créateur, qui est une pragmatique de la métastabilité. Car comment écrire si l'on ne croit pas au moins momentanément à ce que l'on écrit à la "réalité" de ce que l'on écrit? Mais comment croire à la réalité de ce que l'on écrit si dans le même temps l'on veut mettre en avant la réalité de l'"écriture" dans laquelle on écrit? Ainsi s'instaure ce jeu de bascule entre *déréalisation* et *réalisation* que décrit si bien Sartre dans *L'Imaginaire*: c'est-à-dire *déréalisation* du monde par la création artistique ou l'appréciation esthétique et, alternativement, la *réalisation* du monde par cet arrêt brutal de la fascination esthétique que Sartre nomme une *négativité* réalisante. Pour écrire, pour produire du mentir-vrai, il faut, *en même temps*, "réaliser et déréaliser". Et pour croire au mentir/vrai (le point de vue du spectateur, du lecteur) il faut entrer dans le phénomène de croyance/non croyance qui lui-même est "métastable", toujours sur la ligne de partage de la réversibilité. Comme le dit Sartre: "croire c'est ne pas croire", car déclarer qu'on croit c'est déjà introduire la possibilité de la non-existence de l'être dans l'Être. Et il ajoute, "La croyance est un existant qui met en question son propre être, qui ne peut se réaliser que dans la destruction, qui ne peut se manifester qu'en se niant lui-même. C'est un être pour lequel être est paraître et paraître c'est se nier soi-même. Croire c'est ne pas croire"⁹.

Tout se passe comme si la croyance était donc toujours située en un point de fragile équilibre entre "vouloir croire" et "ne pas vouloir croire", et Sartre ajoute "Croire c'est ne pas croire. Nous en voyons la raison: l'être de la conscience est d'exister pour elle-même, de se faire exister et ce faisant de passer au-delà d'elle-même. En ce sens, la conscience échappe perpétuellement à elle-même; la croyance devient la non-croyance, l'immédiat devient le médiat, le relatif l'absolu et vice versa"¹⁰.

L'"écriture" de fiction littéraire, cela est sûr, est, elle aussi, un existant métastable. Du point de vue de la "croyance" de l'artiste, de l'écrivain, cela veut dire que l'écrivain de fiction, mais aussi le metteur en scène, l'écrivain de théâtre, le "script writer", "croient-sans-croire" en la *vérité* de ce qu'ils écrivent, de ce qu'ils content. Ici ce serait peut-être le fameux "carré sémiotique" de Greimas organisant les options de la véridiction (c'est-à-dire de la vérité ou de la non-vérité d'un texte et des options entre ces deux pôles qui pourrait prendre un aspect réversible.

Et vice versa: du côté de la réception, les lecteurs et les spectateurs "fascinés", "captivés", par le livre qu'ils sont en train de lire ou par le film qu'ils sont en train de voir, partagent cette polarité de la conscience-monde (pour parler comme Sartre): eux aussi "croient sans croire" ou, pour utiliser un autre cliché, "suspendent leur croyance sans la suspendre". Nous sommes ici dans le domaine de la phénoménologie du plaisir esthétique mais nous touchons aussi à la question des formes d'art qui ont pris conscience de cette problématique fondamentale de l'esthétique et tâchent d'éviter le dilemme "métastable", les formes didactiques du théâtre, par exemple, du XVe siècle à Pirandello ou à Brecht.



Mystique

Revenons encore une fois sur la question de l'"ironie". N'est-ce pas une autre grande ironie que celle qui fait que le "nom de Dieu" soit un vocable "innommable"? C'est le cas du dieu judéo-chrétien, de l'imprononçable "Nom de Dieu" dans le judaïsme.

Ainsi, pour le mystique juif "le Nom" ("Ha-Shem", c'est ainsi qu'on appelle Dieu) est aussi, antithétiquement, "le sans-Nom". Il y a là un paradoxe qui devrait stupéfier! Ne pourrait-on dire que l'invocation divine — peut-être même dans toutes les grandes religions du monde — est une "nomination-sans-nom"?¹¹.

Notre étude, on le voit, définissant le divin comme une "Gestalt du paradoxe" suit des chemins voisins du "déconstructionisme" de Derrida. Mais une telle convergence, ne confirme-t-elle pas la valeur du concept de *métastabilité*?

Puisque nous sommes dans le langage de la mystique, un mot, également, sur l'incertitude concernant le "temps du récit" dans la langue de la Bible. Il existe, en effet, dans l'hébreu biblique ce qui s'appelle le "vau d'inversion", une lettre préfixe-verbal par laquelle le passé du récit peut, à chaque instant, être lu comme un futur, et le futur comme un passé. Ici c'est le temps (temps du récit, mais, par delà, aussi le Temps tout court) qui est vu comme perpétuellement réversible!

D'une certaine manière, le langage "réversible" des grands mystiques chrétiens est dans cette tradition "métastable" de l'Ancien Testament. Les oxymores et les contradictions apparentes abondent dans les paraboles de Jésus lui-même. On pense aussi, immédiatement, à l'exhortation de saint Paul aux Corinthiens: "Devenir fou afin d'être sage"¹² et aussi à ce principe fondamental de l'éthique chrétienne selon laquelle le croyant doit "tout perdre pour tout gagner".

Ce langage de la mystique est décrit par les mystiques eux-mêmes en termes de réversibilité: "Le véritable verbe est le silence", et saint Juan de la Croix parle, dans son *Cantique Spirituel* de la musique silencieuse, de la *musica callada*, qui est celle de la foi. "Le silence est le verbe", ce principe résonne à travers toute la chrétienté (mais aussi chez certaines sectes juives du XVIIIe siècle, notamment les "Frankistes" de Pologne) de saint Juan aux *imiaslavtsii*¹³ de la Russie Orthodoxe de la fin du XIXe siècle, en passant par les Quakers du monde britannique et américain.

Si dans la lettre de saint Paul aux Corinthiens, citée plus haut, on trouve le groupe métastable folie/sagesse, dans le discours des grands mystiques qui lui succéderont le couple silence/verbe occupe une position centrale. Michel de Certeau a parlé de cet "oxymoronisme" essentiel du langage mystique: "L'oxymore du discours religieux abolit l'univers des similitudes, il est cette "exception dans le monde" analysé par Michel Foucault dans *Les Mots et les Choses* [...] C'est un "lapsus" au beau milieu de la "similitude" qui confond les genres et trouble les ordres. En outre, l'oxymore appartient à la catégorie des *métasémèmes* qui nous renvoient "au delà du langage" [...] Il est un défictique qui "montre" ce qu'il ne dit pas et la combinaison de deux termes au sein d'un seul et même oxymoron est le substitut d'un troisième terme qui est donné comme "absent". Cela crée un gouffre dans le langage et dessine en lui le contour d'un "non-dit". C'est la forme du langage qui vise le non-langage"¹⁴.

Lorsque nous avons touché à la réversibilité du Nom, du "Shem", nous avons eu le sentiment de toucher du doigt une telle "situation limite". De fait, on pourrait soutenir que le langage mystique est lui-même un langage "en situation limite" qui naît au point de convergence entre l'ironie et la croyance. Cette ironie qui affirme qu'il faut tout perdre pour tout gagner.

Pour nous, ce qui caractérise les grandes religions monothéistes c'est cette conscience implicite dont elles semblent être imprégnées de la métastabilité de leur langage et de leur foi.

Dieu métastable?

En finir avec la partie judéo-chrétienne de cette analyse en émettant une hypothèse concernant la "métastabilité" du dieu chrétien: nous avons vu que la métastabilité verbale et temporelle du Texte est due en grande partie à la présence du "vau d'inversion", qui n'est lui-même que le reflet au plan grammatico-temporel, de la réversibilité du Nom. Ceci n'apparaît pas dans le *Nouveau Testament*. Ce qui apparaît, c'est l'ironie théologique de Jésus¹⁵.

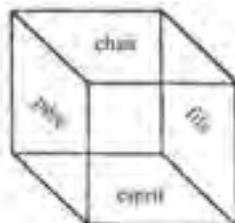
Mais Jésus lui-même, en personne, semble être, non seulement l'incarnation du verbe, mais l'incarnation du verbe ironique, de cette ironie théolo-

gique qui imprègne tout. Ironie: Jésus est "fils" mais seulement comme troisième élément dans une structure trilogique, père/fils/esprit dans lequel chaque élément peut se renverser en les deux autres. Ainsi Jésus fils est aussi le père. D'une certaine manière il peut être dit, comme cela l'est du dieu du Livre des Morts égyptiens, qu'il est père de lui-même. Mais il est tout autant "fils de lui-même".

Tout se passe donc comme si la structure logique de base — ce que Greimas nomme le "carré logique" ou "carré sémiotique":



devenait brusquement métastable et apparaissait sous la forme d'une structure "de Necker":



Tout se passe comme s'il y avait une relation d'iconoclie entre l'ironie verbale du discours de Jésus, l'ironie du Logos incarné qui aurait maintenant forme d'homme, dans sa structure théodécitique globale qui le constitue, la Trinité. Mais cette trinité, nous le voyons est, *logiquement*, à quatre termes et il reste à nous demander pourquoi, dans le schéma de la Trinité l'un des termes a été obliéré¹⁶.

Dieu métastable? Comment définir, sans utiliser ce vocable, un dieu qui est à la fois un et trois, qui est à la fois tout dieu et tout homme, tout de chair et tout d'esprit, chaque élément excluant chaque autre au sein d'une même dichotomie?

Mais, avec le concept de métastabilité, il s'agit aussi de fondement: si les dichotomies que nous avons vues se renversent constamment, si le verbe de la Torah s'inverse perpétuellement dans ses temps, ce n'est pas seulement pour produire visiblement le concept de *kairos*, c'est aussi pour suggérer l'idée du tiers commun absent, l'idée d'un fondement, d'une fondation qui, elle, serait stable. Ce n'est, pour parler comme Husserl "que sur le fond" de cette stabilité fondamentale que l'instabilité verbale ou visuelle peut se produire: la métasta-

bilité des signes désigne implicitement le lieu de la méta-bole. C'est de cela qu'il s'agit, à la fois dans la nomination biblique et dans le "cube logique" de la théologie chrétienne.

Parvenu à ce point et pour en finir avec les trois grandes religions, il convient d'ajouter quelques mots sur le langage sacré de l'Islam, du langage du Coran.

Métastabilité dans le Coran

Contrairement à l'hébreu et aux autres langues en général, l'arabe possède un terme spécifique pour désigner les "mots métastables", c'est le vocable *adad*, dont le pluriel fait *ad'adad*.

Il est probable que les grammairiens arabes se sont intéressés au phénomène dès le IX^e siècle de notre ère. Nous avons là dessus le témoignage du premier collectionneur de ce type de mots, Abu 'Ali Muḥ'ammad ben Ah'mad al-Mustanir Qut'rub¹⁷.

