ON THE SEMIOTIC NATURE OF VALUE

Up to the present, semiotics has not made any fundamental contribution to the understanding and evolution of the concept of value. From the concept of value as a thing (a reflex of the Pythagorean principle according to which numbers are things) to the concept of value as a principle, a relation, a process, or a language, a whole theoretical and practical history--evidently expressed in signs but without the conscience of the semiotic nature of the processes of evaluation--is traversed. The founders of modern semiotics (Ch. S. Peirce and F. de Saussure) do not lend direct interest to axiology, although they discern--each from his own and *very different* perspective--that the mechanisms of evaluation undergo the sign condition of acts of thinking. The successors of the two above-mentioned directions reach the problematic of value, especially aesthetic value (Morris, 1964:16-37), approaching it, however, in its particular aspects. In philosophy, several directions are outlined (Urban, 1909; Windelband, 1914; Perry 1950; Hartmann, 1967), polemics arise (von Meinong, 1894; von Ehrenfels, 1898), and thus the axiology is legitimized as an autonomous field which knows its subject--value--but which cannot define its object/objects with the desired rigor.

The essential problem is the nature of value. In a definition, which can be improved upon, value recommends itself outright as a relation between subject and object, a relation through which the evaluation (individual, group, social) of certain qualities (natural, human, material) is expressed in polarized and hierarchic forms as a reflex of filling needs, desires, or ideals conditioned by time and space. Bearing in mind here the characteristic of value--that is, determination of an essential type--we can observe that a syntactic level *(How?),* a semantic level *(What?),* and a pragmatic level *(Why?)* can be detached. This does not mean semantic legitimation, however, as long as these levels are not only characteristic of the sign's reality. Value presents itself as multidimensional: instrumental (an element in a symbolic system), teleological (feeling the conflict of the ends), passional (intensional, active relationships), projective, prospective, normative, as well as multifunctional. This inventory, stemming from logical interpretation--thus from the perspective of value as it presents itself to an interpretant distinguishing many standardized fields of evaluation (ethics, aesthetics, politics, logic, religion, science, and also pragmatics-useful, practical, encouraging, discouraging, advantageous, disadvantageous, etc.)--is not exhaustive.

Classification according to logical values and the logical ordering of values are complementary. But even in this phase, it can be seen that a value--in the broadest sense--is always something that depends upon an object (0) evaluated/enhanced through the intermediary of a mean (M) by an interpretant (I). Axiological absolutism, relativism, and empiricism are retraceable in this formulation to the degree to which one of the terms is considered primordial and independent of the others. We have, in this second definition, the synthesis of value from the historical as well as from the systematic viewpoint.

From a formal perspective, however, the given definition is, at a first glance, similar to the definition of the sign (Peirce) in a triadic semiotics ($c = 3$). Identity of structure does not mean identity of condition or of significance. Elaboration imposes itself here, from two perspectives in particular:

(a) the formalization of axiological systems;
(b) the determination of the dynamics of value, that is, realization (theoretical, practical) of the axiological sense.

Before proceeding, we would like to make a clarification regarding the nature of value, that is, it subscribes itself to fuzzy sets (Zadeh, 1965). Truly, value is not, except at the extreme and in an ideal fashion, represented through *Yes* or *No,* that is, through membership to a given set or not. It has a certain indeterminateness. It is somehow vaguely defined and does not express itself through categorical but through nuanced statements. Given the two sets X (of evaluation criteria) and Y (the entities from which values are chosen), the relation between them is fuzzy. Furthermore, the two sets themselves are fuzzy; that is, neither the criteria nor the values present themselves in reality in their ideal state but nuanced by circumstances.

A set, in the classic sense, can be constructed through the indication of its elements, through the enunciation of a property common to them, or through procedures utilizing the methods of transfinite induction. Through this definition it can be decided whether a given element x belongs ($x \in X$) to the set or not. If X and Y are two sets and we work it so that an element $y \in Y$ (or a group $y_i \in Y$**)** corresponds to each element $x \in X$, then the application $f : X \rightarrow Y$ reflects this connection between components. Intuition, which we emphasize, shows that in a primary representation, value is revealed through applications from one set (of criteria) to another (of value). The set of criteria and the set of values are isomorphic. Fuzzy sets express the continuous nature of transition from membership to non-membership and therefore indicate the degrees of membership that grade value itself.

