

Sign and Value in the Energy Crisis

For this study, the following objectives are proposed:

- A. The semiotic definition of crisis as "a possible world" and characterization of the possible semioses.
- B. Approaching the conflict of the interpretants in the context of crisis, with application to advertising.
- C. Consideration of the signs of crisis within the framework of the generalized semiotic field (the energy crisis as part of the contemporary crisis of values, Norbert Wiener and the "Fifth Freedom").
- D. Sign and value.

The methodological premises for this study are:

- I. Consideration of semiotics as logic (in the sense in which both Peirce and Husserl expressed).
- II. Application of semiotics in direct relation to the philosophy on which it is founded, hence realization of the necessary unity between *model* and *interpretation*.

The study does not exhaust the object of the research, but forms part of broader research concerning the relationship between sign and value (Nadin, 1981).

A. The "possible world" being a name for a certain type of structure, it is obvious that *crisis* can be considered a possible world, i.e., semiotically definable in a field (domain) of interpretation (in Tarski's sense). Although the "possible world" represents an epistemological metaphor, its limit is truth and its logic is that of its intentions. René Thom, co-author with S.E. Zeeman of the "mathematical theory of catastrophe," proposes (1976) an instructive distinction between *crisis* and *catastrophe*. In crisis, the function is endangered and the structure remains the same. Catastrophe is a visible phenomenon, (an observable discontinuity). Thom concludes that crisis is an essential factor of progress. Conservation of structure (exemplified by the biological crises of the human being, social, political and economic crises, too) is that element which justifies applying the term "possible world," in particular through consideration of crisis as a phenomenon, not in the field of the object represented by the sign nor in the field of the sign as such (representamen), but in the field of the interpretant. Diverse forms of crisis (puberty during growth, nervous breakdowns, financial crisis, etc.) warn us of the fact that we deal with the decline of the regulatory and self-regulatory mechanisms, the very integrity of the subject endangered at the extremes, even though not every crisis necessarily leads to catastrophe.

Crisis entails subjective and objective aspects, being specific only to conscious existence, that is, only to the "semiotic animal" (*zoon semiotikon*). Crisis as such is not a semiotic phenomenon (with the exception of crises such as those of communication or of other semiotic systems like art, literature, education, or religion). Its manifestations are semiotic; perception of it is semiotic; the solutions to it presuppose the semiotic moment of analysis, of finding the necessary means, of the project of transposing these means into reality. In all these cases, we find ourselves in the field of the interpretant. One of Peirce's less frequently cited definitions of the sign should be repeated here:

Anything which determines something else (its interpretant) to refer to an object to which itself refers (its object) in the same way the interpretant becoming in turn a Sign. and so on *ad infinitum* (2.303).

In short: We perceive the symptoms of a disturbance of the process of regulation (of the amount of money in the market, of body temperature, of energy sources, of social participation in the democratic system, of communication etc.). We refer to the object of this disturbance and become, in the act of interpretation, part of the global sign of crisis (in which the word "crisis" is obviously implicated).

The sign is a relation (a triadic relation, in Peirce's semiotic), hence part of that which Montague (1960) defined through *relations-in-intension*, giving the example of pains, or more generally, of experiences: "For x to have the experience R at t is for x again to bear the relations-in-intension R to t ." Denoting by I the

between the "worlds" of our world permitted isolation--the moments of autarchy--is over. Crises can no longer be local in nature but involve the whole world, hence the set of all possible worlds, and the argumental sign is that crisis is not reduced to the finite nature of resources but to the way they are used.

There is no crisis in the domain of the object that is re-presented, but in the object of the interpretant, in the pragmatics of social existence. The attempt to postpone the constitution of this sign (the attempt to block the generative semiotic process) goes on through diverse degenerative processes: exaggerating the importance of certain technology, of certain resources, of certain developmental strategies (in nuclear energy, solar energy, energy from the sea) or the rigid instituting of norms of consumption, for example.

The argumental sign is brought back to the dicentric condition. In other words, propositions Γ from set are eliminated or, in the set of possible worlds, only some (as in North-South dialog, in the European Community, in OPEC) are considered (on the basis of preferential criteria). Today, whoever reads Norbert Wiener's warning, given in 1947, will understand that since the logical conclusion he drew from the analysis of social and economic mechanisms until today's crisis, an infinite number of dicentric signs have been produced (some false) which have completed the set Γ (the contradictory statements being: "The per capita consumption of energy is the parameter of a society's technical-scientific development," and "The consumption of energy must be reduced!") and rendered impossible today's necessary semioses.

Many themes thus enter into discussion: the accessibility of the possible world of crisis, compatibility, the conceivability of crisis. It has been shown (Eco, Hintikka) that one world is accessible to another if those living in the former can conceive of the latter. Accessibility between worlds is a dyadic relation $U_i \rightarrow U_j$, i.e., U_j accessible to U_i , which means that individuals in U_i conceive of U_j . In semiotic terms, it means that an interpretation from U_i to U_j is possible. The example usually given is that of a being in a 3-dimensional world who visits a 2-dimensional one and can conceive of and describe the individuals living there (*Flatland* by Abbott). However, individuals from the 2-dimensional world cannot conceive of their visitors. It is said that U_j is accessible to U_i when the world structure of U_i can generate (through manipulation the relations between individuals and properties) the world structure of U_j . Is the possible world of crisis conceivable in a world free of crisis (as far as such a world is possible)? In other words, is it accessible from this "ideal" world? One would be inclined to answer affirmatively, although considering the structures and functions involved, the correct answer is neither "yes" nor "no," and that is why I insist that only a fuzzy representation of the phenomena involved can help us understand them. (A simple indication: Where does inflation start? With a price rise of 2%, 5%, or 10%? Seen from before inflation, a rise of 5% is inflationary; seen from the perspective of double-digit inflation, the same 5% is an acceptable price rise.) Individuals in the possible world of crisis are, to a lesser or greater degree, aware of the disturbance in self-regulatory mechanisms and strive towards a new functioning in order to avoid catastrophe. Recalling the model of the abstract automaton, the Input (related to limited resources) influences the Output (inflation related to limited production, stagnation, recession, and so on). As far as our world system is concerned, this input cannot be changed. (Beyond the system, on other planets for example, new sources might supplement those available on Earth.)

The logical consequence is the *need for change of the inner state*. And this cannot be simply translated as conserving energy, although this is *the first and necessary step*, but changing the structure preserved in this crisis. "The answer, of course, is to have a society based on human values other than buying or selling," (Wiener, 1947) which, semiotically speaking, is also a possible world. Accessibility to such a world is perhaps comparable to accessibility from the Possible to the Real (from Firstness to Secondness), i.e., from the signs of our representamina to the objects for which they stand. G. Klaus (1964) rightly remarked how powerful our ideas can be as soon as they reflect a necessity. It is in keeping with semiotics to ascertain that accessibility to Necessity is a matter of semiosis, i.e., of those sign processes that are possible and become necessary under certain circumstances.