Dans le monde occidental, ce furent les érudits allemands qui publièrent les premières études sur ce sujet¹⁸. Parmi les études les plus récentes, il convient de mentionner un ouvrage capital, *L'ambivalence dans la culture arabe*¹⁹, contenant les contributions de beaucoup d'arabisants de premier plan, tels que Mahjub Ben Milad, Régis Blachère, David Cohen, A.-J. Greimas, Spiro Jabbur, Ribhi Kamal, Odette Petit, et autres... Par la suite fut publié dans la *Nouvelle Revue Française de Psychanalyse* un article de Sami-Ali: "Langue arabe et langage mystique: les mots opposés et le concept d'inconscient"²⁰.

En dépit des réserves de certains chercheurs, il semble que les *adad'ad* sont assez nombreux et assez centraux dans la pensée théologique de l'Islam pour justifier l'attention des érudits. En outre, nous l'avons vu, les "mots antithétiques" ne sont pas plus nombreux en hébreu et, malgré tout, incarnent par leur position clef dans le Texte, cette *ambivalence du sacré* qui ressemble à l'"ambivalence de l'affect".

Nous avons parlé précédemment du "van d'inversion" par quoi le passé peut être lu comme un futur et le futur comme un passé: non moins que l'hébreu biblique, le Coran manifeste son "ambivalence" concernant ce qui vient "après" et ce qui vient "avant". Je dois, ici, m'appuyer sur ce qu'écrivit David Cohen dans le livre collectif déjà mentionné: "*ba'ada*, "après", reçoit, dans le Qoran, le sens d'"avant", comme dans *Qoran XXI, 105: wa laqad katabnâ f-l-zah'ri min hu'udi l-dhikri* ("Bien que dans les Psaumes, après l'édification, nous écrivions..."). Et cependant, ici, *hu'uda* ne peut signifier autre chose que "avant" si, par "*dhikri*" on entend le Qoran lui-même. De la

même manière, on lit dans le Qoran, LXXIX,30: *wa-l-ard'a ba'ada dh lika dah'ha* ("La terre, après cela, il l'étendit..."). Ici, *ba'ada* ne peut vouloir dire qu' "avant" puisque le Qoran, XXI,10, nous dit que la terre a été créée *avant* le ciel²¹?

Un autre terme qui rend manifeste cette qualité "en avant/en arrière" du temps dans le Qoran est l'adjectif *qhabir*²², un *didd* qui exprime à la fois l'idée du temps continu dans le présent et celle du temps "fini" dans le passé.

D'intérêt particulier pour cette étude sont aussi les formes *kānu* et *yakānu* dont la signification normale est au passé mais qui changent dans le contexte de certaines sentences qoraniques jusqu'à pouvoir indiquer des actions au futur.

De la même manière, les mots qui réfèrent au temps sacré, *'idh* et *'idha* renvoient à un temps dont on ne sait, souvent, s'il est "passé" ou "à venir".

Il existe de nombreux autres exemples de ce type dans le Coran. Sans aller jusqu'à dire qu' "il n'y a pas d'avant ni d'après" dans le texte sacré, principe exégétique de la Bible juive, s'étend aussi au Coran, je pense que ces mots antithétiques concernant le "temps" sont placés là comme signes destinés à rendre "visible" le temps tout spécial qui est celui de la révélation, celui de la prophétie, ce que les premiers chrétiens nommaient le *kairos*.

D'une certaine manière, les *ad'dād* constituent une "expérience des limites"²³. Comme l'écrit Sami-Alî: "Les *ad'dad* constituent l'extrême limite de ce que peut être un langage sans cesser d'être "langage". Ils introduisent dans la langue à la fois un quota d'incertitude et une cohérence qui transcende l'incohérence"²⁴.

Dans tous les cas, l'exégèse islamique considère la métastabilité verbale dans le *Qoran*, qu'elle appelle "l'union des opposés", *al-jam'u bayn al-ad'dād*, comme l'un des éléments les plus centraux de la révélation qoranique. De fait, l'Islam confère à la métastabilité un "statut théologique" plein. Il considère que la vision islamique du monde nous parvient à travers un corpus qu'il appelle "Les sept couples" de versets ambigus, "polaires", métastables. Selon Mahjoud Ben Milad, ce corpus d'oppositions dichotomiques, *Al-mutashābihāt*, est organisé de la manière suivante:

1. L'homme est de la boue / l'homme est parcelle de l'esprit de dieu sur terre.
2. L'homme est créature immanente sur terre / l'homme est transcendantal).
3. L'homme subit les menaces de dieu, pour l'éternité / l'homme reçoit la promesse divine, pour l'éternité.
4. Il n'y a pas de libre arbitre / il y a un libre arbitre.
5. Ce monde est tout / l'au-delà est tout.

6. La foi est tout / la raison est tout.

7. La foi n'implique aucune contrainte / le bien et le mal sont des raisons contraignantes qui dominent la question de la foi²⁵.

Métastabilité, également, de la pierre noire de la *Ka'aba*, ce centre géographique de l'Islam, qui est souvent désignée par un adjectif qui appartient à ce même groupe sémantique pur/impur, le mot *h'aram*. On l'appelle usuellement, la *Ka'aba, al-bayt al-h'arām*, c'est-à-dire par une expression qui signifie aussi bien "le locus de l'interdiction" que "le locus du sacré". Mais le toucher que chaque musulman impose sur la pierre manifeste-t-il le sacré de la pierre ou l'absence fondamentale du sacré, l'impossibilité de la saisie du mystère divin?



Conclusion

Je terminerai ces considérations par une réflexion sur une autre racine arabe b.s.l, et sur le mot *baslun*. Dans cette racine et dans ce mot sont fondues les idées contradictoires du sacré et de l'impur, du saint et du maudit. Comme dans le cas du latin *sacer* et de l'hébreu *KDS* nous sommes ici au cœur de ce "pivotement du sacré" dont a parlé Marcel Mauss.

Tout ce que nous venons de voir montre que l'on ne peut considérer les "mots antithétiques", qu'ils soient hébreux ou *ad'dad* arabes, comme des phénomènes marginaux. Ils sont, au contraire, au centre même du concept de sacré. Pour emprunter une fois de plus son concept central à Arnold Van Gennep, on peut dire que le sacré est *liminaire*, c'est-à-dire "réversible". Mieux encore, le "sacré" est aussi conscient de cette liminalité et de son inhérente "métastabilité". En utilisant par prédilection, au cœur de son être, des expressions réversibles, il ne veut pas seulement une représentation du *kairos*, du temps ineffable et indicible de la révélation, mais il nous fait signe, nous adresse un signal. Ce signal, nous l'avons déjà dit, renvoie à une base, à un fondement, qui lui, est stable, est, par définition la stabilité transcendente, *au delà du signe* mais qui est indiscible, et ne peut être appréhendée que par contraste avec les configurations métastables. Les *ad'dad* sont, d'une certaine manière, des *déictiques*, mais qui pointent d'une manière toute particulière vers la transcendance.

Concluons par une citation du grand maître soufi Ibn' Arabî, "Dans le langage mystique", disait-il, "il n'y a ni union, *wasl*, ni distance, *bu'd*, ni proximité, *qurb*. Il y a union sans unification, approche sans proximité et distance sans espace de séparation"²⁶.

- ¹ Cf. Claude Gandelman:
 a. "The metastability of signs/Metastability as a sign", *Semiotica*, 28-1/2, 1979, pp. 83-105.
 b. "Philosophy as a sign-producing activity: the metastable Gestalt of Intentionality", *Semiotica*, 39-1/2, 1982, pp. 45-54.
 c. "The semiotic square as 'catastrophe'", *Semiotica* xx-xx (1987), pp. 1-20.
 d. "The Metastability of Primitive Artefacts", Co-auteur: Dr Tsili Doleve-Gandelman. Jerusalem symposium under the aegis of Claude Lévi-Strauss "Primitive Art as Communication", January 1989. *Semiotica* 75/3/4 (1989), 191-213.
- ² Cf. ATTNEAVE, Fred — "Multistability in Perception", *Scientific American*, N° de janvier 1972, 63, 70-71.
- ³ KERDRAT-ORECIBONNI — "Problèmes de l'Ironie", in *Linguistique et Sémiologie*, N° 7, 1976, pp. 29-46, et "L'ironie comme trope", *Poétique*, N° 41, pp. 108-127.
- ⁴ FREUD, Sigmund — "The antithetical meaning of primal words" (titre original: *Der Gegensatz der Urworte* 1910), in *Collected Papers IV/1957* (The Hogarth Press, London), p. 185 ff.
- ⁵ *Collected Papers*, *Ibid.*, Vol. V, 1957, 368-408.
- ⁶ *Collected Papers*, *Ibid.*, 1957, Vol. V, 399.
- ⁷ Sur ce sujet cf. FREUD, S. — *Totem et Tabou* (Paris, NRF, 1986), et surtout la définition de Bleuler donnée par Freud dans "Sur la dynamique du transfert", *Standard Edition*, Vol. XVIII.
- ⁸ VERMANT, J.-P. — "Ambiguïté et Métabole dans la tragédie d'Œdipe Roi", dans *Essais Présentés à Claude Lévi-Strauss à l'Occasion de son Soixantième Anniversaire*.
- ⁹ SARTRE — *L'Être et le Néant*, Paris, Gallimard, 1956, 69.
- ¹⁰ SARTRE — *Ibid.*, 69.
- ¹¹ Cf., sur ce sujet, GANDELMAN, Claude — "Pour une vision tri-dimensionnelle du carré sémiotique: la métastabilité du sacré", *Sémiotique et Bible*, N° 30, Juin 1983, pp. 15-34.
- ¹² Première Lettre aux Corinthiens, III, 18.
- ¹³ Appelés aussi *malavostri*: les "adorateurs du Nom".
- ¹⁴ CÉTEAU, Michel de — *La fable mystique* (Paris, NRF, 1982), pp. 198-99.
- ¹⁵ Sur cette ironie de Jésus, voir, en particulier, le livre de Jankélévitch, Vladimir, *L'Ironie* (Paris, Flammarion, 1964), pp.70-1. Une allusion récente à cette ironie de Jésus se trouve dans un article d'un sémioticien russe récemment publié à l'ouest: Shafarevitch dont l'article "On certain tendencies in the development of mathematics" (in *Poetics Today*, N° de printemps 1982, p. 8), commence par cette constatation.
- ¹⁶ Une possibilité est, évidemment, qu'il s'agit de supprimer l'instabilité d'un schéma en quatre termes; une autre est évidemment que l'incarnation fils/chair rend un quatrième terme impossible.
- ¹⁷ Sur ce sujet, voir Koffler *Das Kit b al-ad'ad von Abu Ali Muhammad Qut'rub ibn al-Mustamir*, *Islamica* V, 1931, 32.
- ¹⁸ Cf. REISLOB, Th. — *Die arabischen Wörter mit entgegengesetzter Bedeutung* (Göttingen, 1873); NOELDEKE, Th. — "Wörter mit Gegensinn", in *Neue Beiträge zur semitischen Sprachwissenschaft* (Strasbourg, 1910); HAFNER, A. Drei — *Quellenwerke über die Ad'ad*, mit Beiträgen von P.A. Sulhani (Beyrouth 1913).
- ¹⁹ Éditeur Charney, Paris, 1967.
- ²⁰ Dans le N° 21 de la *Nouvelle Revue de Psychanalyse*, 183-193.
- ²¹ *Ibid.*, COHEN, 1967, 26-46.
- ²² SAMI-ALI — *Nouvelle revue de Psychanalyse*, *Ibid.*, p. 189.
- ²³ Pour emprunter le titre d'un livre de Philippe Sollers. Dans les lignes précédentes, je n'ai mentionné que trois vocables arabes. La liste des *ad'ad* dans le *Qoran*, nul besoin de le préciser, est beaucoup plus longue.
- ²⁴ SAMI-ALI, *Ibid.* — *Nouvelle Revue de P.*, 1980, 189.
- ²⁵ Cf. MILAD, Mahjoud Ben — *L'Ambivalence dans la culture arabe*, *ibid.*, 1967, 377.
- ²⁶ MILAD, Mahjoud Ben — *L'Ambivalence*, *ibid.*, 1967, 37.

