

Augusto Ponzio
The Dialogic Nature of Signs

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Translation from Italian by Susan Petrilli

5.

Logic as Dia-logic

1. *Alterity and dialogism in semiosis and argumentation*

We saw that dialogue does not commence with sign behaviour from a sender intending to communicate something about an object. Any sign, any semiosis is dialogically structured because it is founded on the interpreted-interpretant dialogue.

Consequently, the ‘if...then’ inference, or hypothesis formation, indeed any ‘chain of thought’ at all is dialogic in itself. In inference, in hypothetical argument, and in the chain of thought generally which consists of the relation between interpreted and interpretant signs, dialogue is implied in the relation itself between interpreteds and interpretants.

As we will see, in *deduction* where the relation between the premises and the conclusion is *indexical*, the degree of dialogism is minimal: here, once the premises are accepted the conclusion is obliged.

In *induction* which is also characterized by an unilinear inferential process, the conclusion is determined by habit and is of the *symbolic* order: identity and repetition dominate though the relation between premises and conclusion is no longer obliged.

By contrast, in *abduction* the relation between premises and conclusion is *iconic* and dialogic in a substantial sense. In other words, it is characterized by high degrees of dialogism and inventiveness as well as by a high margin of risk for error. Claiming that abductive

argumentative procedures are risky means that they are mostly tentative and hypothetical with just a minimal margin for convention (symbolicity) and mechanical necessity (indexicality). Therefore, abductive inferential processes engender sign processes at the highest levels of otherness and dialogism.

These are the theses we intend to demonstrate in this lecture.

We shall now analyze dialogism in the ‘if...then’ inference, in hypothesis formation, and in any ‘chain of thought’. But let us think for a moment about the Peircean idea of the relation between *symbol*, *icon*, and *index*, which has often been misunderstood. This is because these three different aspects of the sign have often been conceived as three different types of sign, completely separate from each other.

As anticipated, the icon is one of the three types of signs identified by Charles S. Peirce, the others are index and symbol. The icon is characterized by a relation of similarity between the sign and its object. However, similarity is not sufficient to determine an iconic sign. Twins look similar but they are not signs of each other. My reflex in the mirror looks like me but it is not an iconic sign. For iconic signs to obtain, the effect of convention, habit, social practices or special functions must be added to similarity. Iconic similarity is a special kind of similarity: it is an abstraction on the basis of a convention, and it privileges only certain traits of similarity. Similarity of a banknote to another banknote worth \$50 is no doubt a sign that the first banknote too is worth \$50. But if similarity is complete to the point that the serial numbers of both banknotes are identical, we have a false banknote that cannot carry out a legitimate function as an iconic sign on the money market. All the same, as says Peirce, the icon is the most independent sign from both convention and causality/contiguity: “An *icon* is a sign which would possess the character which renders it significant, even though its object had no existence; such as a lead-pencil streak as representing a geometrical line” (CP 2.304).

The index is a sign that signifies its object by a relation of contiguity, causality or by some other physical connection. However, this relation also depends on a habit or convention: For example, the relation between a knock at the door and someone on the other side of the door who wants to enter. Here convention plays its part in relating the knocking and the knocker, but contiguity/causality predominates to the point that we are surprised if we open the door and nobody is there. Types of index include: 1) *symptoms*, medical, psychological, of natural phenomena (actual contiguity + actual causality); 2) *clues*, natural phenomena, attitudes and

inclinations (presumed contiguity + non actual causality); 3) *traces*, physical or mental (non actual contiguity + presumed causality). “An *index*”, says Peirce, “is a sign which would, at once, lose the character which makes it a sign if its object were removed, but would not lose that character if there were no interpretant” (*CP* 2.304).

The symbol in the typology described by C. S. Peirce is the sign prevailingly in consequence of the mediation of a habit, or convention (see *CP* 4.531); in others terms, a sign which to subsist as such requires prevailingly the recourse to a mediation based on a convention, is a symbol. The symbol is never pure but it contains varying degrees of indexicality and iconicity; similarly, a sign may be characterized as an index or icon but it will always maintain the characteristics of symbolicity, that is, it requires the mediation of an interpretant and recourse to a convention.