A fuzzy set is defined as an application $F : X \rightarrow [0, 1]$. The fuzzy set F is characterized by the function of membership X_F : X[O, 1]. A fuzzy subset of the product XxY, that is, $f : XxY \rightarrow [0, 1]$ or $f \in \mathcal{F}(XxY)$, is called a fuzzy function (or relation) from X to Y, denoted by $f : X \rightarrow Y$. It expresses the intensity of the connections between x and y.

Rules of composition--which we shall not give here (Menger, 1951; Zadeh, 1971)-- point out the fact that the interrelations are more complicated, which confirms conjectures regarding the nature and determination of value. In any case, if two fuzzy functions $f : X \rightarrow Y$, $g : Y \rightarrow Z$, are given, then the composition $g\text{-}f : X \rightarrow Z$ obviously verifies itself. It is an associative composition, just like the compositions of evaluation (ordered series of criteria).

I have shown (Nadin, 1977) that the sign has a fuzzy nature, too. Moreover, I have insisted upon the fact that Peirce's semiotics implies the concept of the vague and that, hence, fuzzy application to the sets 0, M, I is not only possible, but corresponds to the vision from which the foundation of modern semiotics results. Let us here add the fact that, although he did not approach the question of value as such, Peirce did establish several characteristics of complex research into it. Alongside the consideration of "valuation as a factor of all intellectual meaning" (5.533) is the idea of quality "conceived as signifying a relation" (2.375). Furthermore, "Each complete determination of quantity in a given system is a 'value' " (2.363), quantity itself being the system of serial relationship ("quantity is a system of serial relationship" [2.363]).

We can therefore depart right from here in defining axiological systems in operational (formalized) terms. They do not concern just any entities, but only those which are interdependent. Value *per se* does not exist. Moreover, neither does any sign exist *per se.* It results from the way in which properties, relationships, processes, actions, and states participate in axiological processes. Noting:

Ω - the class of interdependent entities (objects, in particular),
M - the class of representative structures,
I - the class of interpretations given to the structures (assignments),

then the system defined through the triad (M, Ω, I) places the objects situated in objective interdependence in relation to the structures through which their characteristics (qualities) and the criteria of evaluation (implicit, explicit) are revealed. It is clear that the stratification of values (immanent, transcendent) determines the stratification of interpretations. The system represented by $S = (M, \Omega, I)$ can function strictly (univocally determined values), equivocally, or even ambiguously. Subsystems (relational, functional) can be associated to it, as well as functions (of necessity, of satisfaction), in such a way that the complex axiological system comprises them through the conditions imposed on the terms through which it is defined.

The following relations and operations can be established between two axiological systems:

1. $\Sigma_2 \sqsubset \Sigma_1$, that is, Σ_2 is a subsystem of Σ_1 (one strict and another ambiguous);

2. $\Sigma = \Sigma_2 - \Sigma_1$ is the complementary system of Σ_2 in relation to Σ_1;

3. $\Sigma_2 = \Sigma_1$, that is, the two systems are equal, which can also be represented through $(\Sigma_1 = \Sigma_2) \Leftrightarrow (\Sigma_1 \sqsubset \Sigma_2) \wedge (\Sigma_2 \sqsubset \Sigma_1)$;

4. $\Sigma_1 \sqcup \Sigma_2$;

5. $\Sigma_1 \sqcap \Sigma_2$;

The empty system Σ_Φ is likewise defined. If two systems Σ_1 and Σ_2 are axiologically independent (unrelated) we use the operator, $\urcorner\!\llcorner$. Of course, it regards not only systems, but also predicates:

6. $\Sigma_1 \urcorner\!\llcorner \Sigma_2$ - independent systems;

7. $i_1 \urcorner\!\llcorner i_2$ - independent predicates ($i_1 \in \mathcal{I}$, $i_2 \in \mathcal{I}$).

In the same way, if i_1, i_2 form part of the set (fuzzy) of evaluations, then the value i_1 is part of the value i_2 if and only if (iff) the value (assignment) i_1 adds nothing to the value of i_2.