MAIS ANOTAÇÕES SOBRE TRAVESSIAS E CRUZEIROS

Le processus est infini. Le monde réel se transforme en monde poétique, c'est-à-dire en monde sans commencement où l'on pense sans savoir ce que l'on pense.

EMMANUEL LEVINAS

Dans l'art, ce fut le rôle du cinéma, qui révéla clairement et nettement à d'innombrables spectateurs que la langue n'est qu'un des systèmes sémiotiques possibles, comme l'astronomie révéla autrefois que la Terre n'était qu'une planète parmi beaucoup d'autres et permit ainsi une révolution complète de notre vision du monde. En fait, le voyage de Christophe Colomb signifia déjà la fin d'un mythe, celui de l'exclusivité du Vieux Monde, mais c'est seulement l'essor actuel de l'Amérique qui, à ce mythe, donna le coup de grâce; de la même façon, le film fut tenu, au début, pour une simple colonie exotique de l'art, et c'est seulement en se développant, pas à pas, qu'il se mit à démolir l'idéologie dominante d'hier.

ROMAN JAKOBSON

"... the word or sign which man uses is the man himself. For, as the fact that every thought is a sign, taken in conjunction with the fact that life is a train of thought, proves that man is a sign; so that every thought is an external sign, proves that man is an external sign. That is to say, the man and the external sign are identical, in the same sense in which the words *homo* and *mon* are identical. Thus my language is the sum total of myself; for the man is the thought."

CHARLES S. PEIRCE

Apesar da resposta geral e definitiva dada por Charles Sanders Peirce "... the word or sign which man uses is the man himself", a uma pergunta que repete a interrogante de antigos enigmas, o próprio Peirce não descarta a identificação de três Universos que "nos são familiares" e distingue: "The first comprises all mere Ideas, those airy nothings to which the mind of the poet, pure mathematician, or another, might give different objects, especially between objects in different Universes"¹.

Acredito que esta distinção entre dois universos de natureza diferente e o reconhecimento de um terceiro universo que os vincula constitui não só uma classificação suficientemente válida, mas também uma distinção que transborda

os objetivos taxonômicos do inventário visando as propriedades da “verdade do ser”, uma ordem que marca a direção necessária para entender as gestões do descobrimento e as aventuras determinadas pelo conhecimento.

Como diz Peirce, por uma parte, é possível conceber a existência de uma Idéia radicada na mente do poeta, do matemático, do visionário, a abstração inacessível que não deixa de ser uma virtualidade, um pré-sentimento, uma pré-visão; por outra parte, e com uma inacessibilidade diferente, acha-se essa “Realidade Bruta” constituída por fatos e coisas sem radicação nem denominação que permanecem confusas, sem limites nem definição, até serem designadas pelo descobrimento e pela invenção — a “*mis en ré(vé)lation*” estabelecida pelo conhecimento. Enquanto constitui “something that stands for something else for somebody”, o signo transforma a Idéia em uma “realidade”, distinguindo-a com um nome que designa o indivíduo em particular ou toda a espécie, uma prática semiótica a partir do momento em que, nas palavras de Thomas A. Sebeok, “Semiotics is something, something by means of which we can conjure reality from illusion by the use of signs”².

Trata-se de observar, entre os procedimentos cognoscitivos, a relação de enfrentamento necessário de um sujeito com uma entidade desprovida de “id-entidade”, até fazer dela o objeto do seu conhecimento, dar-lhe um nome, outorgando-lhe o estatuto verbal correspondente à sua circulação civil, a um código. Dois estranhos: um ente que descobre e outro que é descoberto começam a agir em interdependência recíproca a partir de uma iniciativa visionária; uma previsão e uma mera realidade passam a transformar-se em signo: o *descobrimento* habilita um terceiro termo que é “posto em jogo” com os outros dois termos. A intermediação do signo os transforma em signo: “Again: the object is a sign; the sign is, of course, a sign; and the interpretant is a sign.” Tal como resume Sebeok, “Peirce’s most comprehensive definition of sign”, aplica-se, em termos gerais, a esta situação³.

Pela viagem, realiza-se um transporte pelo qual uma Idéia chega a se conectar com a “Realidade Bruta”. Essa viagem é, em si mesma, uma metáfora do signo e o signo é uma metáfora da viagem: uma passagem de ida e volta que as travessias do descobrimento multiplicaram em formas de significação, dando curso a um itinerário intelectual que estabeleceu conexões de todos os tipos entre mundos diferentes. Borges dizia que todas as palavras são, de fato, metáforas, inclusive a palavra metáfora que, em grego, é *translação*. Além disso, é significativo que essa afirmação seja formulada, precisamente, em um livro titulado *Atlas*, que tem como causa “una unidad hecha de imágenes y palabras”⁴. Não é a primeira vez que Borges parte de uma conjunção como esta para iniciar os seus relatos.

A metáfora é uma forma de conhecer, “Metaphor is a way of knowing, a way to discover new emotions and new ideas”, que requer e confirma a indizi-

bilidade da Idéia prévia, universal, virtual. Mais do que a semelhança entre dois termos, interessa a experiência da viagem, o deslocamento, uma virtualidade *passa a ser*: a Idéia transforma-se em um signo, ou seja, deixa de ser indizível e passa a designar uma realidade conhecida, constitui-se em entidade verbal; por outra parte, mas como efeito do mesmo deslocamento, a realidade bruta transforma-se em um signo, e todas essas transferências e transformações acontecem por causa da viagem, do deslocamento, da metáfora do movimento, de ir e vir: *to be-come* em inglês designa essa conversão de *ser-uir*, como de uma viagem, *tornar-se*, tornar a si, em português, retornar, regressar, *devenir*, em francês.

Por isso, havia me referido à semiótica como uma questão americana; como uma busca que é um descobrimento e, pela mesma razão, também a associa à *questão do nome*. Quando Roland Barthes afirma, na palestra pronunciada na Itália, em 1974, que não vê a semiótica como ciência nem como disciplina nem como escola nem como movimento, mas como “uma aventura”, ele vai e vem, sem tenção, ao encontro de Ch. S. Peirce.

O descobrimento da América é um exemplo de *metáfora*, dessa aventura semiótica que introduz um terceiro termo entre dois, e já não se diferenciam. Pelo descobrimento, um mito dá lugar a outro mito, traslada-se de um mundo para outro. Roman Jakobson, compara o descobrimento da América com a experiência cinematográfica no sentido de que o seu aparecimento começa revelando que a língua não constitui o único sistema semiótico: “Na realidade, a viagem de Cristóvão Colombo significou o fim de um mito, o mito que dava exclusividade ao Velho Mundo, mas o impulso atual da América acabou com ele definitivamente.”⁵

Dificilmente poderia tornar-se a afirmar atualmente, como afirmava Umberto Eco há pouco mais de dez anos em uma entrevista publicada pelo jornal francês *Libération*⁶, que a desconstrução é América, referindo-se não tanto ao seu fundamento epistemológico particular, mas a uma natureza teórica que cresce com as características de um híbrido, resultado da sua transação continental, uma transferência entre línguas e disciplinas.

Entretanto, e a pesar de que Thomas A. Sebeok afirma que não existe uma “escola americana de semiótica”⁷, seria possível afirmar que, mais do que a desconstrução, aquela que poderia ser definida por essa localização americana seria a *Semiótica*. De fato, não haveria objeções ao afirmar ainda que a *semiótica é América*. E mais, a equação vale e permite uma fórmula talvez menos comprometida: a semiótica na América. De qualquer forma, neste caso, a diferença não é muito grande, já que a identidade, assim como a nacionalidade costumam passar por uma localização de origem ou radicação. É assim que em ambas as afirmações o termo é definido pelo local, um país, um continente, de onde procede ou onde se estabelece essa doutrina de signos.

Mas, se ao invocar a “América”, o nome só for entendido como “pertencente aos Estados Unidos”, sem dúvida, as limitações nacionais dessa restrição invalidariam a afirmação. Entretanto, se a palavra “América” fosse entendida como o espaço onde se verifica uma síntese de culturas, onde se registra a intersecção de hemisférios, de norte a sul, de leste a oeste, que favorece uma superposição de culturas, identidades, acontecimentos e os trâmites do seu conhecimento, a travessia que une o discurso e a realidade, insistiria, então, na primeira fórmula entendendo que semiótica é América, um continente que implica a fusão de diferenças, uma espécie de natureza híbrida pela assimilação de culturas anteriores que é o seu destino; a sua originalidade não está em uma origem, mas em uma espécie de fatalidade de cruzamento, um certo equívoco que ocorreu desde o início.

No início, esta reflexão teve lugar em Urbino, precisamente em um ano que havia sido dedicado aos encontros continentais e às celebrações centenárias, motivo pelo qual as considerações relativas a essa radicação da disciplina da Europa na América não podem ser deixadas de lado. Desde a Europa ou desde a América, de mil maneiras diferentes e desde pontos de vista antagônicos, lembrava-se o descobrimento do continente, celebrava-se a reciprocidade ou a dualidade do descobrimento que é inerente ao conhecimento, a encruzilhada de caminhos onde as diferenças coincidem.

Talvez também por essa razão, Thomas Sebeok, antecipando-se a essas celebrações, ampara o seu livro *Semiotics in the United States*⁸, publicado em 1991, em uma epígrafe de Walt Whitman, assinalando desde o começo um plano de referência várias vezes americano:

Solitary, singing in the West,
I strike up for a New World.