Let us now come back to the misunderstanding according to which symbol, icon and index denote three clearly distinguished and different types of sign, to the point of excluding each other.

Signs that are exclusively symbols, icons or indexes do not exist in the real world. Therefore in Peirce’s theory symbol is a mere abstraction. The symbol is never conceived as a pure symbol but is always more or less mixed with iconicity and indexicality, or in Peirce’s words, it is always more or less *degenerate* (in a mathematic sense).

This implies that icon and index represent different levels of *degeneracy of the symbol*, instead of being two separate and autonomous classes of signs. Symbol is not just a symbol alone; it quite assumes some of the characteristics of either the icon or index. Symbol, the sign par excellence, is such because alterity and identity co-exist in it. In the Peircean conception of symbol, alterity is constitutive of the very identity of sign. Symbol can be represented iconically as a body in a state of unstable equilibrium where the stabilizing symbolic force is counteracted by the iconic and indexical forces. But this image establishes a relation of contrast between symbol, index and icon when, in fact, they are neither distinct, nor are they in a relation of opposition.

Otherwise we would have signs that are purely icons or indexes and not simultaneously symbols, and symbols with no trace of iconicity or indexicality. Perhaps, the best image accounting the symbol-index-icon relation is that of a filigreed transparency, with uneven traces of iconicity and indexicality, opposed to pure transparency.

Indexicality is at the core of the symbol for the very reason that the symbol depends upon the interpretant because of its relation to the object. This is what makes a sign a symbol. On the other hand, insofar as it is determined by the instances of what it denotes and insofar as it is a general type of law, the symbol entails indexicality. In the sign considered as a symbol, identity hinges upon the alterity of the sign which is determined by the mediation of the interpretant. Therefore, insofar as it is a symbol, 'a sign is something by knowing which we know something more' (CP 8.332). But this is true because the sign is not only a symbol, or better: the fact of being a symbol involves iconicity and indexicality, given that thirdness – the mode of existence of the symbol – presupposes, according to Peircean terminology, *firstness* and *secondness* or *originality* and *obstistence*, the ways of being respectively of the icon and index.

The connection between semiosis and interpretation implies the connection between sign and argument, and therefore the connection between semiotics and logic. Taking Peirce's viewpoint into consideration, we are led to awareness that the problem of the connection between identity and alterity in the sign is not just a problem of semiotics, but also concerns logic as theory of argumentation. In Peirce this problem directly concerns logic which as theory of argumentation also involves the problem of dialogue.

Considered from the point of view of its relation to the object, the sign is a symbol insofar as it involves mediation of an interpretant; from the perspective of its relation to the interpretant, the sign-symbol is an *Argument*. This is true if the sign-symbol distinctly represents the interpretant which it determines as its Conclusion through a proposition that forms its Premise or, more generally, its premises (see CP 2.95). Depending on the type of sign relation that comes to be established in the argument between premise and conclusion, three kinds of arguments are possible: Deduction, Induction and Abduction.

Overlap of symbols, indexes and icons is such in Peircean semiotics that if the symbol were to be of a purely symbolic nature, the relation between premises and conclusion would paradoxically be indexical and not symbolic. Let us suppose that the relation between conclusion and premises is of a purely analytical type, thus remaining wholly within the symbolic universe, the conventional/arbitrary, the Law; let us suppose, then, that there is a mere relation of identity between symbol and interpretant. In this case the relation between conclusion and premise would be deductive and indexical given the relation of constriction between the terms in question.

From what has been said so far, reciprocal complicity between symbol, icon and index is evident. These three different shades of the sign are, in turn, implicated in the argumentative process. This means that they are, at the same time, categories of both logic and semiotics. This is important for what matters the character of the Argument and the role of index, icon and symbol in the tree types of argumentation.

While the interpretant of a sign can generally be actual or potential, the argument aims at determining the interpretant, its conclusion, in a precise and programmed fashion. In the argument, the sign or more exactly the symbol (and given its degeneracy, the other signs as well) directly encounters its interpretant, its conclusion.