8. $i_1 \leqslant i_2 =_{df} V(p) + V(q) = V(q)$, where the operator $\leqslant$ means "part of."

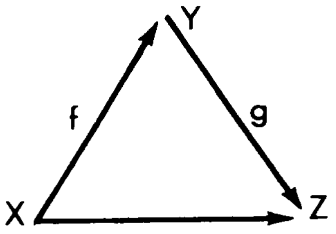
Recalling that *M, Ω, I* are fuzzy, it results that the axiological system represented by the triad < *M, Ω, I* > is a fuzzy system. Peirce observed, in respect to the "logical atom":

> . . .if it is neither true that all A is X nor that no A is X, it must be true that some A is X and some A is not X; and therefore A may be divided into A that is X and A that is not X" (3.93).

He anticipated, without formalizing, fuzzy ratiocination (which, however, does not characterize the atom in question, as he demonstrated). The type of reasoning thus pointed out is also applied to the triad < *M, Ω, I*>. To the degree to which the criteria represented through class *I* are the ones confirmed in the practice throughout the history of human beings (reflecting theoretical, logical, aesthetic, ethical, juridical, political, economic, etc., needs), we have a complex axiological system. If the criteria are specialized, or probabilistically expressed, then we have specific axiological systems. Among the systems possible, we can cite topological, probabilistic, standardized ones, etc.

Taking into consideration the fact that: $\Omega = \Omega_i \cap \Omega_e$ and $I = I_i \cap I_e$, i stands for *implicit,* e stands for *explicit*. That is, the terms *explicit* are on the order of operations; $\Omega_e = \omega$ represents the objectification, hence the transfer of value; and $I_e = \acute{\imath}$, its realization. We actually have S = < *M, Ω, I,* ω, í > *Classes* of *values* (from the perspective of interpretations, which have a status of functions asserted in a logic L_L; *L* valent), axiological operations and axiological processes, rules of composition already distinguish themselves. Here we operate at the level of axiological meta-theory. In relation to the theoretical representation of value, analogies of evidence to categorical representation (MacLane, 1971; Ehresmann, 1965; Lawvere, 1969), as well as to von Neumann's (1923) theory of ordinal numbers, can also be established. The last leads to analogies to the phaneroscopic categories characteristic to Peirce's conception.

In the first case, the theoretical model of the categorical graphs



$h = f \circ g$, a multiplicative connection, whose analogy

to the model of the semiotic graph (according to Peirce) has been emphasized (Bense, 1971).

The perspective opened to semiotics by the concept of fuzzy sets is also shown in the way in which applications of categories can be extended to such sets (Goguen, 1974). As is known, a category C consists of a collection of objects $|C|$, so that for two objects, $A, B \in |C|$ a set denoted C (A, B) or Hom(A, B) represents the morphisms of A into B. In the case, however close to semiotic processes, of three objects $A, B, C \in |C|$, the law of composition is given by $\Theta_{A,B,C}$: $C(A, B) \times C(B, C) \rightarrow C(A, C)$ satisfying the following axioms:

a) the law of composition is associative;

b) there exists a unity morphism $1_A \in \mathscr{C}(A,A)$ for each $A \in |\mathscr{C}|$ which has the property $u \circ 1_A = u$, $1_B \circ u = u$, $u : A \rightarrow B$;

c) if $(A,B) \neq (A',B')$, then $\mathscr{C}(A,B) \cap \mathscr{C}(A',B') = \Phi$.

The two examples concerning us here are the category *Sign,* whose objects are signs, and the category *Value,* whose objects are values. In the first case, the morphisms are maps between signs; in the second maps between values.