B. The historians and archaeologists will one day discover that the ads of our time are the richest and most faithful daily reflections that any society ever made of its entire range of activities. (Marshall McLuhan, *Understanding Media*.)

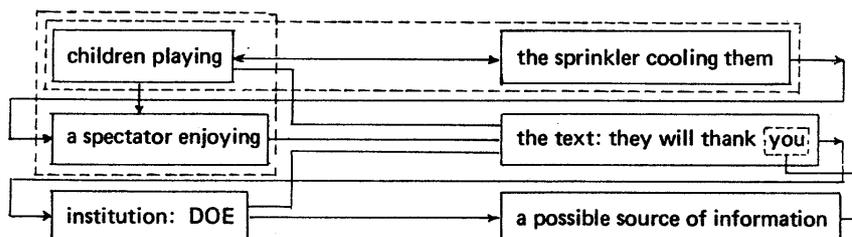
The energy crisis is a problem that is discussed on diverse levels: political, economic, scientific, technological, and educational, in the press and in advertisements, to name several. In each of these

areas, we deal with a specific sign repertory and the characteristic semioses. Stated otherwise, while the crisis is constituted as a supersign of discontinuity in the functioning of a structure, its interpretation is specialized according to the general model of labor division in contemporary society. To some extent, each level consecrates a type of interpretant (specialized), part of the sign, of course, which is perceived in its concreteness as a sign of politics, economics, science, or--since we are centering on this problem--of advertising. In the sense of Peircian semiotics, any advertisement presents itself to us as a unity of the advertisement considered as sign *per se* (as representamen), the object for which this advertisement stands (particular aspects of the crisis or of the pragmatics dictated by the crisis), and interpretant, in whose field interpretation is actually carried out. Therefore, certain results are expected. The first example (Fig. 1) is one of the posters put out by the United States Department of Energy to convince the population to conserve energy.

Fig. 1



The extensional model is evident:



The intensional model:

You must conserve energy so they can play

Fig. 2

As a supersign, the poster constitutes the unity between the object for which the sign (the poster in its reality) stands and its interpretant, its *meaning* in the final analysis, that is

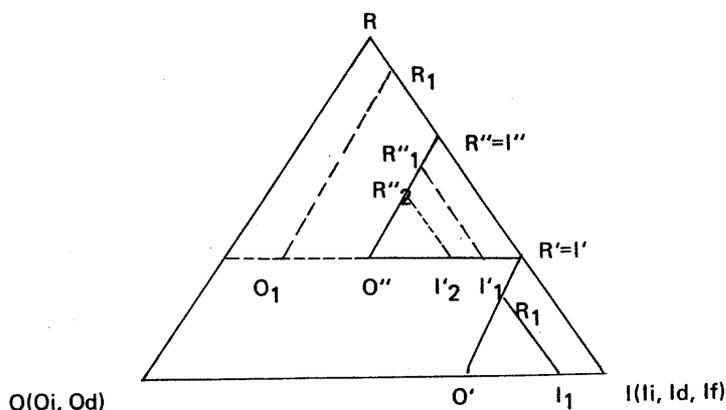


Fig. 3

The representamen can be described by referring to the extensional model, i.e., the signs present: children (chosen as representative of American society, that is, boys and girls, Caucasian, Negro, Hispanic), the sprinkler, the water splashing, the main spectator, the author of the message, sources of supplementary information (hence, maintenance of open semiosis), which can be described progressively:

- | | |
|---|--|
| I. Three children (white, negro, Hispanic) | s ₁ , s ₂ , s ₃ |
| Spectator | s ₄ |
| Springkling water | s ₅ |
| Main message (in doubly articulated language) | s ₆ |
| Author of message | s ₇ |
| Sources of supplementary information | s ₈ |
| II. Game | S ₁ |
| Theme of energy conservation | S ₂ |
| Authority | S ₃ |
| III. Constitution of whole as a supersign. | |

Even without appealing to a semiotic means of analysis (discursive or formal), we can notice the following phenomenon: A semiotic process in which the object referred to by the sign remains constant (conservation of energy as the expression of concern for the young generation) hence, adjunction. The didactic nature is obvious. Through an undesired semiosis, the reference point of children symbolizing America's future was replaced by the *game*, a game in which energy is used (to obtain, purify, and transport water to an urban area) and in which the energy crisis is abstracted from the context of the overall limited nature of all resources (not just water) with implications (not only ecological) for the future. Due to the pregnancy of the image on one hand and the generic condition of the game on the other, the constituent signs do not attain the level of a symbol of the *future*, but constitute only a sign of the *present*. It is interesting that not even the "strong" sign of the text's future tense ("*will* thank you") can change the meaning of the game as *immanence*, present, a *here and now* whose transcendence shows up only in the framework of a game of chance, which is not the case of the image in question. Thus, the message is constituted according to a degenerative semiotic process: "Save energy so children can play! "

In the simple formalization given below, the intended sign process (left) is compared with the real one (right).

$s_1 \Delta s_2 \Delta s_3 \Delta \dots = S_1$ – symbol of the ethnic make-up of future American society

$s_5 \Delta S_1 = S_2$ – symbol of this structures's harmony

$s_7 \Delta s_8 = S_3$ source of information

$\Sigma = s_6 > (S_1 \Delta S_2 \Delta S_3)$ – the logical conclusion would be: If you save energy ($p \rightarrow q$) children will be able to do this ($q \rightarrow r$) and will be grateful ($p \rightarrow r$), that is, almost a syllogism (the final sign being a Symbolic Legi Argument sign).

$S_1 < S_2 = S_{\text{game}}$

$s_6 > S_3 = S_{\text{authority}}$

$\Sigma = S_{\text{game}} \rightarrow S_{\text{authority}} \rightarrow$ a simple implication ($p \rightarrow q$) (hence a qualitative iconic sign with a *deviated* meaning).

We could also apply the model of the sign's mathematical category, in which the operations in the first case include morphisms from the level of Firstness to Thirdness and in the second case, from Secondness to Firstness (a degenerative semiotic process). The problem under discussion, introduced under the generic heading of conflict of interpretants (Deledalle, 1979), is the following: Do we deal here with an accident in graphic design (an unsuccessful poster) or with a more complex phenomenon, that is, the inability of the immediate or dynamic interpretants to correctly interpret the sign of crisis, ergo the inability to elaborate an adequate pragmatics if not of ending the crisis then at least of avoiding catastrophe?

My response is that the second alternative is the real one and that although it seems that we are free to choose/produce any sign, actually the signs we use reflect the multiple determinations of the individual, of groups, organizations, societies. If this were a question of a semiotic accident, it would have been recognized, especially under the condition of the fantastic specialization in today's world. Labor division has created not only advertising firms but also institutions that control them and boards that direct them. But presenting a new soap, an automobile, political candidates, or even a presidential candidate, is something different from presenting a value of a society "based on human values other than buying or selling."