Eu poderia introduzir uma leve variação e afirmar “Solitary, signing in the West...”. Esses mesmos versos ocidentais de Whitman são os que iniciam mais ostensivamente *American Signatures. Semiotic Inquiry and Method*⁹. Tratando-se de “assinaturas americanas”, essa modificação justifica-se mais ainda. A propósito da transposição ou confusão de sons, Sebeok lembra na sua palestra “Into the Rose-Garden”¹⁰, que, aqueles que haviam ouvido a primeira palestra de Roman Jakobson em Indiana, “The Theory of Signs”, percebiam os termos *signis* e *science* indistintamente, sem poder diferenciá-los. Talvez não fosse só uma falha fonética de pronúncia cometida por um professor russo refugiado nos Estados Unidos, mas uma convicção epistemológica profunda e oculta que se insinuava através da indistinção de sons em boca de um lingüista notável. Há dez anos, Geoffrey Hartman¹¹, outro professor europeu estabelecido na América, interpretando “Speak silence” de William Blake, lia um inédito e pessoal “Speak science”, um fluxo em cadeia sonora que passa por fil-

tros hermenêuticos previsíveis recolhido no final em “Speak signs”. As suas duas leituras encontram-se em uma mesma prática poética e visionária, são coincidências do significante que Saussure — quem não chegou a estabelecer-se na América — certamente teria deplorado.

Seria necessário perguntar-se se a identificação de *science* e *signis* realizada por ambos os estudiosos poderia ser uma consequência do deslocamento de pesquisadores acadêmicos europeus para a América, uma visão de universalidade forçada pelas circunstâncias, vinculada às coerções do exílio ou às façanhas do descobrimento. A esta altura, esboçadas algumas confusões básicas, torna-se inevitável fazer referência às vicissitudes de um continente conhecido e verificado pelo nome em uma assinatura, em vez de ser reconhecido pelos seus próprios atributos. Como diz Sebeok, mais do que os átomos, as histórias são as que constituem o mundo.

E ainda quando até hoje torna-se a propor a discussão sobre a legitimidade do nome: Por que América? Por que não Colômbia, ou Columbia, ou Colônia?, mesmo sabendo que o topônimo “Colônia” não é derivado de Colombo, um navegador, um homem do mar, mas do antigo *colonus*, um homem da terra, um lavrador, a discussão revela um mal-estar que vai além de reivindicações nacionalistas ou justiça onomásticas ou literais.

Não seria estranho à filologia derivar um nome próprio de outro que aparece como subscrição, a assinatura que aparece em um mapa, a rubrica pertencente àquele que realiza e se responsabiliza pela diagramação de um território. Em virtude da representação e das suas propriedades, quem registra o acontecimento se confunde com quem realiza o descobrimento. Neste caso, também seria válida a afirmação de Dante citada por Sebeok: *Nomina sunt consequentia rerum* mas sem deixar de ser, também, consequência dos signos¹².

Pelo nome de América, verifica-se um retorno simbólico nominal que os teóricos da determinação pelo nome próprio, pelo nome, não rejeitariam. Trata-se de um desajuste próprio do trâmite semiótico: o nome germânico “Amerigo” (derivado de *Heimericus*, *Aimericus*, *Amerigus*) apelativo do ilustre cartógrafo florentino, passa a dar nome ao continente. O nome do autor do mapa toma o lugar do nome de Colombo, o autor do descobrimento, porém, ao mesmo tempo, pelo topônimo reivindica-se — certamente sem tenção de fazê-lo — um descobrimento anterior, Américo tem a mesma origem que Erico, o nome germânico de Eric, o Vermelho, um navegador escandinavo que, vários séculos antes, se aproximaria daquelas terras. Assim, a obsessão de “Christopher Columbus with both his name (specifically, his signature) and with his emblematic siglum indeed bordered the fetishistic” segundo observa Sebeok, seguindo Tzvetan Todorov, quem, por sua vez, segue Bartolomé de las Casas, é uma preocupação pela qual Colombo manifesta não só um aspecto do seu fetichismo, mas também um problema que ele previu mas não resolveu.

Quer seja preferido quer confundido o nome do navegante ou o do cartógrafo, já não há dúvida: o descobrimento passa pelo nome. Por isso, é natural que Borges resuma na brevidade monumental do seu "Museo" a necessidade do "Del rigor en las ciencias", que é o subtítulo, quase uma epígrafe, pela sua brevíssima extensão, de um tratado de poética ou de semiótica, onde se conta que, naquele reino, "los Colegios de Cartógrafos levantaron un Mapa del Imperio que tenía el tamaño del Imperio y coincidía puntualmente con él". A perfeição do registro era um risco para o seu objetivo, submetia o mapa às inclemências do tempo, expunha-o a todos os tempos, porque, tanto em português quanto em espanhol, da mesma forma que o registro cartográfico e as regiões registradas coincidem, também não há diferença entre *weather* e *time*; os dois tempos coincidem em um mesmo tempo da mesma forma que, no espaço, o mapa do Império e o Império em si também não se diferenciam.

Foram as confusões que determinaram, desde o começo, o conhecimento do Novo Mundo como um cruzamento de espaços e espécies, uma referência por outra: certas Índias em vez de outras, certos índios em vez de outros, o nome do cartógrafo em vez do nome do descobridor, Vespúcio que dá o nome de *América* somente à América do Sul e, mais recentemente, Jean Baudrillard, para quem *Amérique* não é nem o continente inteiro nem a América do Norte que, por sua vez, é quase metade, ou melhor, um terço do continente, mas apenas o país: a América, os Estados Unidos, um país que se sente e se declara continente¹³.

São confusões necessárias que estão na própria natureza do conhecimento e da sua indistinguível associação com o signo, um deslizamento de termos que suspende os limites da representação. Se é possível que a "história" designe ao mesmo tempo a sucessão temporal dos acontecimentos, as mudanças, "a evolução regional, nacional, universal do mundo real e o conhecimento, a ciência, a memória desses acontecimentos"¹⁴ não seria surpreendente que a terra e a geografia, os planetas e os planos fossem identificados através dos mesmos termos.

Gostaria de formular mais uma digressão cartográfica de um tipo diferente. Tal como aparece registrado nos documentos cosmográficos da Antiguidade, a Terra é um "Orbis Tertius", sendo essa terceiridade do orbe o que me interessa destacar neste caso como a propriedade específica do homem, do ser na terra, a condição que constitui a cifra semiótica do homem e também a indicação da sua posição dentro de uma ordem. Essa propriedade simbólica que, nas palavras de Peirce, é, como definição, definitiva: "... the general answer to the question What is man? is that he is a symbol". Em outras línguas, em hebraico, por exemplo, o nome do homem, "Adam", "ben-adam", confunde-se com o nome da Terra, que é "Adama"; desde essa língua também, a sua identidade não se diferencia muito da sua terceiridade, o terceiro termo

em questão, que é a condição simbólica inerente ao homem e à humanidade derivada da sua presença sobre a Terra, nesta terra, a indissociabilidade entre aquilo que é humano e o húmus.

Apesar de estar certo de que Borges havia lido tudo, Eco suspeitava de que Borges não havia lido Ch. S. Peirce. Porém, é necessário mencionar que, lendo os escritos *dele* — sendo válida a ambigüidade referencial do possessivo — tão diferentes em tantos aspectos, as semelhanças entre ambos multiplicam-se com facilidade: um pesquisador, um pensador, que tende a formalizar cientificamente o seu pensamento, em um caso; no outro, um escritor, um pensador, que tende a formar poeticamente as suas especulações.

Há vários trechos escritos por Borges onde a coincidência da representação e a coisa representada é mais do que uma coincidência; é uma conjunção pela ficção da qual parte a imaginação de Borges. "Aquella no era la descripción de la batalla: era la batalla", a sua estética do museu.

A estratificação do conhecimento, as dualidades inerentes ao pensamento, as vertigens abismais do sonho, as reviravoltas especulares da imaginação que não se diferenciam esteticamente da semiose ilimitada entrevista especulativamente por Peirce, compartilham com as capas superpostas das ruínas circulares, uma *sign-action* que se repete: "A sign is a sign is a sign is a sign" é a versão "à la Gertrude Stein" da rosa e do seu nome segundo Sebeok¹⁵. Da mesma forma, não há diferença entre a noção de abdução em Peirce e a noção de "revelação"¹⁶ que Borges define secularmente como um movimento do ar, fisiológico ou teológico, uma inspiração, a energia do espírito divino segundo os hebreus, da musa segundo os gregos, a pedra heráclia que faz do inspirado um receptor.

O dom da palavra e os livros, a convicção de que os signos constituem a única realidade, de que o universo está cheio de signos, ou melhor, que, na realidade, não há nada além de signos, uma certeza formulada por Peirce em diversos trechos, imaginada dubitativamente por Borges.

Ambos nascidos na América, Peirce e Borges não são estritamente contemporâneos, não são da mesma origem e têm biografias diferentes. Para explicar essas coincidências substanciais em suas obras tão diferentes seria válido aplicar os mecanismos de uma lógica fantástica, essa que Umberto Eco tipifica como a lógica da Biblioteca, uma "bibliogenealógica" comum que descobre os antecessores mas, sobretudo, os livros que precedem outros livros.

Assim, recorrendo a essas associações tão legítimas quanto aquelas formuladas pelos Sebeok¹⁷ e, adotando uma estratégia semelhante, eu formularia, em vez de uma "French-Swiss Connection"¹⁸ como aquela estabelecida por eles, uma "Argentinean-American Connection", ou seja, uma conexão em circuito americano. Assim como Sebeok conjectura que Ferdinand de Saussure (1857-1937) pode ter ouvido falar de Peirce (1839-1914): "It is not at all

implausible that members of the Peirce family got acquainted with Henri while he was here, but, again, there is no evidence to prove this.”¹⁹

Também não me parece impossível que Borges, quem havia crescido em um ambiente “où la plus haute culture intellectuelle est depuis longtemps une tradition” (estou citando Sebeok que se refere a Peirce), possa ter ouvido o seu próprio pai mencionar o nome de Peirce. Jorge Guillermo Borges, o pai de Jorge Luis, era professor de psicologia, anarquista convicto e fanático admirador da filosofia de William James.

Sem dúvida foi por “James” que o pai de Borges se orgulhava do seu nome, *Guillermo (William)*, da mesma forma que Peirce, quem também devido a “James”, havia adaptado o uso de *Santiago (Sanders)*. Esses nomes trocados (o nome do argentino pelo nome do filósofo americano, o nome do semiótico americano pelo sobrenome do filósofo americano) resolvem um dos enigmas do nome próprio e até, talvez, outros enigmas epistemológicos.

É muito conhecida a adesão de Borges ao pensamento de William James, uma adesão consolidada pela relação com um estranho escritor anarquista argentino, Macedonio Fernández. Além de ter sido um amigo muito querido pela família de Borges, as especulações filosóficas de Macedonio foram determinantes na formação tão particular do pensamento do jovem escritor. Além disso, Macedonio foi uma das poucas pessoas em Buenos Aires que se correspondeu com William James.

Quanto a Peirce e Borges, é verdade que, até agora, não existe nenhuma prova de que um houvesse tido notícias do outro. Porém, é bastante evidente que eles frequentaram leituras semelhantes. A admiração de Borges por Edgar Allan Poe, por exemplo, por Ralph Waldo Emerson, está presente explicitamente em seus escritos, suas referências, seus modelos e suas citações, tanto em seus ensaios quanto em seus contos e poemas. Não é nenhuma novidade que “La muerte y la brújula” admite ser lido como um desenvolvimento trans-textual de mais de um conto de Poe, em particular “The Purloined Letter”. No conto de Borges, a lógica peirciana da abdução, a convicção de que formular conjecturas é uma forma de imaginar uma Lei que existe como “código secreto” de um texto, aparece frequentemente junto a uma espécie de certeza de que toda leitura crítica é, em vários sentidos, conjectural. A estratégia da “figure in the carpet” amocada por um outro James da família, Henry, não se afasta muito disto.