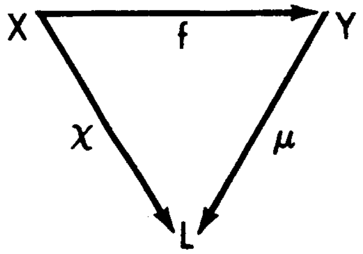
Under a certain qualitative aspect, the sign's triadic system can be understood as a system of multiplicative morphisms: $Hom(M,O) \times Hom(0,I) \rightarrow Hom(M,I)$. The morphisms point out in their realization (Bense and Walther, 1973) the functions of designation, signification, and utilization (the latter as the pragmatic of the triadic relation). In the case of value, the analogy we are concerned with can be expressed in consideration of the category Value. The category's objects are values represented by the system $S = < M, \Omega, I >$, hence determined values (through the contexts in which they realize themselves), functioning as such. Categories are carried out with the aid of functions. They are of special interest to us because the equivalent relations between two categories imply the functor as an element of definition. A functor from C to C' denoted $F : C \rightarrow C'$ is an assignment $|C|$ # C' given by $A \in |C|$ # $FA \in |C'|$ and for each two objects $A,B \in |C|$ an assignment C(A,B) # C' (FA, FB), so that:

a) $F(v \circ u) = Fv \circ Fu$, $u: A \rightarrow B$, $v : B \rightarrow C$;
b) $F(1_A) = 1_{FA}$

Two categories C and C' are called equivalent (≈), iff a functor $E : C \rightarrow C''$ with the properties:

a) the assignment $f \in C(A,B)$ # $E_f \in C'(EA,EB)$ is a bijection;
b) for each $A' \in |C'|$, there is an $A \in |C|$ so that EA is isomorphic to A';

can be defined. It is, in fact, a structural equivalence. The category *Sign* and the category *Value* are obviously equivalent. However, we are interested in the refinement of the categorical analysis through the introduction of the category of the fuzzy signs, in particular fuzzy values. This being our aim, we consider the category *Set* (L) - where L is the complete lattice - defined (Goguen, 10). It is the category whose objects are the pairs (X, X), X : X $\to$ L and whose morphisms are maps X$\to$Y such that in the diagram



we have $\mu \circ f \geq X$

According to a theory established by Goguen, equivalence is established between any category C (satisfying a given number of axioms) and the category *Set* (L). It is clear that the sign's algebraic category, as well as the value's algebraic category, is the sign of the semiotic category Hom(M,O) x Hom(0,I) $\to$ Hom(M,I) as already given. The value of the axiological theory plays the same role: Hom (M, Ω) x Hom(Ω, I) $\to$ Hom (M, I).

The fuzzy category preserves objects (in particular, M,O,I and M, Ω, I) operating not with morphisms, but with fuzzy-morphisms denoted as $Hom_{C(L)}$(A,B). We shall not enter into details (dual categories, covariant, contravariant, identical functors, diagram, sum and product of a diagram), proposing rather to return to this topic. Just as signs, values reproduce themselves within the framework of retroactive processes that the self-reproductive functors reflect in their structures.

The principle of the graduation of value (in connection to the self-reproduction of value), as its defining principle, is reflected on the level of the axiological theory under the form of the mechanisms of realization ι and transfer ω. The semiotic notions that have appeared in the discussion of the system permit us to describe the properties and functions of the axiological system without their being identified to it. The formal analogy between the definition of the sign and the system S is, up until now, significant on the theoretical level.

The second step we consider necessary - after re-confirmation and elaboration of the sign-value - is the determination of the dynamic of value, hence, the functioning of the axiological system defined above and whose properties we have emphasized. The sign-value parallel is now pursued in the process of realization, semiosis in the first case, evaluation (or *axiosis,* as we shall call it) in the second. Before approaching the problem itself, it is necessary to introduce several elements stemming from the fuzzy nature of the classes implied in the axiological systems.

We have shown that axiological processes are, in their generality, of a fuzzy type. Application of fuzzy sets to the analysis of systems leads to the generalization of abstract automata (AA), i.e., mathematical machines, as fuzzy abstract automata (FAA). A recapitulation of the basic terms used imposes itself:

AA	FAA
$A = A(X,Y,Q,\delta,\lambda)$	$A = A(X,Y,Q,\delta,\lambda)$

X - the finite set of inputs
Y - the finite set of outputs
Q - the finite set of states