This relation of alterity, implicit and virtual in the sign in general, but explicit and actualized in this case might lead us to represent the Argument as divided (a division between premises and conclusion) between the two participators of a dialogue. Now, in the case of the *Obsistent Argument* – in Peirce’s terminology – or Deduction, both speakers are *compelled* (see *CP* 2.96) to acknowledge that the facts asserted in the premises by both or only one of the speakers could not obtain if the fact stated in the conclusion did not exist. On the other hand, in the *Originary Argument* or Abduction, and in the *Transuasive Argument* or Induction, speakers can only be *inclined* to admit that the conclusion is true —as the rule the conclusion is drawn from the case and result (induction), or as the case it is drawn from the rule and result (abduction) (see *CP* 2.619-631)—, because the speakers are in a condition to accept the premises without been obliged to accept the conclusion as well.

This division of the Argument into parts so that each one is supported by a subject, on the one hand accounts for the difference between a proposition, a sign for which nobody takes responsibility, and an assertion for which instead somebody takes responsibility – responsibility for the truth of a proposition through the judgement which is precisely the act wherewith one resolves to adhere to a proposition (see Peirce 1902: 5-15). On the other hand, the dialogic division between the parts enables us to take into account the level of dialogic complexity, that is, of alterity, differentiation, distance and novelty established in the argument between the sign and the interpretant. The dialogic character of logic is discussed in a medieval tractatus on logic entitled *Summule Logicales* by Pietro Ispano (an author known to Peirce).

It is not incidental that Peirce should have used the term *Speculative Rhetoric* to designate *transuasional logic* (see Peirce *CP* 2.93), the doctrine of the general conditions whereby symbols

and other signs refer to and determine the interpretants. In fact, the term Rhetoric implies reference to the addressee, the interlocutor, and recalls such terms as to converse, to argument, to convince and to account for. Furthermore, it represents a break in the conception of reason and reasoning originated from Descartes, and therefore it alludes to the uncertain, probabilistic, and approximative nature of human knowledge. Peircean logic is presented as dia-logic. It is closely related to the conception of sign (with its various shades of degeneracy beginning with the genuineness of symbol) as identity/alterity. In fact the sign is actualized in a dialogic relation of alterity to the interpretant without which any specific conferral of sense would be impossible.

The interconnection of iconicity, indexicality and symbolicity involves different levels of dialogue and alterity of the interpretant (conclusion) with respect to the initial propositions of the argument (premises). However, this is independent of the fact of whether the subjects that determine propositions through judgements and transform them into assertions, or subjects that reason among themselves, be external to each other or part of the same person. In other words, we can have a situation where dialogue among two or more interlocutors is only formal, that is, there is no effective relation of alterity; or, we can have a situation where dialogic interaction among the selves of one and the same person is substantial.

2. Degrees of alterity in deduction, induction and abduction

In deduction the type of relation to the interpretant is *indexical*; in induction it is *symbolic*; in abduction *iconic*.

In deduction there is no relation of alterity (or at least it exists at a minimal level because there is always a certain amount of distancing in the deferment and *renvoi* to the interpretant between the two parts of the argument, that is to say, between premises and interpretant-conclusion). Once premises have been accepted, conclusion imposes itself making its acceptance compulsory. We are dealing with *obsistence* which characterizes the category of *secondness* and it is typical of index.

Let us briefly clarify the meaning of this Peircean category and of the others, to which it is connected.

Firstness (in-itselfness, originality) is the name given to one of the three categories of phenomena in the universe identified by Peirce, the other two are Secondness and Thirdness; Firstness helps to explain logico-cognitive processes and therefore, at once, the formation of signs. Analysed in terms of Peirce's typology of signs, Firstness coincides with the sphere of *iconicity*. Something which presents itself as Firstness, presence, "suchness", or pure quality is characterised by a relation of similarity (see *CP* 1.356-358).

The category of Secondness (obsistence, over-againstness), together with Firstness and Thirdness are the omnipresent categories of mind, sign and reality (*CP* 2.84-2.94). Secondness is the category according to which something is considered relatively to, or over against something else. It involves binarity, a relation of opposition or reaction. From the viewpoint of signs, Secondness is connected with index. Whereas icon, which is governed by Firstness, presents itself as an *original* sign, and symbol, which is governed by *Thirdness*, presents itself as a *transuational* sign, the index, which is governed by Secondness, is an *obsistent* sign (2.89-92).