Não seria estranho que, sempre alerta às ambivalências transidiomáticas entendidas como conexões secretas entre línguas diferentes, Borges estivesse se referindo, através de uma piscadela palimpsestosa, a essas traduções entre línguas tão reveladoras de sentidos disfarçados por nomes alheios. Nem só para ler Borges rege esse regime intradutivo²⁰. Um dos princípios nos quais se fundamenta a retórica de Franz Kafka, tanto para escrever quanto para ler, estabelece a possibilidade de que a “linguagem seja compreendida segundo

mais de uma convenção interpretativa”. Assim, se “letter” não se traduz como “carta” mas como “letra”, como poderia ser em francês ou em inglês, línguas nas quais os dois objetos de escrita são designados com a mesma palavra, seria possível deslizar a intriga policial não em direção à busca de cartas, mas à busca de letras, uma por uma, as quatro letras do Tetragramaton, uma busca cabalística, mais esotérica, mas tão exposta quanto a busca da carta no conto de Poe. Levando em conta aquilo que diz David Kahn, Sebeok considera que “The romantic interest in secret codes, in the hidden meaning of small objects and events, in this cryptology, was compellingly glamorized”²¹ pelos contos de Edgar Allan Poe, especialmente em “The Gold Bug”. No mesmo trecho, Sebeok lembra que, provavelmente, Savan acreditava que Peirce havia lido esse conto; pareceria que, de fato, foi assim pelo uso que deu a seus escritos de 1868, na decifração de uma cifra ou a decifração de um código, para ilustrar tanto a abdução (“hipótese”) quanto a indução, e observar a diferença entre ambos.

Hipóteses ou hipotextos, algumas leituras confirmadas de Borges, algumas leituras presumidas de Peirce, ambos dividem amplas áreas de uma biblioteca americana na qual os autores encontram o ponto de partida decisivo para realizar uma elaboração fantástica de universos diferentes, universos narrativos ou epistemológicos, propor as intrigas do conhecimento, os trâmites de investigação comuns tanto às estratégias metodológicas da ciência quanto às da investigação policial.

Tanto Borges quanto Peirce filtram a sua reflexão pelas grossas lentes de aumento que se aproximam para detectar pegadas, rastros, índices que constituem pistas. Algumas vezes é Poe, outras vezes é Sherlock Holmes ou o detetive, simplesmente, quem aparece entre os dois autores, figuras literárias traçando linhas de sombra do século XIX que se projetam sobre o imaginário do século XX, proclive ao descobrimento de segredos, tendentes a insinuar a existência de realidades ocultas e explorá-las, a exagerar a perspicácia e a revelação até a exibição, sem suspeitar que, às vezes, também pode ser surpreendente que a revelação seja que *A Sign is Just a Sign*, uma coincidência um pouco mais que tautológica, mas que não impede a suposição de que, atrás desse signo, sempre se esconda um outro signo.

NOTAS

¹ CH. PEIRCE, S. — *Collected Papers of Charles Sanders Peirce*, ed. por Charles Hartshorne, Paul Weiss, and Arthur W. Burks. 6.455. Harvard University Press. Cambridge, 1958.

² SEBEOK, THOMAS A. — *Semiotics in the United States*, Indiana U. P. Bloomington, p. 2, 1991.

³ — THOMAS A. — *I Think I Am a Verb*, “Introduction”, Plenum Press, New York and London, pp. 5-6, 1986.

- ⁴ BORGES, J. L. — *Atlas*, Sudamericana, Buenos Aires, 1984.
- ⁵ JAKOBSON, Roman — "Qu'est-ce que la poésie?", in *Huit questions de poésie*, Seuil, 1977.
- ⁶ *Liberation*, Paris, 20-21/8/83.
- ⁷ SEBEOK, Th. A. — *Semiotics in the United States*, Indiana University Press, Indiana, 1991.
- ⁸ — Th. A. — *Op. cit.*
- ⁹ — Thomas A. — *American Signatures. Semiotic Inquiry and Method*, University of Oklahoma Press, Norman, 1991.
- ¹⁰ — Thomas A. — "Ural-Altische Jahrbücher", 64, pp. 1-12, 1992.
- ¹¹ HARTMAN, Geoffrey — "El discurso de la figura: 'Habla silencio' de W. Blake en la historia literaria", in *Diseminario, la desconstrucción, otro descubrimiento de América*, Montevideo, 1987. Coordenação editorial de Lisa Block de Behar.
- ¹² SEBEOK, Thomas A. — *A Sign is just a Sign*, Indiana University Press, Bloomington, p. 46, 1991.
- ¹³ BAUDRILLARD, J. — *Amérique*, Éd. Grasset, Paris, 1986.
- ¹⁴ SOURIAU, Étienne — *Vocabulaire d'esthétique*, PUF, Paris, 1990.
- ¹⁵ SEBEOK, Th. A. — *I Think I Am a Verb*, op. cit., p. 6.
- ¹⁶ BORGES, J. L. — "Empieza por una suerte de revelación. Pero uso esa palabra de un modo modesto, no ambicioso. Es decir, de pronto sé que va a ocurrir algo y eso que va a ocurrir puede ser, en el caso de un cuento, el principio y el fin. En el caso de un poema, no: es una idea más general, y a veces ha sido la primera línea. Es decir, algo me es dado".
- ¹⁷ UMIER-SEBEOK and SEBEOK — "You know my method", in *The Play of Musement*, Indiana University Press, 1981.
- ¹⁸ — "The French Swiss Connection", in *The Sign & Its Masters*, University of Texas Press, 1979.
- ¹⁹ SEBEOK, Th. — *Semiotics in the United States*, op. cit., p. 16.
- ²⁰ Denominação "intradução" uma figura retórica interidiomática freqüentada pela poesia, pela filosofia e, ultimamente, hipertroficadamente, pela publicidade. Trata-se da justaposição de homônimos pertencentes a línguas diferentes, uma relação que não pode ser traduzida (o prefixo "in-"), mas que insinua uma equivalência semântica interna muito profunda (o prefixo "intra-").
- ²¹ SEBEOK, Th. A. — *Semiotics in the United States*, op. cit., p. 15.

SEMIÓTICA: UMA PERSPECTIVA DIACRÓNICA

SEMIOTICS: A DIACHRONIC APPROACH

KUNA, A WORD FOR "WOMAN" – 30,000 YEARS OLD? ON THE DING DONG SCHEME IN THE EVOLUTION OF LANGUAGE

1. There seem to be at least 17 language families or language **phyla** (RUHLEN 1987: 258ff.). Phyla are based on genetic relationship. Reconstructed versions of these phyla, such as Proto-Indo-European or Proto-Semitic, are often thought of as real-world languages which existed some 5 to 7,000 years ago. Long-range reconstruction tries to furthermore discover language units which are shared by some of these 17 phyla. Thus, such phyla as Indo-European, Semitic, Uralic, Dravidian etc. are assumed to have descended from a common ancestor, i.e. from the **macrophyllum** of "Nostratic" (SHEVOROSHIN 1989; BOMHARD, KERNS 1994). About 7 macrophyla have so far been proposed. The 'existence' of such ancestor languages should be placed at a time of 12 to 15,000 years ago. In this kind of long-range effort, a last attempt at reconstruction tries to retrieve an undifferentiated sort of language, common to all humans at the time; the reconstructive-comparative procedure consists in discovering lexical units shared by most, if not all, macrophyla. These units are often called "global etymologies". Such a pristine sort of language ("Universal Proto-Speech": SWADESH 1972, WESCOTT 1980) may be located at about 30,000 years ago. Since this period seems to be the remotest point in time reconstruction thinks it can get at, it often is also looked upon as an ultimate kind of "Ursprache" or the "language of Eve", i.e. the language of the "inventors" of human speech; namely, the language of early *homo sapiens sapiens* (FAGAN 1990, CAVALLI-SFORZA 1994). Thus, if, according to these arguments, modern scholars really succeeded in reconstructing a word that had been used 30,000 years ago, such a word would equally well be supposed to have existed 100,000 years ago.

1.1. Do long-rangers¹ really think they can come up with words reconstructed for a time of about 30,000 years ago? Yes indeed, they do. Global etymologies, i.e. semantic/phonetic-form compounds shared by languages belonging to different macrophyla, are thought of as providing the necessary

evidence. Thus, Joseph Greenberg proposed as a possible global etymology (RUHLEN 1987: 261) some such form as TOK/TEK meaning "one" or "finger" for languages deriving from all of the existing macrophyla. John D. Bengtson (1992) and Merritt Ruhlen (RUHLEN 1994a: 291ff.) have recently suggested a list of 27 global etymologies. Among them, there is a proto-proto-proto-word KUNA meaning "woman".

1.2. Pieces of evidence, then, for the assumption of the "urwort" KUNA (RUHLEN 1994a: 306) are words originating from languages of all types of phyla preserving a phonetic invariant K/G + N plus a meaning of "woman, wife etc.". Among the examples given are Proto-Afro-Asiatic *K(w)n (Omotiic (Chara) *gānēts* "woman", Cushitic (Dembia: *kiünā* "wife"), Semitic (Akkadian: *kinitu* "one of the wives in the harem"), Berber (Tuareg: *tékne* "wife"), Proto-Indo-European *g^wen "wife, woman" (Anatolian (Lydian) *kāna* "woman, wife"), Indic (Sanskrit *gnā* "goddess"), Iranian/Avestan *ganā* "wife"), Armenian *kin*, Greek *γυνή*, Celtic (Old Irish *ben*), Germanic (Gothic *qino*, English *queen, quean*), Slavic (Old Church Slavic *žena* "woman") etc. etc.

There is an impressively large number of further pieces of evidence belonging to various more 'exotic' phyla: e.g. Turkic (**kāni* "one of the wives in polygamy"), Eskimo-Aleut (Alaskan *aganak* "woman", Greenlandic *arnaq* etc.), Australian (Warrgamay *gajin* "female of human or animal species"), Amerind (Bella Bella *ganəm* "woman, wife", Yaki *aŋk'an* "mother", Tonkawa *k^wān*, Cuica *kumakunam* "woman", Guarani *kuña* "female") etc. etc.

There will be hundreds, if not thousands, of further examples.

1.3. There may be a kind of both intellectual and emotional thrill at the idea that we could know not an abstract formula of reconstruction but the concrete phonetic form of a concrete word which humans may have used 100,000 years ago. In order to make progress in the reconstrual of hominisation we need **concrete hypotheses**. Long-rangers try to offer us some. That is why we should even like mere bits of 'intelligent' speculation about what may have happened **concretely** a long time ago³. Concrete proposals are easier to refute than abstract ones. Thus I am personally much attracted by the idea of KUNA. On the other hand, such reconstruction is part of a complex web of assumptions. Some of the core assumptions made by long-rangers I do not share. Thus, in the following few pages, I will try to outline part of the complex fabric into which, to my mind, such phenomena as KUNA could fit³.