AA	FAA
$\delta : Q \times X \rightarrow Q$ - the next state function (transition function)	$\delta : X \times Q \times Q \rightarrow [0, 1]$
	$\delta : X \times Q \rightsquigarrow X$ - dynamics
$\lambda : Q \times X \rightarrow Y$ - the next output function	$\lambda : Q \times Y \rightarrow [0, 1]$
	$\lambda : Q \rightsquigarrow Y$ - output map

It is obvious that the distinction between AA and FAA is concentrated on the functions δ, λ which, in the first case, are given through simple matrices (of the dimension n x m corresponding to the relationship between the number x_n of inputs and q_m of the automaton's states), and in the second case through fuzzy matrices. For both cases, the following operational analogy can be proposed:

X - the set of entities appreciated. Normalized measures (from 0 to 1) of values, in relation to an established criterion (the teleological nature of value) are attached to the objects $x_i \in X$;

Y - the set of value judgments (corresponding to the values established and ordered in hierarchy according to a given criterion);

Q - the set of inner states of the axiological subject in direct relation to the knowledge and appreciation of the evaluated entities. Information (memorized, stored) on X in relation to the desired end (differential aspect) corresponds to elements $q_i \in Q$. For example, historical or group (social) experience forms part of the set represented by Q. The analogy suggested above is, until now, only semiformalized.

Very difficult problems of minimizing the number of inner states are basically problems of adaptation and readaptation. An important example might be the energy crisis (an axiological crisis) and the attempts at measures through which other values (traditional and new sources) are established in place of those which have maintained the FAA system in the minimized state corresponding to the dominant use of petroleum. The minimization of an automaton A corresponds to the finding of another automaton A' so that A' A. It is evident that the petroleum solution was such an automaton A' in respect to automaton A of energy in general and of the particular values it received. This example has been used in order to give an intuitive image of this abstract problem of mathematics.

The axiological system described by the quintuplet $S = < M, \Omega, I >$, has the structure of an abstract automaton, in particular, considering the determination of ι and ω as fuzzy functions, of a FAA. Let us insist upon the functions precisely in order to develop the following analogy:

> ω, as a transition function, reflects which aspect of the entity involved in the axiological process is perceived and to what criteria, historically and socially determined, stored in the subject's memory (individual, group) to which this corresponds. The fuzzy nature stems from the objective heterogeneity of the entities which are evaluated and which are reflected in the heterogeneity of values.
>
> The intensity of the relationship between properties and criteria--that is, their fulfillment, which is always partial, that is, disposed within the range [0, 1] which is also the range of the values of the transfer function X--determines the type of connection between $x_i \in X$ and $q_j \in Q$.

ι, as the evaluation function (output), determines the judgment of values in direct relation to the entities X submitted for evaluation as well as to the set of intermediate judgments (inner states of the automaton). Coefficients such as those reflecting the passional, teleological, projective, or normative nature of values determine the function ι in a fuzzy manner also (that is, in intensions in the range (0, 1).

The analogy between fuzzy abstract automaton and the definition of the sign formed the subject of another study (Nadin, 1976). Let us recall that Peirce's definition of the sign was expressed through the form *S* = S(M, 0, I, 0*,* i), in which

M represents the set of means (representamina, repertory at the extreme),

0 the set of objects represented by the means $m_i \in$ M for the semiotic interpretants $i_j \in$ I, and

o and i are the functions of transfer and realization.

The sign is a system of states, of possibilities (the selectivity of the sign) determined by the object for which the sign stands (set 0 as input), fulfilling its sense as interpretation: "cognition produced in mind," (1.3701), that is, set I as output. The fuzzy nature of the functions o and i stems from the type of relationships between 0 and M (a unique and necessary connection does not exist between the object and its sign chosen from a socially and historically constituted repertory) and between 0 and I through the intermediary of M (connection between object and the sense fulfilled by its sign).

Now considering:

1. the analogy between the axiological system *S* = < *M,* Ω, *I* >*,* and the sign system S = S(M, 0, I), or, even better, the system with its functions given explicitly *S* = < *M,* Ω, *I,* ω*,* ι> and *S* = S(M, 0, I, o, i), respectively;

2. the analogy of the categories *Sign* and *Value,* or even better the fuzzy categories *Sign* and *Value;*

3. the analogy between the sign and FAA, on one hand, and, on the other hand, between value and FAA;

we can affirm that sign and value have the same *condition* (but this does not mean that they are identical). Axiological processes are concreted through the determined sense (sense, meaning, significance, in Peirce's terminology [8.189]), theoretically or practically fulfilled. It is a question of a distinct type of processuality ("never reaches a completion" [1.873]), which implies continuity ("Continuity governs the whole domain of experience in every element of it" [7.566]).