I could continue giving countless additional examples gathered from all over the world (and beyond the boundaries of economic, political, ideological systems) and probably such examples would be useful.

CONOCO: ...spending nearly 3 billion on energy...

VEBA: Wir arbeiten mit Energie. Für Energie.



Fig. 4

Conoco shows an advertisement on America's television screens each day describing investment in coal, gas, the intensive exploitation of sources, etc. VEBA promises the discovery of new sources. The signs implicated lead to a simple message: For the price you pay, we invest in new sources so you can continue to use energy.

Immediate object for which the sign stands: consumption;

Dynamic object: energy crisis.

Immediate interpretant: relaxation ("We are saved!")

Dynamic interpretant: Sources exist (dicentric sign).

Final interpretant: It is necessary to support investment, so let's consume...because (part of) *today's price* is invested.

The problematic of alternatives appears in the field of the interpretant, but not just alternatives to oil (or other cheap, profitable energy sources) but to consumption and its economic, social, cultural, and moral motivations. Today it can be asserted that the future does not lie under the ocean, in coal, or in nuclear energy but in a system of values different from those of a consumer society. In the two examples given above, the intended sign processes and those practically realized are not so far from one another. But instead of inductive logic, a return to abduction takes place, which does not aid the gnoseological process but brings it back to the premises: We need more resources in order to consume more.

Here is another example:

Energie, die uns sicher ist: Öl und Gas aus Deutschland

Energy for Tomorrow: the energy America needs to become less dependent on imported oil. (Gulf Oil Corporation)

Clearly, profit is not a four-letter word. It doesn't represent ill-gotten gains. Profit isn't the result of ripping off the consumer. Profit is what a company works with. It's the money we use to find or develop energy for tomorrow - the energy America needs to become less dependent on imported oil.



GULF OIL CORPORATION

If you would like further information about any subject covered in this advertisement, please write to: William E. Moffett, Vice President, Public Affairs, Gulf Oil Corporation, Department PA, P.O. Box 1166, Pittsburgh, Pa. 15220.

ÖL UND GAS AUS DEUTSCHLAND.

Die heimische Öl- und Gasförderung ist ein wichtiger Beitrag zur Sicherung unserer Energieversorgung. Immerhin rund 4 Prozent des in Deutschland verarbeiteten Rohöls und ein Drittel des in Deutschland verbrauchten Erdgases stammen aus deutschen Vorkommen.

**ENERGIE,
DIE UNS SICHER IST.**

I will not go into detailed analysis but shall only point out that a new meaning appears in the field of the interpretant: the possibility of isolation from the general context of crisis. Oddly enough, these signs belong to multinational corporations, which try to implicate a national element in the interpretation of the crisis. The indexical sign (American sources, German sources) stops the semiotic process (the symbolic level is not reached) in the field of the interpretant. It becomes clear that this is not an argumental sign, but

a dicentric sign or sometimes not even dicentric, remaining a rhematic subsign (national feeling).

It is not a question of semiotic accident in either of these cases but of the consequences of degenerative sign processes: from a conclusion (false, in the final analysis) to the discovery of premises ("profit isn't the result of ripping off the consumer") in which the solidarity between sign and interpretant (as part of the sign) is continuously confirmed.

Fig. 6

Wir machen Strom und fördern die sinnvolle Energieanwendung

„Mit unserer Energieversorgung sind zunehmend Probleme verbunden, für die wir bestmögliche Lösungen finden müssen.

Diese Probleme sind:

- die Sicherheit der Versorgung,
- die Sicherheit der einzelnen Technologien in bezug auf den Menschen,
- der Schutz unserer Umwelt, und nicht zuletzt
- die Finanzierung neuer Energieversorgungssysteme.

Darüber hinaus haben wir eine Fülle von mittelbaren Problemen, die sich aus der engen Verflechtung von Energiewirtschaft und Energiepolitik mit anderen Bereichen unseres Lebens ergeben. Denken wir an volkswirtschaftliche Auswirkungen wie Arbeitsplatzverlust, Finanzierung der sozialen Sicherungssysteme, Wettbewerbsfähigkeit oder an länderübergreifende Probleme wie den Abbau von Spannungen zwischen Nord und Süd und der letztlich damit verbundenen langfristigen Sicherung des Friedens.

Ich sehe keine Möglichkeiten, diesen Problemen auch nur im Ansatz gerecht zu werden, indem wir einen Glaubenskrieg darüber führen, ob die sogenannten Kleintechnologien allein oder ausschließlich die Großtechnologien die Lösung unserer Probleme darstellen. Verantwortungsbewußt an diese Probleme herangehen bedeutet, mit den uns heute zur Verfügung stehenden Kenntnissen alle vorhandenen Energietechnologien einschließlich der Maßnahmen zur sinnvollen Energieanwendung daraufhin zu untersuchen,

- welchen Beitrag sie wann bei der Energiebedarfsdeckung leisten können,
- an welchem Ort,
- mit welchen Risiken,
- mit welchen Umweltauswirkungen und zu
- welchen Kosten.

Nur so kann die Versorgungswirtschaft ihrem gesetzlichen Auftrag gerecht werden, Energie jederzeit ausreichend, sicher und preisgünstig zur Verfügung zu stellen.“

Franz Joseph Spalthoff, Vorstandsmitglied des RWE

RWE Wir sorgen für Strom.
Rheinisch-Westfälisches Elektrizitätswerk AG

RWE: The RWE text (Fig. 6) is not an advertisement *per se*. The following peculiarities can be noticed:

1. The signs used are from doubly articulated language.
2. The discursive modality is employed and the signature of the author (Franz Joseph Spalthoff, member of the board of directors) tends to identify itself with the company's emblem.