Thirdness (in-betweenness, transuasion) guides and stimulates interpretation and therefore has a heuristic value. The sign exemplifies the category of Thirdness, it embodies a triadic relation among itself, its object and the interpretant. A sign always plays the role of third part, for it mediates between the interpretant sign and its object. Symbolicity is the dimension of sign most shared in Thirdness, it is characterized by mediation (or in-betweenness), while iconicity by firstness or immediacy (or in-itselfness), and indexicality by secondness (or over-againstness).

Firstness is the mode of being of that which is such as it is, positively and without reference to anything else;

Secondness is the mode of being of that which is such as it is, with respect to a second but regardless of any third;

Thirdness is the mode of being of that which is such as it is, in bringing a second and third into relation to each other (*CP* 8.329).

On the *level of the typology of signs* firstness, secondness and thirdness correspond to iconicity, indexicality and symbolicity; on the *level of logic* they correspond to abduction, deduction and induction.

In deduction, premises and conclusion are connected to each other by a relation of dependence and reciprocal imposition. Neither of the two would have alterity: 'If x, therefore y,' 'If y, therefore x'.

Peirce connected indexicality and deduction:

An Obsistent Argument, or *Deduction*, is an argument representing facts in the Premise, such that when we come to represent them in a Diagram we find ourselves compelled to represent the fact stated in the Conclusion; so that the conclusion is drawn to recognize that, quite independently of whether it be if the fact stated in the conclusion were not. There; that is to say, the Conclusion is drawn in acknowledgement that the facts in the premises constitute an Index of the fact which it is thus compelled to acknowledge (*CP* 2.96).

The two speakers between whom a deductive type of argument is hypothetically divided are connected by a relation of reciprocal dependence and constraint. Despite each one has its own identity, they are not reciprocally other, exactly as husband and wife, where one cannot exist without the other (see *CP* 2.84). In deductive argument, the premise determines the conclusion, that is, the precedent determines the consequent with the same force of compulsion with which past imposes itself upon present. The conclusion must passively acknowledge the premise which has already been formulated like a "*fait accompli*":

[...] the Conclusion is drawn to recognize that, quite independently of whether it be recognized or not, the facts stated in the premises are such as could not be if the fact stated in the conclusion were not there; that is to say, the Conclusion is drawn in acknowledgement that the facts stated in the Premise constitute an Index of the fact which it is thus compelled to acknowledge. (*CP* 2.96)

In induction, on the other hand, the conclusion is not imposed by the premises and is susceptible to modification. The value of the facts stated in the premises depends on their predictive character. The premises, therefore, refer to the interpretant (conclusion) on which their meaning depends, as well as to their status as assertions and not mere propositions. Thus, the first part of the argument, which is completely oriented towards the second part (the interpretant), is a predominantly symbolic type of sign. Here one part of the argument is not predetermined by another, as occurs instead in deduction. They are independent of each other to a degree, in the sense that if assertion of the premises is definitely a function of the conclusion, the facts stated could exist even if the fact stated in conclusion did not.

The category of mediation or Thirdness with its characteristic element of Transuasion, dominates (see *CP* 2.86). Given that in induction the consequent is not determined by the

precedent, as occurs instead in deduction, memory and the past do not weigh on the argument as much as prediction, expectation and orientation towards the future. The premise predisposes the interpretant, feeds the conclusion and is its foil.

There is an adjustment to the future in the sense that the formulation of premises (whatever they be), and the very statement of the facts would not have been possible without a third element, prediction. By contrast with deductive argument which is dominated by the category of Persistence, transuasive argument or induction offers the possibility of broadening belief thanks to its opening to the future, to the importance it attaches to the interpretant, and the fact that the relation between the conclusion and the premises is not of mechanical dependence.

However, in spite of all this inductive argument is merely repetitive and quantitative, for its sphere of validity remains that of the fact, that is, of the totality of facts on the basis of which alone is it possible to infer the future. As in deduction, the inductive process is unilinear and moves in a precise order of succession from the point of departure to the point of arrival without interruption, reversal or retroaction as opposed to abduction which, as we will see, moves backwards from the consequent to the antecedent.