Values constitute themselves in a repertory in such a way that if the initial state of the axiological FAA is represented by $q_o \in$ Q, that is, $\mu_o \in$ *M* (a reference value from the repertory of a person's values), then an equivocal type (equivocal sense) of evaluation is generated. If, however, the initial state is a fuzzy subset of *M,* then it can be represented as a fuzzy vector P_o = (j_1, j_2,... j_n) in which $j_k \in$ [0,1] defines the degree of membership of the state $x_k \in$ X at the initial fuzzy state. In the given example regarding the axiological problem of energy, the system's initial state is fuzzy, that is, the values attached to the set of energy possibilities are not univocally determined. (For instance, coal exists in great quantities and it is not expensive; but the problems of technological adaptation, pollution, and protection of the fertile surface arise. The problem can be treated also in semiotic terms!) The attached vector quantifies the intensities of the parts. The general sense is ambiguous. Frequently, value judgments are expressed in ambiguous senses, which, in continuation of the axioses, become step-by-step clearer as a result of the evolution of the enhancing criteria (for the given example, inexpensive technology in order to prevent pollution is one alternative; new sources of energy, another alternative).

A special problem of the sign (in semiotics), as well as of values (in axiology), is raised by the dynamics of the representative system. Several definitions are necessary:

a) A deterministic system is that whose present state and input determine the next state and the output.
b) A stochastic system is that for which we can determine mere probabilities as a certain

output to be carried out if the system receives a specified input signal. Sometimes the next inner state is known only as membership to a given set. If transition from membership to non-membership is gradual, not abrupt, then the system is fuzzy.

c) If X, Y, and Q are "universal" sets and P(X), P(Y), P(Q) are the set of all sets of X, Y, Q (i.e., $P(X) = \{A|A \subseteq X\}$), considering ϕ, $X \in P(X)$, then S = { X, Y, Q, δ, λ) is a deterministic dynamic system if:

$$1.\ \delta : Q \times X \rightarrow Q \qquad q_{t+1} = \delta(x_t, y_t)$$

$$2.\ \lambda : Q \rightarrow Y$$

In a non-deterministic system, conditions 1), 2) change:

$$1'.\ \delta : Q \times X \rightarrow P(Q) \qquad q_{t+1} \in \delta(x_t, y_t)$$

$$2'.\ \lambda : Q \rightarrow P(Y)$$

Finally, through generalization, to which both semiotics and axiology pretend, we can also consider the input and output functions as subsets, in which case the system is called abstract and is characterized by:

$$1''.\ \delta : P(Q) \times P(X) \rightarrow P(Q)$$

$$2''.\ \lambda : P(Q) \rightarrow P(Y)$$

Observation: Information retrieval systems (IRS) are simultaneously semiotic and axiological systems. The set of descriptors attached to each item synthetically defines a sign or a value. Any semiosis or axiosis is a reachable or observable system. We shall not dwell here upon this observation, but we are certainly convinced that it opens a broad field of investigation and application.

As is known (Marcus, 1964), any event that can be represented in Mealy's type of automata is a regular event. The same thing is valid for elements represented by fuzzy automata. Axiological, as well as semiotic, processes are regular processes. The derivation of one value from another (as well as one sign from another) is represented by the mathematical functioning of FAA. The synthetic, analytic, and even generative dimension of axiology thus results.