The problems posed by analysis of such a text are the following:

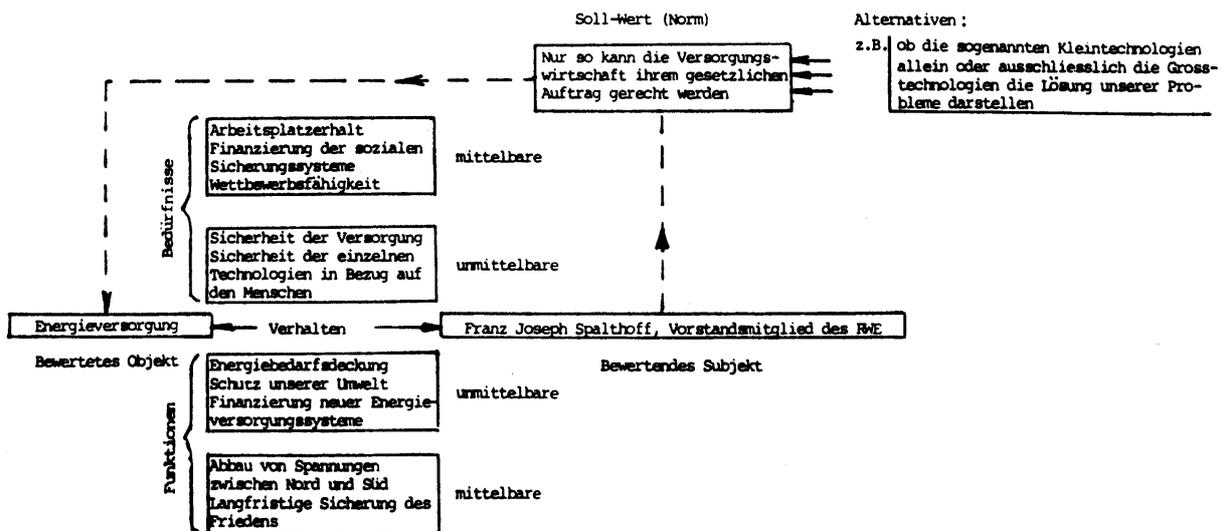
1. Defining the most suitable semiotic method, i.e., adapting the working apparatus to the characteristics of the object under research.
2. Determining the functionality of the text as it arises from the chosen structure (problem of structure-function relationship).
3. Evaluating the way in which optimizing the chosen semiotic structure takes place.

1. The predominantly graphic examples given previously presuppose global perception followed by transition from the whole (the image as such) to parts and then back to the whole. In contrast, here we deal with a sequential system in which the visual components (heading, graphic accents, emblem) play a role similar to the super-segmentals of language (rhythm, intonation, modulation, etc.). Pre-semiotic concepts concentrated on the formation of linguistic meaning. Applying them in this case would mean to ignore the graphic component (placement on page, rhythm, emphasis, emblem) and reducing the problem to linguistic competence (which a good German professor could deal with better than a semioticians could). Z.S. Harris (1963) briefly defines a special type of analysis:

Discourses analysis is a method of seeking in any connected discrete linear material, whether language or language-like, which contains more than one elementary sentence, some global structure characterizing the whole discourse (the linear material) or language sections of it. The structure is a pattern of occurrence (i.e. a recurrence) of segments of the discourse relative to each other.

The evaluative structure displayed by the text is relatively simple. Maser (1973) proposed a cybernetic model, which can be adapted here:

Fig. 7



Within the problematic of "whether the so-called minor technologies (Kleintechnologien) alone or advanced technology (Großtechnologien) exclusively can present the solution to our problems," we enter the sphere of ideology (economic, or scientific in this case, with political implications, but without being reduced to politics). The position is one of pragmatism, which Maser interprets as the attachment of the greatest variety of meaning of the content of democracy to praxis. ("Dies liefert in Praxis die verschiedensten inhaltlichen Bedeutungen von Demokratie." In practice, this facilitates the most varied content meanings of democracy.). We therefore have factual values (Ist - Wert) and norms (Soll - Wert), but the question of their relationship in time is not considered to the extent it should be. The text is polemic at *this* moment but does not keep dialog open.

2. The text has a *polemic* function (in the sense of discussing whether "minor technology alone or advanced technology exclusively can find the solution to our problem"), an *explanatory-instructive* function, and of course, an *advertising* function. The latter is defined through the chosen means (sobriety, argument, complexity). However, as we have seen, the ideological function dominates (corporate image).

3. This is the most complicated problem for the analysis undertaken. The text belongs to *authoritarian value judgment*--based on the authority of the one who signs--("Ich sehe keine Möglichkeit...") with an implicit argumentation ("...die uns heute zur Verfügung stehenden Kenntnissen..."). In relation to the text's functionality, a lack of criterion/ criteria is also felt. The conclusion does not have a character of necessity. The enunciation does not attain the semiotic level of argument. Necessity is invoked through law; authority is not implicit (in premises) but exterior (the State).

It is very interesting to observe how a text with an institutional characteristic, emanating from a large firm, which is present through its trademark, is *functionally deviated* through the signature of one of its board members. On a strict semiotic level, a person's name has a conventional character. The firm's name, in this case, defines the type of production and location (the geographic area where it carries out its functions). The double signature weakens the message and introduces obvious confusion, even if the firm agrees with (as is graphically emphasized) the conclusion of the representative. The double interpretant makes it difficult to institute meaning and identify the object for which the sign of this advertisement stands: "die sinnvolle Energieanwendung" [meaningful utilization of energy] or "alle vorhandenen Energietechnologien...zu untersuchen" [to examine all possible energy technology]. The logical implication: "...*einschließlich* der Maßnahmen zur sinnvollen Energieanwendung" [including the measures taken towards meaningful energy utilization] practically diminishes in importance despite the place it occupies in the heading of the advertisement.

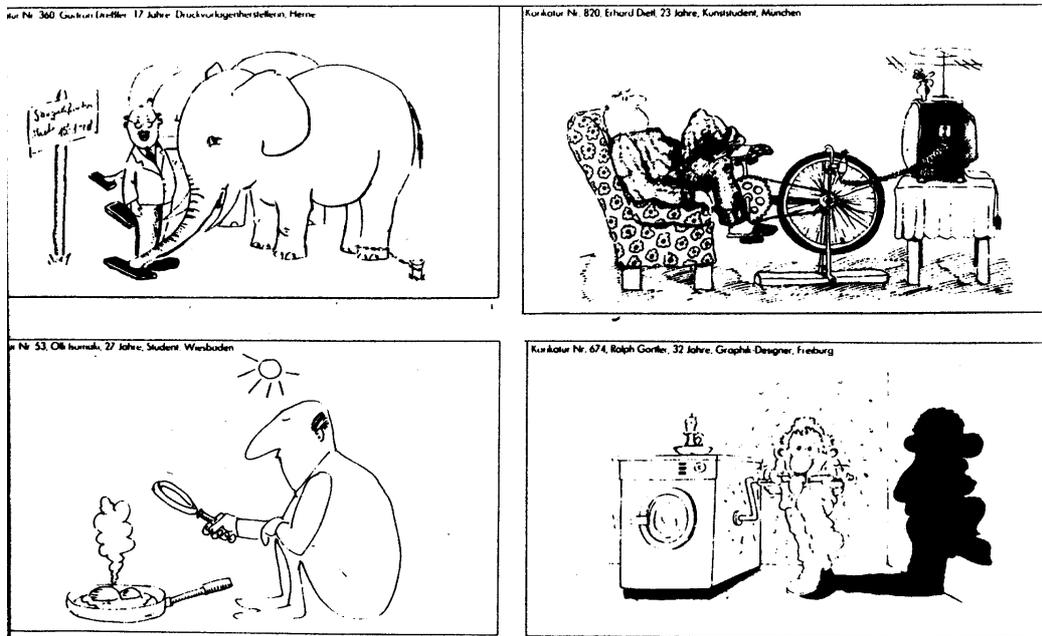
Obviously, such an *ad* is not directed to the public at large, to the consumer, but to an informed interpretant. It keeps the firm's emblem but uses a pretentious form of communication (a polemic text with ambitions to logical articulation) to identify the firm's future options. One can argue that the semiotic use of a person's name is an attempt to "humanize" the image of a large (impersonal) company. Besides the fact that this argument is as naive as such an attempt on the part of the company, it would not solve a new problem: the relation between the company's ideology and those ideologies selected to re-present the individuals constituting the company. In order to be an image of a "human" company, a text would have to be more personal. The contradiction between the form "Wir machen..." (We make...) and the "I" statement ("Ich sehe...") is, however, relevant to the dual position expressed by the ad. Actually, the title of the ad should emphasize the need to research all potential energy technology. Failure to do so weakens the message and can arouse suspicion in the act of interpreting.