In abduction the relation between Premise and Conclusion is of similarity: the facts in the premise form an icon of the facts stated in the conclusion. *Renvoi* to the interpretant is of an iconic type. Furthermore, whatever is stated in the premises is independent from the conclusion in the sense that its validity is independent from the truth value of the conclusion.

The category of Originality dominates in abduction, 'Originality is being such as that being is, regardless of aught else' (CP 2.89). This very capacity of being regardless of anything else constitutes alterity. The other is other because it is independent from reference to a viewpoint, a function, an objective, a relation of distinction or opposition, or from insertion into a unitary story. For this reason, the other is a surplus external to the totality, to the totality of the Self and Sameness which is in the order of binarity and mediation, insofar as it is a unit, a teleological system. Firstness, or Orience, or Originality is 'something which is what it is without reference to anything else within it or without it, regardless of all force and of all reason' (CP 2.85). For this reason it cannot be incorporated by the totality. On the contrary, it stimulates a breach, a renewal, reopening and reorganization of a totality which is never definitively concluded and systematized. Knowledge, totality, binarity and mediation, cognition understood as adjustment to objects, presuppose orience, that is, alterity. But orience, alterity is the lack of

adjustment *par excellence*, the surpassing of objectifying thought, of the subject/object, and the means/end relationship.

In its more innovative aspects abduction ventures beyond the limits of a defined totality without the guarantee of return or reconciliation to the principles that exist in it. There is a movement towards alterity which more than in terms of intentionality (the latter belongs to objectification and the relation subject/object) or of need, may be expressed in terms of desire: desire of the absolute other.

The Peircean conception of the interminable deferment and renvoi of interpretants on which the sign flourishes and through which the ‘dynamical object’ manifests itself, alludes to this non finalized and disinterested movement towards alterity. Peirce established an explicit relation between meaning and desire: if meaning characterizes a sign, and if meaning belongs to the family of value, it is connected to desire through the relation between value and desirability (see Peirce 1902: 26ff.).

Given that the process of abduction is present in every moment of psychic life including sensation, the inherent opening to alterity is the foundation of all totalizing operations. However, this opening is not satisfied, concluded or exhausted in such operations: it does not find its own justification in them. Furthermore, the opening to alterity is relative to the different levels of freedom and creativity in abductive ‘orience’. At the higher levels of abductive creativity an effective dialogic relation is established between the parts of the argument. This is due to two main factors: the interpretant is relatively independent from the premises; and the rest of the argument includes relations of alterity with respect to the interpretant (conclusion) which are determined by the level of novelty in abductive conclusion. We make inferences from case through interpretation on the basis of a rule and a datum or result. The rule, therefore, is not given antecedently to and outside the process of interpretation — there are no pre-established rules that orient the relation between the parts of the argument mono-directionally.

The conclusion is the interpretant of the statement that describes a certain datum or result. From this interpretation arises the law or general principle with respect to which the interpretant is determined. The thought-sign (premises) and the thought-interpretant (conclusion) are connected by a dialogic relation which is not pre-determined by the pre-dialogic selection of a law. Retroaction of the interpretant on the premise to the point that interpretation determines the

major premise is precisely what makes us define this type of reasoning as *retroduction* or *abduction*.

Iconicity in abduction consists in establishing a relation between what which is not originally and naturally related: imaginative representation attempts an approach to that which is given as other in order to lead it back to a relation of similarity. Similarity is listed by Peirce with all that is associated with the category of obsistence; Originality or Firstness is surpassed by Secondness or Obsistence when whatever exists autonomously is related to something else. To understand alterity in a sense means to exceed it. Therefore, the innovative, creative, displacing capacity of abduction can be traced in the capacity for the autonomously other, rather than in the image which draws nearer that which seems to evade all constraints.