2. There are two types of reconstruction. One takes as a point of departure forms of present-day languages and proceeds to reconstrue step by step some of the preceding forms (proto-languages). I call it the "metagenetic (↔)

approach". Long-rangers are almost exclusively captivated by metagenesis. The other type starts from some point deeply buried in evolutionary time, millions of years ago; I call it the "genetic approach" (⇒) (KOCH 1990, 1991).

2.1. As far as the **metagenetic** reconstruction of KUNA is concerned, we meet with at least three subsequent moves:

- (1.1) English *queen*, Greek *γυνή*, etc. ⇒ Indo-European *g^wenā (cf. POKORNY 1959)
- (1.2) I.E. *g^wenā, Afro-Asiatic *k(w)n ⇒ Nostratic ** *kūni* (cf. ILLIČ-SVITÝČ 1976)
- (1.3) Nostratic ** *kūni*, Amerind ** *k^wana* (?) etc. ⇒ "UPS" *** KUNA (RUHLEN 1994a)⁴.

2.2. As far as my own **genetic** proposals for the evolution of language are concerned, there are at least six different design-schemes for vocal communication (and there probably will be evolutionarily ordered subschemes into the bargain) (cf. KOCH 1990, 1991, in prep.):

- (2.1) the POOH POOH scheme (starting about 2 million years ago (2 mya))
- (2.2) the BLA BLA scheme (1 mya)
- (2.3) the CLICK CLICK scheme (500 kya)
- (2.4) the TA TA scheme (400 kya)
- (2.5) the BOW WOW scheme (250 kya)
- (2.6) the DING DONG scheme (100 kya)

These are supposed to be **different** schemes of communication. The following schemes invariably build upon (interpret) the preceding ones. However, each of the schemes is a momentary ("punctuated") strategy of its own. All of these schemes are supposed to be **natural** ones. There is no **arbitrary** foundation in any of the schemes. In modern mainstream linguistics, the sound-meaning associations underlying TA TA, BOW WOW, DING DONG and their substrategies are dealt with under the summary label of "sound symbolism".

2.3. The crucial period we envisage for KUNA may thus be approached from a metagenetic direction and also from a **genetic** direction ("v" meaning "vowel"):

- (3) *KvNv "woman" (perhaps 100,000 ya) ⇔ *KUNA "woman" etc. (30,000 ya)

Thus for a time of 30,000 ya, the two approaches may be assumed to overlap (KOCH 1991: 8):

(4) °KvNv... ⇔ *** "KUNA" ← ** kúni...

2.4. The prototypical pattern for metagenetic reconstruction is the tree diagram:



It seems that we cannot avoid this **law of diminishing concreteness** in the metagenetic reconstruction of evolution. The physical and the biological sciences, too, are under the sway of such a law. Very often, true genesis can be assumed to be just the mirror-image of metagenesis. Thus, we would only have to turn our picture upside down in order to have a proper image of true genesis:



But this, too, is probably too simple in our case. The only thing we could do here is caution ourselves against the potential fallacy of mistaking abstract (first) approaches for more concrete (second) approaches. The least one should say, then, about everything in evolution is that it need not have started in *one* point ("big bang") and then continually have diversified in a branching-off kind of way. This bit of caution is more and more being heeded in the most recent versions of evolutionary biology (cf. GOULD 1989).

2.5. If KUNA, then, could have been a word in use some 30,000 ya, it is not likely to have been the one word for "woman", nor is it likely to have been particularly "stable" (on long-range stability cf., among many others, DOLGOPOLSKY 1964). Given mild forms of subsequent language change during many millennia, it is unlikely that a form KUNA should in so many instances (cf. § 1.2) have been preserved almost intact until today, both phonetically and semantically. According to my hypothesis, its 'stability' reaches into far remoter times, anyway. But its seeming constancy will most probably be due to the fact that the process which led to the formation of this particular word is a natural one and is available for ever new coinages which follow the same pattern, millennium after millennium. Thus, if, for reasons of language change, a 30,000 year old KUNA "woman" in some language X disappeared from the

natural scene (by becoming, say, *hia* meaning "girl"), the DING DONG process could and would reintroduce a neologism on the pattern of KvNv "woman", provided the underlying phonetic/semantic match continues to be a cultural preference (cf. Fig. 2 and note 8).

2.6. Within the context of their metagenetic perspective, long-rangers tend to assume that KUNA "woman" and human language at large continue to be essentially 'arbitrary', even if we go as far back as 100,000 years. In the wake of their ultimate one-point perspective (cf. (5)), many (not all!) reconstructionists tend to assume related types of **uniqueness** for the evolution of language:

- (7.1) 'In the beginning' (100,000 ya), there was one species (*homo sapiens sapiens*) which was important to language and only one (*H.s.s.* keeping aloof from *homo s. neandertalensis*),
- (7.2) one language (spread over how many millions of square kilometers?),
- (7.3) as a consequence, one special temporal and one special spatial point for the origin of language (monogenesis),
- (7.4) one gene (?) responsible for the (ill-described) completeness of language (or at best a few specific structural genes emerging by a series of chance mutation ???),
- (7.5) *one universal language*, which is essentially *arbitrary* into the bargain (is this not a contradiction in terms?)

2.7. By contrast, I assume that the evolution of hominids and their languages can best be understood if we advance the hypothesis that

- (8.1) different subspecies partly interbred, but only partly
- (8.2) there probably were different languages (at 100,000 ya, probably at least 1000) right from the 'beginning',
- (8.3) there were many origins of language (cf. §2.2.); there also was polygenesis rather than monogenesis,
- (8.4) there was an incredibly complex **mosaic** of coevolving factors facilitating language (whose coevolution was probably due to more than single-point and chance mutations),
- (8.5) all the different polygenetic languages were first of all natural, arbitrariness emerging as a by-product of naturalness (cf. §5.2.).

2.8. If, in addition, we become more flexible as to our 'etymology' KUNA — that is if we adopt the consonants KN/GN or NK/NG rather than an invariant KUNA, the long-rangers themselves could broaden our vista:

Alongside ***KUNA “woman” there is a ***KUNI “elbow, knee” which seems to be present in all of the macrophyla (BLAZEK 1989). Characteristically enough, these two proto-words are assumed to be essentially arbitrary and thus totally different from one another. A genetic approach (§§ 3ff.), however, will try to bring the two forms together. It would even consider these forms and a third and a fourth global etymology as cognates: ***BU(N)KA “knee, to bend” (RUHLEN 1994a: 293), ***KANO “arm” (RUHLEN 1994a: 298; 1994b: 103).

3. What do arms (KANO), knees (BUNKA), elbows (KUNI) have in common? They are all of them part of the motor process of bending one’s limbs. (9.1) describes the full-stretched limb with phonetic [K] being the distal end-point:



The subsequent flexing of limbs results in making an inward movement, the joint coming under focus (N):



K is the distal end-point, B may be the proximal starting-point of the movement (in case, for instance, one disregards the preceding (prototypical) stretching-out movement of the entire arm and thus rather prefers to cognitively start with the impression of a (mentally) nearer (and “rounded”?) fist or hand (B))⁵. What is true of the arm will also apply to similar movements (of the leg etc.).

3.1. If you generously assume such an ‘explanation’ to be plausible, you will still wonder why such a bending process should be prototypical for a woman (KUNA). Such a sort of scepticism is one of the reasons why Indo-Europeanists have so far refused to accept an etymological link between Latin *genu* “knee” and *genus* (related to *gignere*; cf. similar constellations in Greek γυνή “woman”, γόνος “child”, γόνυ “knee”, γωνία “angle” etc.; POKORNY 1959; WALDE, HOFMANN 1982).

3.2. There are two main specific problems then: the first problem is the question of “sound symbolism” (cf. §3.3. ff. and §4.2.), the second query is the question of cognitive “prototypes” (suggesting a semantic relationship between (9.2) and the idea of a *woman* (§4.3.)).

3.3. Let us focus on the latter 3 design-schemes (starting at about 400 kya; cf. (2.4)). I try to reinterpret some of the hypotheses about the origin of language as advanced in the 19th century and before (cf. HEWES 1975, 1977) and convey to them an expressly positive meaning. Among the panoply of nicknamed “origins” (Yum Yum, Ye He Ho etc.) let us single out the following theories and briefly indicate some of the words they would produce:

- (10.1) TA TA: *mama, papa* “food, mother, milk, mamilla, me, you...”
tata/dada “third object/person outside the mother (care-giver) — infant dyad, he/she, object pointed to, over there, look there, pay attention...”
kaka “fourth object”, “object behind baby”, “faeces”, “ugly, dark things...”

TA TA (cf. older theories by Paget, Jóhannesson etc.) exploits elementary vegetative noises, pointing, vomiting etc. gestures in that the originally subsidiary vocal accompaniments become highlighted and isolated. Thus a sucking-in movement of the lips while drinking ultimately results in a bilabial sound. TA TA thus is **indexical** (to use a Peircean term), while the following two schemes are essentially **iconic**:

- (10.2) BOW WOW: imitating sounds of nature (animal or otherwise):
 [m^wu:] for cow or [kabal], [galap], [parat], [tarap]
 for various acoustic rhythms produced by the hooves of a horse
- (10.3) DING DONG: visual shapes and processes are naturally translated into acoustic shapes and processes:



Not unlike the other schemes, DING DONG shows sub-schemes which grow in complexity and power. Thus we may distinguish at least 4 different DING DONGs:

(11.1) D D I: relative size ([mik] vs. [mak], "small" vs. "big")

(11.2) D D II: relative shape ([julunu] vs. [lakete], see above)

(11.3) D D III: absolute shape 

↑ kop "head", "cap", "cup", "hill" etc., ↓ bag, pak, hok
German *Pack, Pocke, Backe* etc. "bag", "variola",
"cheek" etc.

(11.4) D D IV: absolute process: *koro* "run, flow", *bara* "cradle in one's arms"

Of course, all of the examples should have long lists of variants, since languages differ with respect to their phonemic and phonotactic raw material necessary for any type of iconic processing.

3.4. As far as I can see, there has not been a comprehensive theory of sound symbolism yet (cf. CRYSTAL 1987). There are, however, innumerable attempts at taking the process seriously: attempts that range from psychophonetics (ERTEL 1969), iconic theories for all levels of language (PLANE 1979), iconism and palaeolinguistics (SCHABE 1981), palaeophonemics (DECSY 1977) through admittedly 'daring' types of semantico-phonetic speculation (e.g. Locquin's phonemic archetypes in SADIAN 1993: 164) ⁶.

There is a host of articles and books on the subject — at least several hundred publications — which await synthesis. In the 19th century, von Heyse (MÖLLER 1861: 502) formulated the principle of the most recent and most powerful iconic strategy which the human mind has hit upon, namely the principle of "Ding Dong":

(12) Es gibt ein Gesetz, so hat man gesagt, das sich fast durch die ganze Natur hindurchzieht, dass nämlich jedes Ding, wenn man es berührt, einen Klang von sich gibt.