The semiotics of the energy crisis comprises other forms of expression, too. In the framework of the 11th World Energy Conference (Munich, September 8-12, 1980) 109 films were shown that documented (through techniques specific to the medium) the need for energy (in industrially developed and developing countries), efficient energy use, new sources, new technologies, conservation of current resources, etc. The film on the New York City blackout, a *negative* image--the real moment of energy "exhaustion" in a world where everything depends on it--should be mentioned. The semiotics of *Blackout* is impressive: the signs of panic, of the inability to adjust to a situation in which the energy transmission breakdown entailed the stoppage of communication channels (radio, television) and transportation, the lowering of moral standards and the suppression of values, and a return to animalism from civilization (which we know is relative). Obviously, the semiotics of the energy crisis encompasses renunciation of social integration resulting from energy networks, escapism or isolation from mass-media pressure, and the return to primary values. The interpretant of this type of sign is situated in the zone between the rhematic subsign (with the meaning: an experience is just an experience; no conclusion is possible) and the dicentric sign (it is possible but not necessary).

In the set of signs produced in the context of the crisis, the image (fiction) of a world where energy has run out cannot be excluded. The ideological significance of this perspective does not interest us here. I only want to give examples in contrast to the horror of the blackout through the semiotics of caricature (cartoons), in the series "Was waere wenn der Strom nicht waere?" (What would it be like if there were no electricity?) Without going into detailed analysis--caricature lends itself to such analysis and is relatively easy to characterize semiotically--I shall point out that the images proposed all have an indexical sign. That is, they refer the interpretant to a world (civilization) with automatic washers, television, vacuum cleaners, etc. to which we are accustomed. The image does not search for alternatives (a world adapting to other values), but invents, with a comic outlook, solutions to maintaining the "standard," the machine,

the values of a consumer society.

Fig. 8



The solidarity between the interpretant and the component sign is evident in the semiotic field through the signs of ideology (in each type of society, each culture, each historical moment). Recalling evolution in time, we notice that certain signs had and have the tendency to be timeless: the signs of art, religion, or, in certain contexts, the distinguishing signs of a product or company. Whoever says GE or GM, Mobil or Bayer, Tobler or IBM, Siemens or Krupp, refers to signs whose stability should speak for the respective products. The energy crisis has assigned some of these names to second place and brought others to the forefront. The appearance or disappearance of such signs is not semiotically determined but is without a doubt semiotically reflected. The same can be said of the appearance of institutions (such as the Department of Energy in the U.S.A, OPEC, Energy Press International, the Institute of Applied Energy in Japan, Glavatomenergo in the [former] U.S.S.R.), the definition of programs (Programa de Naciones Unidas para el Desarrollo, Fondo Especial de la OPEP, Prospect for World Energy Supply and Demand elaborated by the Conservation Commission of the World Energy Conference), research themes, university courses, or rounds of conferences. Radio, television, newspapers, publicity, conferences, courses, symposia, books, and so many other things reflect the phenomenon of crisis and lead some consumers to change (partially) their behavior, others to ask about future solutions, and still others (this should also be pointed out) to ignore the crisis and its implications.

Within the framework of the World Energy Conference, the firm M.A.N. participated in an exposition. (Any exposition, including one that presents "New Products-New Technologies" is a semiotic manifestation that argues for certain values or options.) The company exhibit linked the three letters of its emblem to several of the directions that M.A.N. pursues in the context of the energy crisis. Among the numerous forms of advertising it utilizes is a series presenting (the introductory function is dominant) several of its basic programs. Here is an example (Fig. 9) of such, along with an ad that I will attempt to analyze semiotically:

Fig. 9

Energy

Economical extraction,
conversion, utilization.



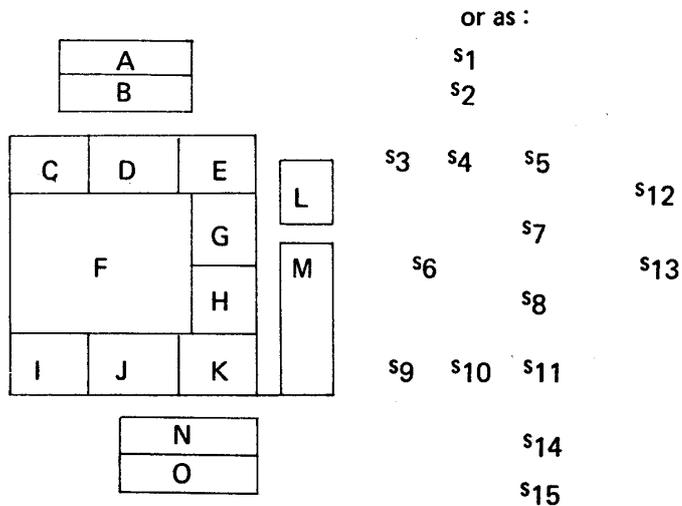
- A) energy (one of M.A.N.'s programs presented through this type of introductory ad);
- B) economical extraction, conversion, utilization (sub-programs). Graphic composition iconically illustrating the program;
- C) shaft winding plant (standing for underground mining);
- D) bucket wheel excavators (standing for surface mining);
- E) steam turbine;
- F) steam power station;
- G) diesel power station;
- H) battery of reflectors (standing for solar energy);
- I) turbo compressor (standing for gas turbine plants);
- J) steam generator for nuclear power plant (standing for nuclear energy);
- K) compact module of joint generator of power and heat (standing for cogeneration plants involving also waste heat recovery).

To the right, the iconic image of a business card (with paper clip):

L) is placed above a text presenting the company's products (M). "From the extraction of primary energy by open pit and underground mining, to material handling and transportation systems, right up to energy conversion in steam power stations, diesel power stations, cogeneration plants, and helium gas turbine plants...systems with heat pumps, solar and wind power plants...know-how for nuclear technology." The corporate image, "M.A.N." (N) and (O) "Engineering - Made in West Germany" (standing for quality and reliability) are placed below.