In the abductive process we run the risk of surpassing the datum, thus developing an interpretant that has *its own alterity and autonomy* in so far as it is not motivated, justified or compensated by the object-datum it specifically refers to. Such self-sufficiency of the abductive interpretant, that is, its iconicity and originality, presents a challenge, a provocation with regards to the concept of identity and totality. It thus questions even what seems established and definitive, what exhibits an image which can neither be incorporated nor accounted for, whether through immediate reference to the fact or datum or on the basis of a system of preestablished laws. In the light of logic that goes beyond the logic of exchange and equilibrium, it is possible for an argument to actualize Firstness, Originality, or alterity at the very core of the symbolic, of the law, of the transuational.

Although the argument bears traces of symbolicity and indexicality, it also has the characteristics of iconic invention whose value ‘consists in its exhibiting the features of a state of things regarded as if it were purely imaginary’ (CP 4.448). As we can see, the Peircean conception of Sign allows a revision of the traditional concept of image. In all Western thought, from Plato to our own times, the image has always been conceived as a means of reduction to sameness. It is in the image that the subject finds and recognizes himself: the image is nothing but the reflection of who produces it.

In this sense, the myth of Narcissus is particularly significant. Peirce offers a new conception of the image, that is, of the iconic dimension of symbol: rather than as confirmation and repetition, a moment of encounter and recognition, from the Peircean perspective the image

is *déplacement*, an opening towards alterity, the beginning of a voyage in which the return *chez soi* is not guaranteed.

In the succession deduction–induction–abduction the *degree of alterity* increases. Says Peirce:

Abduction is the process of forming an explanatory hypothesis. It is the only logical operation which introduces any new idea; for induction does nothing but determine a value, and deduction merely evolves the necessary consequences of a pure hypothesis. Deduction proves that something *must* be; induction shows that something *actually is* operative; abduction merely suggests that something *may be* (CP 5.172).

Abduction is the inferential process by which the rule that explains the fact is hypothesized through a relation of similarity (iconic relation) to that fact. The rule acting as general premise may be taken from a field of discourse that is close to or distant from that to which the fact belongs, or it may be invented *ex novo*. If the conclusion is confirmed, it retroacts on the rule and convalidates it (ab- or retro-duction). Such retroactive procedure makes abductive inference risky, exposing it to the possibility of error; at the same time, if the hypothesis is correct, abduction is innovative, inventive and sometimes even surprising.

To resume:

In inference the relation between premises and conclusion may be considered in terms of *dialogue* between *interpreted signs* and *interpretant signs* (Ponzio 1990: 49-61). The degree of dialogism and alterity is low in induction (where the relation between premises and conclusion is determined by habit and is *symbolic*) and in deduction (where the conclusion is a necessary derivation from the premises in a relation of the *indexical* type). More specifically, in deduction the degree of dialogism in the relation between interpreted (premises) and interpretant (conclusion) (an indexical relation) is minimal: once the premises are accepted the conclusion is obliged. Induction (where the relation between premises and conclusion is symbolic) is also characterized by monolinear inferential processes: identity and repetition dominate, but the relation between premises and conclusion is no longer obliged. Instead, in abduction the relation between the argumentative parts is dialogic in a substantial sense. The relation between premises and conclusion is predominantly *iconic*, therefore a relation of reciprocal autonomy. Consequently, abductive inference can generate sign processes at high levels of dialogism and

otherness. This type of inference is risky, inventive and creative. The margin for convention, or *symbolicity*, and mechanical necessity, or *indexicality*, is minimal.

Signs and arguments are formally dialogic as the result of dialogue between “interpreteds” and “interpretants”, according to varying degrees of dialogism. From a semiotic perspective, the relationship between interpreteds and interpretants produces signs which (on a scale ranging from a maximum degree of monologism to a maximum degree of dialogism, otherness and creativity) may be prevalently “indexical,” “symbolic,” or “iconic”. From the perspective of logic, the relationship between interpreteds (premises) and interpretants (conclusion) results in arguments or inferences which may be “deductive”, “inductive” or “abductive”. The varying balance in indexicality, symbolicity and iconicity in any given sign situation (whether formally dialogic or not) involves variations in the degree of otherness and dialogism regulating the relationship between the interpreted (premise) and interpretant (conclusion) of an argument: therefore, argumentative value may also be measured in terms of the degree of substantial dialogism.