Without persisting--because it is not only a matter of extending and explaining the analogy suggested--we consider that the term "axiological sense" (obviously more restricted than "semiotic sense") should be introduced, even though the determination of the term remains a problem of fuzzy semantics. (Even semantics of axiology can be established.) However, in respect to the idea we are pursuing, we are more concerned with Bense's suggestion (1971, 1976) regarding semiotic aesthetic. According to this, aesthetic value is a function of *semioticity* (of iconicity, in particular). Moreover, aesthetic value, as an interpretant of a designated object (that is, a complex sign, a molecular sign) can be an open conex *(Rhema,* in Peirce's terminology) or, as has been said, in the sense of Hartmann's [1967] definition, as "sets of descriptive properties." It can be a closed conex *(Dicent),* hence, in the tradition of the Frege's "true" or "false" values, or even an Argument (again according to Peirce's definition: "An Argument is a Sign which, for its Interpretant, is a Sign of a Law" [2.252]).

The value of an object is a complex type of "sign" of that object. This affirmation is not intended to reduce axiology to semiotics but to point out that the realization of value is not possible outside and independent of sign systems.

Value does not have the ideality of the sign, or its universality. But according to the semiotic condition that we have shown that it does have, value is realized through the intermediary of axiological processes analogous to adjunction, iteration and superization, or through operations analogous to the sums and product of a categorical diagram. Value always has a comparative nature, supposes adherence to it (passional nature), and is projective and normative (which is not the case of the sign or of semiotic processes). Therefore, the introduction of semiotic values (as values with a particular, well defined nature) as a function of iconicity means nothing else than that semiotic value designates the degree of semioticity, hence the transition from the generality of value to its concreteness. In the same manner, aesthetic value determines *aestheticity* (i.e., that which is specific in value in the complex in which it is accomplished). In the same way, political value designates *politicity* (and is accomplished in political sense), social value, *sociality,* ethical value, *ethicity,* etc., the dynamics thus realized being none other than that between universal and individual. Pragmatic value in particular (on which Peirce's axiom dwells) is the value of the human being's *self-constitution* in action.

Although terms such as *ethicity, pragmaticity, aestheticity* and others used above (and in italics) force the limits of language, they express the content of value, the quality of this content (which certainly is their sense), in the manner in which it is carried out. It is obvious that value does not have the nature of an object, but the nature of a sign, itself constituted through the functioning of a system (in our case characterized by its power, i.e., the cardinal number of the set defining the system, $\bar{c} = 3$). It must still be seen whether the morphology of signs (in relation to object, mean, and interpretant) cannot be extended to axiology also. Intuitively, it can be discerned that values with an iconic or indexical or symbolic nature exist. For instance, here are classic definitions of signs rewritten in terms of value:

A Qualivalue is a quality which is a Value. It cannot actually act as a Value until it is embodied; but the embodiment has nothing to do with its character as a Value (cf. 2.244).

A Sinvalue (where the syllable *sin* is taken as meaning "being only once,'' as in single, *simple,* Latin *semel,* etc.) is an actual existent thing or event that is a Value. It can only be so through its qualities, so that it involves a qualivalue, or rather, several qualivalues. But these qualivalues are of a peculiar kind and only form a value through being actually embodied (cf. 2.245).

We can go on. It is not an accident that the defining peculiarities of value are united in these definitions belonging to a generic trichotomy of axiology. It is less probable that sign classes can be applied as such to value classes. The categorical approach, focused on the category of classes of values, parallel to the category of classes of signs (fuzzy or not), might reveal how far the semiotic formalisms can be applied/extended in axiology. Other determinations (degenerated values, value hypoicons, types of index, etc.) can nevertheless be preserved, as well as the general assertions regarding the sign and its interpretation in general. The interpretation of value is doubly semiotic: first through the nature of value, secondly, through the semiotic nature of interpretive acts.

The contemporary evolution of semiotics has permitted perfecting its means, especially through mathematical formalization to which adequate interpretive systems (hermeneutics) must correspond. Ascertaining the semiotic nature of value as Thirdness (in Peirce's categorical system), we also ascertain the possibility of extending its methodology into a field rather insubordinate to more precise means of evaluation. In one of his few texts (known) in which he raises the problem of value, Peirce expresses a desire that became very current in connection with these final considerations: "I wish philosophy to be a strict science and severely fair" (5.533).

Notes

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1. J. G. Kriebing introduced the term “timology” (Gr. *rimos* ‘value related to price’); and J. M. Baldwin introduced the term “axionomy” to designate the science of value (cf. Perry, 1950).

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