The ad can be represented by a structure:

Energy
 Economical extraction,
 conversion, utilization.



Obviously enough, the signs used overlap and there is repetition, for example:

$s_{13} \supset s_2 \supset (s_3 \cap s_4 \cap s_5 \cap s_6 \cap s_7 \cap s_8 \cap s_9 \cap s_{10} \cap s_{11})$
 $s_6 \supset s_5$
 $(s_2 \cap s_{12}) \subset s_{13}$
 $M \supset C \cap D \cap E \cap F \cap G \cap H \cap I \cap J \cap K$

Such an image relies on the simple semiotic equation: Quality of the product = "Quality" of the trademark of these products. The type of sign able to express this content is the indexical dicent Sinsign, which in Peirce's definition (exemplified through a weathercock) is:

any object of direct experience, in so far as it is a sign and, as such affords information concerning its object. This it can only do being really affected by its object so that it is necessarily an index: The only information it can afford is of actual fact (2.257).

Actually the object of this "supersign" is not related to energy as such but to the idea that in dealing with energy, in the context of crisis, we must involve a standard of high quality--a correct premise.

Now, let's see why the image in question is, if not an outright failure, no real success. The reasons for this are varied: logical, semiotic, psychological, and even aesthetic. The overlapping of signs leads to redundancy. Experience in visual semiotics shows that the recognizability of images decreases as they are shrunk and the recognition of the whole (Gestalt, structure) occurs before recognition of its parts. Since such an introductory leaflet is addressed to specialized interpretants, who will recognize the iconic images (s_3 to s_{11}), then text s_3 is not only unnecessary, but also disturbing. If recognition of the images is not presupposed, then the images speak not of the program "Energy" but of *variety* as a quality of M.A.N., which is not the leaflet's intention. Of course, knowing that signs s_3 to s_{11} belong to a visual repertory used by M.A.N. in a variety of publications, one is inclined to consider the text superfluous and to insist on visual language alone (more relevant for such ads). The firm seems to accept that its trademark "M.A.N." is not yet sufficiently known, which might be true, but not necessarily to the advantage of such an ad.

Let me quote a pragmatic credo {attributed to Benton S. Dodge, cf. Gotz, 1979) concerning trademarks: "We have to be sure that our trademark has something in it before we start to put money behind it." The very strong sign "Engineering - Made in West Germany" is supposed to reinforce the trademark. A semiotically optimized image would place the trademark (with the indexical sign "Made in West Germany") on top of the image, or at least among the iconic signs). The graphic composition is monotonous and lacking relevance. It should rather identify the energy program, listing strategies, as in the mentioned exhibition:

- 1) processing additional resources for conventional use;
- 2) developing new energy resources;
- 3) improving technology for extraction, transport, conversion, storage, distribution, and energy utilization;
- 4) reducing energy demand, while keeping the introductory character through the contact address.

In the latter case, the indexical sign must be improved. Peirce remarked: "the more complicated the subject, the greater the need of them" [indexes], noting also that "the index asserts nothing; it only says: 'there!' " (3.361). And this "There!" is exactly what the leaflet lacks. The effect would be higher aesthetic measure (which, according to classical information aesthetics, is given by $M=O/C$ in which O = order and C = complexity) because the number of the supersign's constituent elements would be reduced and better order provided.

Advertising and marketing professionals know that a good advertisement is as important as an improvement in the manufacturing process. (H. Reif, citing this opinion, relates it to finding a good trademark.) It seems that M.A.N. the manufacturer is far ahead of its image (as presented in the introductory ads).

We thus come to a new topic related to the functioning of market economy in which semiotics as such (through the use of signs in advertisement, communication, exchange, evaluation) is transformed into merchandise and cannot avoid the consequences of this status. The interdisciplinary nature of semiotics causes the contradictions of merchandise to be accentuated once semiotics becomes merchandise. Semiotics resists narrow specialization but is progressively specialized in thin slices and reduced from its condition as an integrating meta-discipline to an object language. This sad state of affairs only widens the gap between disciplines instead of opening opportunities for cross-disciplinary research. Semiotics, as a *logic of the vague*, can approach the problematic of the crisis since the analytical means at its disposal permit operations using fuzzy concepts--and crisis is such a concept. Moreover, semiotics attracts our attention to the fact that what we call "clear-cut" is the exception. Vagueness, or fuzziness, dominates our perception and explanation of the world. I shall not dwell on this discussion of the current status of semiotics. Nevertheless, in virtue of its status, I shall try to analyze the current crisis and define it in the context of current world developments.

C. Crisis cannot be reduced to any of its indexical signs, such as inflation, unemployment, social instability, and tension. Certain iconic signs attract interpretations based on analogies: previous periods of inflation, unemployment, recession, desired--as an instrument of stabilization--or not. Symbolic subsigns can also be identified: at the level of economic policy, ideology, and the revival of nationalistic ceremonial forms. But iterations from past crisis to the present one, and especially from the post-crisis epoch to our future, are not possible with the aid of semiotic formalisms, no matter how well elaborated, if they are isolated from the philosophy from which semiotics derives. However, another operation specific to this discipline is possible: the attempt to overcome the level of simple reference of the representamen to the immediate object, with the aim of finding the dynamic object and its meaning; that is, to arrive at that interpretant, part of the global sign of crisis, which has the nature of final interpretant.

The immediate object ("as so much of the effect of a sign as would enable a person to say whether the sign was applicable to anything concerning which that person had sufficient acquaintance," Peirce, 1: 908), "within the sign" of crisis concerns its numerous aspects as we perceive them in day interpretation of signs. The dynamic object (which Peirce also called "dynamoid") is "without the sign;" "the sign must indicate it by a hint," and this "hint" can often be considered not as effect, but the very cause. We should understand that through its structure, Peirce's semiotic presupposes the object's inexhaustibility. That is, the distinction between immediate object and dynamic object is only one step. Afterwards, the dynamic

object distinguishes itself in turn according to how we *deduce* or *induce* from sign to object. The process goes on *ad infinitum*, an expression of the sign's implicit processuality.