Not every visual object or process gives off a sound when humans try to make it do so: what about a "mountain"? But, on the analogies of the easier types of "Ding Dong" (I, II, ...), even the most elusive visual percept may find a concrete phonetic correlate. This is what makes "D D" so powerful: ultimately, each one of the putatively one billion different types of words ever used on this planet will have a natural etymology...

3.5. The evidence ontogeny gives us is connected to what RICH (1986: 39) terms "the formation of idiomorphs". At the age of about 10 months, children tend to form words of their own — untutored by any adult influence. One

famous example is *lukull* for "chair": a doll chair was made into *lukull* and, if the child (Gabeleitz's grandchild) wanted to refer to an overstuffed chair, he invented a *lukull* (the vowel apophony obviously referring to size, *l* probably referring to the fact that the child first perceived the object (*k*) "chair" in the form of a "rocking chair").

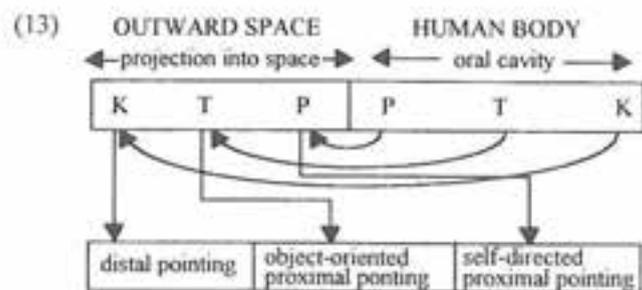
3.6. Now to our second big problem: the association of the vocal signifiers [kuna], [k^hena] etc. for "bending", "knee" etc. and the meaning of "woman". Naturally, every primate has legs, arms, and it normally can bend them. What makes the use of bending knees **prototypical** for "woman" is the process of giving birth to babies. Even modern European women — when in labour — naturally press their hands and press and bend their knees: but they lie on their backs when they do so. In earlier times and even today in more primitive societies, women resort to a more efficient position of birth-giving: they stand semi-erect or squat (SCHIFFENHOVEL 1988). The bending of knees thus becomes even more conspicuous.

4. There are all sorts of descendants of the initial vocal signifier for bending and thus for forming an angle which may become more and more narrow (cf. (9.2)) and which may "hinge on a joint". Let us consider only a few of such reflexes in the English language (which they have entered at different times and in different semantic contexts): **knee**, **knife**, **ankle**, **anchor**, **shank**, **neck**, **angle**, **hinge**, **nook**, **nick**, **anger**, **joint** (-JUNCTUM), **junction**, **knuckle**, **trigonometry**, **genuflexion**, etc etc. There are even a few examples of the original percept: these are thus nearer to our specific signified "birth", "woman": **queen**, **queen**, **genesis**, **kin**, **gynaecologist**, **knight**, **king**, **gender** etc.

4.1. While for BOW WOW, the neuro-cognitive plan responsible for the translation of sound into sound is not so intriguing, the **rationale** underlying the translation processes characterizing the various Ding Dongs (cf. (11)) presents an almost mind-boggling problem. The one-to-one correspondence of the visual and the auditory reminds us of the phenomenon of **synaesthesia**. Of course, an extended type of commonsense acoustics (relationship between visual size of potential resonator and (auditory) frequency and amplitude of potential resonance) may safely be presupposed for early hominids.

But perhaps the process, especially that of D D IV, i.e. the one which underlies our KUNA-example, is more complex. It may have to do with the idea that there are **many**, more and more refined types of **translation**-processes, protohuman hypotheses about the 'pristine meaning' of phonemes. Mary LACROIX FOSTER (1983) called the latter "phenemes", and she has firm views about their phonetic-cognitive modelling. I am here simplifying the problem by

pointing to the idea that at least part of the translation trick in D D IV may be due to a projection hypothesis for which I here am using only three prototypical loci of consonant formation (a rationale which is already partly preordained in the TA TA principle):



(cf. MILES 1991:14)

Sequenced genesis of pointing

Similar projections may be obtained for complex processes (sequences of all sorts of consonants). And more would have to be said about their rationales as well. I have to cut short my argument. Fig. 1 tries to outline the onomastic effort of Ding Dong. The most foreshortened pathway for the effort is the question, Is the best natural association between a 'concept' *woman* and its vocal signifier the one suggested ("woman" = [kʷɔni] etc.) or is it not? The form of [kʷɔni] is a vocal stereotype and "woman" is some such thing as a *con*-cept. In order to discover crucial points of translation (①, ②, ③ in Fig. 1) and other semi-closed systems through which signifier (○) and signified (●) must have run, we have to reconstrue (↔) the actogenetic and thereby also the phylogenetic past of real genesis (⇔) (Fig. 1).

Again, I have to abbreviate my theses and their 'proof'. The most conscious of the translation (projection) processes is the one that searches for an appropriate signifier of "woman" (③). The least conscious one is the process which translates (by what even to neurologists seems something of a miracle) the visual percept into a motor process of gestural etc. response (①: cf. ALLOTT 1991).

We come across our Ding Dong phenomenon in the second unconscious translation problem: it more immediately constitutes a transition from manual (and other nonvocal) gestures to vocal gestures (② in Fig. 1). Neurophysiologically, this transfer will be facilitated by the various types of **simultaneous** innervation across different "modules" placed around the *fissura Rolandi* (KINSBOURNE, HICKS 1978).

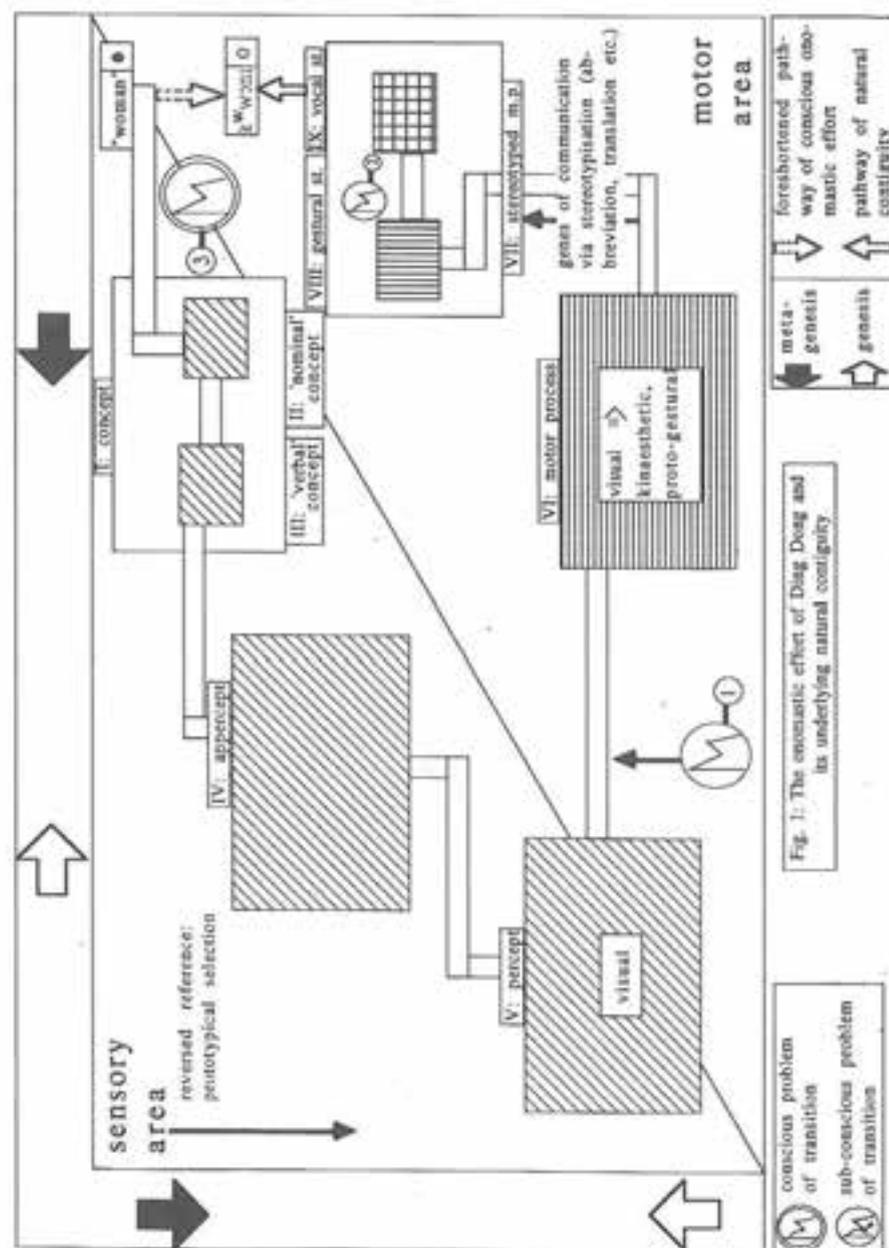


Fig. 1: The onomastic effect of Ding Dong and its underlying natural contiguity

4.3. The vocal signifiers (Fig. 1: IX) thus have visual **percepts** as their nearest system of contact (V). Fig. 2 tries to trace back the pathway that may have led from a signified ('concept') "woman" to a signifier [kʷəni]. We start out from a naive version of a field of 'nominal' concepts with the idea of "to be like a woman" in its prototypical center. Diachronically, all of the related (contiguous) concepts ("nurse", "female" etc.) could easily shift their loci. The first step of our reconstruction leads to 'verbal' concepts. Thus "woman" may be understood as a con-ception of different 'verbal' concepts — of which "birth-giving" is listed as the first one (Fig. 2). For some cultures — especially for more primitive societies — parturition is perhaps the decisive prototype among all of female activities. However, there may be other characteristic action patterns that could be chosen as a prototype in specific cultures. Thus, Modern English *woman* derives from Old English *wifman*. *Wif* "wife" itself ultimately derives from such a Ding Dong word as *WvP/B/Fv which like *FvTv, FUTUERE, *FvKv etc., *PvRNv etc. (Fig. 2) may have rendered activities in the "consummate phase of love-making" (verbs for iterative to-and-fro (s) gliding movements (w) with a soft and muffled end-point (b) probably deriving from the same root are English *swive*, *sweep*, *swivel*, *wipe* or Latin VIBRARE). Similarly, FEMINA derives from "breast-feeding": *DvMv "flow (d) of milk (m) from female breast (m)" etc.

But in order to bring about the most convincing type of juxtaposing signified and signifier, we need further reductions: there may be *different* verbal appercepts eligible for the visualization of birth-giving; you may think of the limb-pressing process we have talked about so much or of any other of the striking concomitants of *delivery*, e.g. the wettish object that is pressed out. Early semantics finds it easy to shift from the agent to the patient and back again. Thus, *SvNv and *ŠvTv may become signifiers for "woman", not only for "child" ("son"). While appercepts (IV) may be held to bring together different processes of perception, percepts themselves appear to be the ultimate constituents of semantics. And the percepts for "pressing one's limbs when in labour" are many (Fig. 2). "The pressing and bending of knees" (*KWvNv) is different from "the pressing with hands" (*KvMv) etc. Ultimately, DING DONG needs the most *concrete* ideas possible. Thus, fundamentally, palaeosemantics cannot work other than on a **very concrete** basis (cf. KAINZ 1960, vol 2: 215ff.).