Things stand the same in the field of the interpretant, which can be immediate, dynamic, or final. But only the macrostructure has been defined because in their turn, the dynamic and final interpretants can continuously differentiate themselves. Here again it is a question of the interpretation's inexhaustibility that the relational structure of this semiotic reflects. Here are Peirce's basic definitions (1909):

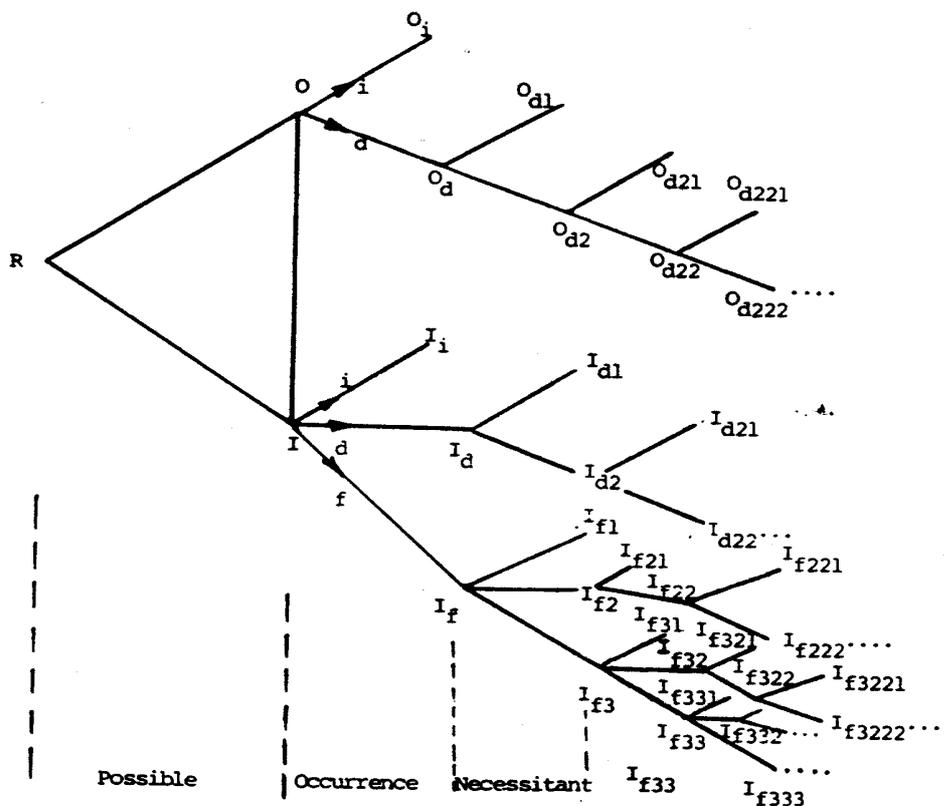
Immediate Interpretant: the total unanalyzed effect that the sign is calculated to produce or naturally might be expected to produce... the effect the sign first produces or may produce upon a mind without any reflection upon it;

Dynamical Interpretant: direct effect actually produced by a sign upon Interpreter of it;

Final Interpretant: the effect the sign would produce upon any mind upon which circumstances should permit it to work out its full effect.

Peirce observed (1908) that levels of differentiation could continue in relation to precise identification criteria, (hence evaluation). Thus, if the dynamic object "is an Occurrence (Existing thing or actual fact of past or future)" "we have a *Concretive sign level* ("any one barometer is an example; and so is a written narrative of any series of events"). In respect to the crisis sign, we can give the example of economic indicators, which are of the concretive sign's nature. If, however, the dynamic object "is a Necessitant," we have the class of *Collective* signs. If the dynamic object is "a Possible" hence "indicated (always more or less vaguely) by means of its Qualities," we have the class of *Descriptive* signs. The *Designative* and *Copulant* sign classes correspond to immediate objects of the occurrence type, in particular, Necessitant. In order to see how this typology is developed, a graphic representation is necessary:

Fig. 11



I insist on this model since, unfortunately, many interpretations of Peirce's semiotic dwell on some sign classes without fulfilling its fundamental idea: *continuity*. Today's crisis was anticipated right at the very constitution of market economy (Mendel, Adam Smith, *et al*). Later, these analyses were diversified and the sign's dynamics was more and more finely detected.

New interpretations, made at a time when a product of the market--energy--acutely reflects the market's multiple contradictions, exhaust the subject but permit a more exact understanding of the causes, possibly of perspectives. Here the matter of *code* enters the discussion, since only rarely do we interpret signs that are directly connected to the object. Most of the time, the interpretant refers to mediated signs, to consecutive codification and coding. Even in the case of simple semiotic phenomena (the use of money as a means of exchange, the stock averages, the law of supply and demand), progressive codification can be noticed. Backing of money by gold, silver, and then good faith represents successive codification, the understanding of which aids in decoding phenomena that seem irrational and unmotivated.

The identification of a code or set of codes does not automatically solve the question of determining meaning. The act of interpretation influences future codification. Thus, the semiotic action from the interpretant's field to the field of the sign and object can be observed. The reciprocal conditioning of semiotic levels assumes ever more complex forms, especially when the phenomenon described is as complex as a crisis. On the other hand, it can be seen that the interpretant's diversification can reflect labor division, producing evaluations so specialized that sometimes their relation to the object for which the sign stands can no longer be identified so easily. As the process of labor division also produces a change in our sign system (at present affecting even our language, (Nadin, 1981b)), it is clear that certain interpretations will consequently be affected by this process and falsified.

This is the case with fatalistic theories and tendencies towards enlightenment, which are undergoing a paradoxical rebirth. In the terms of de Saussure's semiology, we notice the appearance of new meanings, themselves participating in market economy as well as in the progressive constitution of meanings that appear more and more arbitrary, precisely as a result of the human being's progressive alienation. In a certain way, Peirce and de Saussure complement one another, and some of the conclusions their concepts lead to verify each other (for example, those regarding language and its continuous exhaustion). Mukarovsky's semiotic concept of function can be applied in both these systems, with the advantage of enlightening the relationship between our sign system and social practice. The sign's social nature, accepted by all three, is at the same time a privilege and a prejudice. It is a privilege because signs are indexical for a given society, for a level of its evolution. It is prejudicial because, having this social nature, signs can no longer relate social reality objectively. This observation is sometimes ignored, but now let's return to the sign of crisis.

When we speak of the global sign of the crisis (supersign), we do so in the awareness that any global (holistic) interpretation risks losing view of its constituent elements, that is, of the signs "superized" in the crisis. Here is a list: the signs of inflation, of unemployment, of the decline of the Gross National Product, of the fight for the market, of ecological movements, of women's liberation, of minority rights; the signs of recurring fascism and anti-fascism, of contestation, of apathy, of escapism, of militarism, the distinctive signs of propagandistic systems, of mysticism and atheism, of cosmopolitanism, and of nationalism. Rene Thom (in the text mentioned above) proposed the analogy between the state of crisis and the boiling of water, in particular the phenomenon of *nucleation*, after which--if critical value is reached--boiling takes place. Accumulation is quantitative, which can be seen in current context: the decline in purchasing power, declining and even negative growth rates, the declining use of available labor (and increased unemployment), increased arms buildup (leading to further waste of energy), radicalization (both left and right), and so on.