What Fig. 2 wants to demonstrate above all, is that the association of "woman" and *KWvNv is not a simple decision of an automatic DING DONG miracle but rather the result of many types of selection depending on specific cultural variables. DING DONG IV alone could have produced 100 **different** signifiers for the concept of "woman".

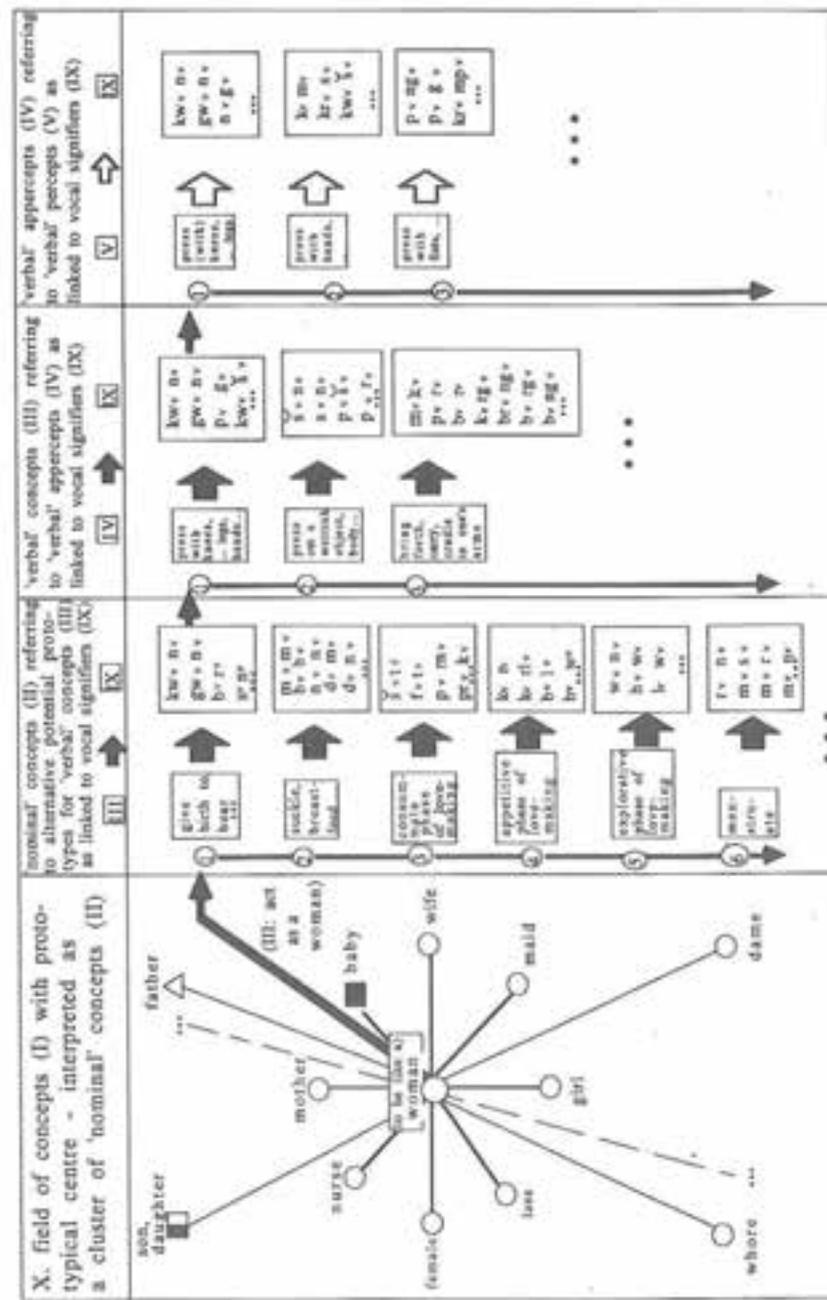
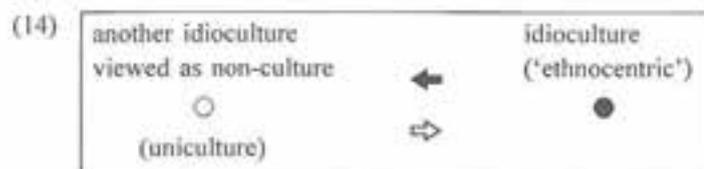


Fig. 2. The natural onomasiotic pathway for Ding Dong: from concepts to vocal signifiers

5. As a principle, KUNA “woman” may be as old as 100,000 years. Early *homo sapiens* can be credited with the necessary fine-tuning of phonatory physiology (cf. Philip Lieberman, Jeffrey Laitman etc.). Given the omnipresence of sound change, it is, however, unlikely that present-day remnants of KN/GN etc. date as far back as that. On the other hand, the Ding Dong capacity is the most powerful faculty of *ex novo* word-formation even today. What we need most, of course, is a giant concerted effort of probing into the natural laws of sound — meaning correlation more consistently.

5.1. Human cultures and languages behave as if they were species, i.e. they are “pseudospecies” (E. H. Erikson; cf. KOCH 1986, index). Cultures are first of all “ethnocentric”, i.e. they are **idiocultures** (KOCH 1986). Idiocultures tend to do two different things at a time: they **unify** within ⇔, they **differentiate** without ⇐. This kind of behaviour is inherited from animal times (KOCH 1989: 130). No wonder that language (which, by the way, is as polygenetic as logical reasoning, breathing or dancing are) should be both **natural** and **arbitrary** from the very outset (cf. KOCH 1989):



Naturalness (⇔), which unites all of the idiocultures in uniculture, is below the normal threshold of human consciousness while the metagenetic potentials for wilful behaviour vis-à-vis language are more conscious (⇐).

5.2. But do humans handle arbitrariness really in a wilful manner? The answer should be — I think — no. Whatever humans do is **naturally motivated** without, of course, their being aware of it. Arbitrariness, which becomes exploited for purposes of pseudospeciation, is the **by-product** of naturalness. What are, then, the sources of arbitrariness? There are at least six of them:

- (15.1) There are different dispositions for using the phonatory apparatus (which somehow had to be expected if it is true that different human genes coincide with different human languages: CAVALLI-STORZA 1994; see also ROSS 1991; cf. especially BROSNAHAN 1961).
- (15.2) Pseudospeciation selects from among variants phonetic differences — which may lead to definite phonemic (and other) change (William Labov *et al.*)

- (15.3) There are different selections of prototypes in protosemantic percepts (Fig. 2)
- (15.4) There are synonyms
- (15.5) There are homonyms
- (15.6) There is motivational opacity in loan-words

All of these processes involve cultural selection. But the point to be made is that it is a selection from among **natural** variants. When our consciousness cannot pursue the problem of naturalness any further, it espouses the view that the explanatory power of **selection** is essentially **arbitrary**.

5.3. Thus it is not a bad compromise to claim that (almost) any type of communication is both natural and arbitrary. However, arbitrariness seems to be relatively easy to state, while for naturalness there are a thousand tortuous ways to show. The minimum corollary is that onomatopoeia does not become irrelevant with respect to questions of naturalness (MAVERTHALER 1981) merely because the pig’s *oink* is *huhu* in Japanese (as PINKER (1994: 152) would have it); neither *oink* nor *huhu* will be mistaken for the “miaowing” of a cat or the “chirping” of a bird, in any language. Thus a certain amount of arbitrariness in BOW WOW words does not away with their fundamental naturalness (which we have to study more meticulously), nor is it true that ‘downright’ arbitrary words lack a natural DING DONG component. This has been demonstrated in a series of psychophonetic experiments (made by, among others, BROWN, BLACK, HOROWITZ 1955: 391). They show, besides many further examples, pairs of Chinese and Czech antonyms which are overwhelmingly interpreted in a DING DONG fashion (the English informants did not know the respective foreign languages. They had to correlate partners of the respective antonymic pairs, without, of course, knowing the proper sequence):

(16.1)

English	Chinese	% correct answers
down	hsià	10
up	shàng	

(16.2)

English	Czech	% correct answers
blunt	tupy	81
sharp	spicaty	

The correct Czech pairing thus complied with the underlying universal phonetics and the English semantics, while the informants’ failure in (16.1), that is, their failure in ‘guessing’ the order of the Chinese antonyms and their meaning, is due to the probable fact that here — as sometimes happens —



Fig. 3. Neolithic stereotypic paintings of males and females
(MARGARET 1973:172)

sound-change has obscured an original DING DONG effect and neologisms have not yet had the occasion of remedying this unnatural state of affairs. Thus from a DING DONG point of view, informants were absolutely right in both cases. They confirmed our hypothesis.

5.4. In palaeolithic times, KN probably led to a widespread vocal stereotype for "woman". Reflexes today have a telling affinity between "knee (or joint)" and "woman (or offspring)". Such a constellation we also found in Latin *genu* and *genus*. And such a combination seems to be the best explanation for the affinity between German *Enkel* (ankle) and *Enkel* (grandchild). Normal etymologies (e.g. KLUG 1989) are absolutely inconclusive, and they deal with each *Enkel* separately at that.

The KN-stereotype, not unexpectedly, has a parallel in rock-painting stereotypes⁷. Thus Fig. 3 differentiates neatly between human males and females. The latter exhibit the prototypical⁸ **bending of knees**.

5.5. Peirce said that the universe of semioses consists of index, icon, and symbol. Index and (the late-comer) symbol turn out to be simplifications, which in any systemic context are bound to become sooner or later translated into differentiated types of iconism. I suspect such happens not only in the animal kingdom (SENEOK, RAMSAY 1969), but in prebiotic nature as well.

NOTES

¹ There is an interesting forum for "long-rangers": MOTHER TONGUE, a newsletter or periodical of the "Association for the Study of Language in Prehistory". One of its chief editors is Harold C. Fleming.

² Of course, most of what long-rangers are doing is at least partly based on solid data and is thus more than mere 'speculation'.

³ I am aware of the fact that such a web of assumptions would need an entire volume for its explication (cf. Kócs (in prep.)).

⁴ To be more precise: Ruhlen employs the category 'global etymology' "UPS" (i.e. "Universal Proto-Speech") is, in my mind, the corresponding category of period as used by Swadesh and others.

⁵ As with many other processes of iconism, [b] and any other segment may be considered *multifunctional*. In our case [b] may also refer to a rounding (out) or swiveling movement of the inward-bending part of arm — voiced bilabials are mostly formed by rounded, slightly protruding lips.

⁶ The names, of course, do not exhaust the problem, they are not even sufficiently representative of our main problems in "sound symbolism".

⁷ Andrea Schultze drew my attention to this piece of palaeolithic art.

⁸ On these modern semantic prototypes for "woman" (cf. LACOFF 1987, birth-giving does not seem to be any longer an attractive percept).

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