The critical phase, which various ideologies represent through their peculiar system of ideals (e.g., the outright "end of the world," "apocalypse," "world revolution," "war," "the coming of the Prophet"), is the time of transition from one value or set of values to another. From the semiotic perspective, this phase, implying identification of new values, poses the problem of the relationship between the reality of value and the signs they are identified through. Utopias, for example, represent a possible model for this relationship, solving the crisis on an imaginary level (in the space of fiction). Newly established structures

have a pre-determined function. Semioses derive from necessary to real--not *vice versa*, hence degeneratively (from the sign to its replica, which is a degenerate sign). When thought tries to organize the real, (as when an ideology is formulated), the representamen is "forced" by the interpretant, adequacy being not of the sign to object (imaginary, theoretical) to sign (as in Utopia or in eco-fascism). It is a process of *substantivization* in the sense that Gulliver's philosophers would have really produced objects by meditating on them, or magicians would transform *the word* "dove" or "rabbit" (instead of a handkerchief) into animals pulled out of a hat. In this first phase, singular signs (indexical or iconic sinsigns) lead to a certain type of necessity that in the energy crisis can be identified as the creation of a real industry that produces (after it has consumed energy and raw materials) the means of conservation. Conservation is the example of the sign's *substantivization*. (For those enamored of de Saussure's semiology, this corresponds to the materialization of the signified.) In the next phase, options are identified: more money for finding new sources, for re-exploitation of partially used sources, for developing energy alternatives, and the abolition of local protectionism. In the final phase, modifications of the existing system appear and the corresponding argumentation identifies new values: "new economic order," "redistribution," "elitism," "neo-colonialism." Differentiation corresponds to the object's structure, in particular its inexhaustibility (in the sense specified at the beginning of this part of the study).

One thing should be clear: Transition from singular signs to legisigns comes about in the real context of a confrontation that implies the semiotic concept of power. Power directly organizes individual and social experience, structuring the real time and space in which we exist. The forms through which this takes place are diverse and can bear upon control and norm mechanisms (at the extreme, a quantity of energy can be dealt to each individual through rationing electricity, food, gasoline, etc.), architecture, communication, mass media, or liberty (social and/or individual). The geography of power in today's world of crisis is very interesting, especially when we compare it to the geography of power in past crisis. In the world of the energy crisis, a new group of meanings has been instituted, some through the educational system, others through contestation, through technocracy, *scientism*, religion, ideology, art, politics, or military strength. The interpretant's differentiation *ad infinitum* is thus exemplified on many levels of the human being's semiotic practice (school, church, culture, institutions, politics). The huge amount of singular signs that power tries to dominate (on the real and the semiotic levels) escapes its own control, and we thus assist at the constitution of counter-power (producing its own system of Legisigns) and the elaboration or rediscovery of alternatives.

The signs of crisis define values attained at the critical moment when the problem of their re-elaboration or disappearance is posed. Sometimes, signs survive values that have already disappeared and are witnesses to closed processes. Other times, desynchronization (conflict in the field of the interpretant) can be noticed between stabilized signs (like those of our language) and new values. Norbert Wiener (1950, p. 37) gave an example which today sounds prophetic:

So long as anything remained of the rich endowment of nature with which we started, our national hero has been the exploiter who has done the most to turn this endowment into ready cash. In our theories of free enterprise, we have exalted him as if he had been the creator of the riches which he has stolen and squandered. We have lived for the day of our prosperity, and we have hoped that some benevolent heaven would forgive our excess and make life possible for our impoverished grandchildren. This is what is known as the fifth freedom.

The energy crisis is part of a general crisis of human values. It has no local character or political color, although the signs of this crisis vary enormously from one country to another, from one system to another and have led to different ideologies. Its object is the market economy which at present has taken new forms which its theoreticians have not been able to anticipate (inexhaustibility of the object and interpretant in sign relation).

The integrated nature of today's world, which its signs acutely evidence (I refer not only to the signs of communication) have as effect complicated mechanisms for correct identification, which are considered solutions for the causes producing them (vicious-cycle strategies). Accepting Wiener's model of the two prior Industrial Revolutions--the first of the "dark, satanic mills," the devaluation of the human arm through the use of machinery, and the second "bound to devalue the human brain"--I do not believe that his

conclusion is correct. "However, taking the second revolution as accomplished, the average human being of mediocre attainments or less has nothing to sell that is worth anyone's money to buy." The contemporary crisis is a moral one. The last thing to be sold is the conscience. Then the market will have killed its creator. If conscience is wasted, if it becomes a commodity, the hope for a society based on human values other than "buying or selling" will be lost. The semiotic animal will go back to being just an animal.

References

- Bense, Max. *Zeichen und Design*. Baden: Agis Verlag, 1971.
- Deledalle, Gérard. *Théorie et pratique du signe*. Paris: Payot, 1979.
- Eco, Umberto. Possible Worlds and Text Pragmatics: 'Une drame bien parisien,' in *Versus* 19/20, 1978.
- Eschbach, Achim. *Pragmasemiotik und Theater* (Ein Beitrag zur Theorie und Praxis einer pragmatisch orientierten Zeichenanalyse; Kodikas/Code 3). Tuebingen: G. Narr Verlag, 1979.
- Gotz, Matthias. *Marken. Semiotische Untersuchung und Klassifikation* (Master's Thesis). Stuttgart, 1979.
- Hayakawa, S. I. *Our Languages and Our World*. New York: Harper & Brothers, 1959.
- Hintikka, Jaako. Degrees and Dimensions of Intentionality, in *Versus* 19/20, 1978.
- Maser, Siegfried. *Bewertung und Entscheidung*, Monograph, University of Braunschweig, 1973.
- McLuhan, Marshall. *Understanding Media: the extensions of man*. New York: McGraw Hill, 1964.
- Klaus, Georg. *Macht des Wortes* (Ein erkenntnis-theoretisch-pragmatisches Traktat) Berlin: Deutscher Verlag der Wissenschaften, 1964.
- Montague, Richard, On the Nature of Certain Philosophical Entities, *The Monist*, 53 (1960).
- Nadin, Mihai. Sign and Aesthetic Systems, *Die Einheit der semiotischen Dimensionen*. Arbeitsgruppe Aachen (Eds.) Tuebingen: G. Narr Verlag, 1978.
- . *Zeichen und Wert*. Tuebingen: G. Narr Verlag, 1981.
- . *The Civilization of Illiteracy*. (1981b). Paper presented at the VIth Annual Meeting of the Semiotic Society of America 14 Oct. 1981, Nashville TN.
- Thom, René. Crise et Catastrophe, *Communications*, 25 (1976), pp. 34-39.
- Wiener, Norbert. *Cybernetics: Or Control and Communication in the Animal and the Machine*. Cambridge: The MIT Press, 1947.
- . Progress and Entropy, in *The Human Use of Human Beings* (Cybernetics and Society). Boston: Houghton Mifflin Company, 1950.