

On the Concept of Interpretation

Interpretation is a frequent term not only in literary studies. It is used by musicians and lawyers, actors and priests, translators and psychoanalysts, computer scientists and diagnosticians, and some time ago, when private airplanes began to come on the market, there appeared publications on how to interpret clouds. It is, of course, not unusual for a term to be borrowed by diverse professions and then to be used with a somewhat modified meaning, or metaphorically, or even in an unrelated way.

Interpretation is remarkable, I believe, in that the core of its meaning has remained unaltered wherever the word was adopted. I stress *core*, because subsidiary aspects have certainly been dropped and added. To pursue these nuances would, no doubt, be an interesting and revealing investigation in its own right, but it is not what I intend to do here. The core itself is complicated enough and there is little risk that I shall exhaust it. The reason for that complexity is this: the activity of interpreting involves experience, the coordination of conceptual structures, and symbolic representation; that is to say, it involves the very activities of cognition and thus, inevitably, a theory of knowledge.

Like many *nomina actionis*, “interpretation” designates either an activity or its results. When someone says, “I’m not sure how to interpret what she did,” it may mean that he sees several possible interpretations and does not know which to choose as the most plausible; but it may also mean that he has no interpretation because he sees no way of constructing one. In the first case, the speaker’s quandary pertains to the results; in the second, to the activity. In this chapter, I shall be concerned with interpretation as activity and only incidentally with the appropriateness or choice of its results.

Whenever we say “S interprets X,” we bring to mind a specific situation which, I would argue, is always composed of the following elements:

- (1) an active subject (S), the interpreter;
- (2) an object (X) which is experienced by S;
- (3) a specific activity (interpreting) carried out by S; and
- (4) the activity’s result (Y), which is not part of S’s immediate experience of X but is linked to X by some relation known to S.

Some, I expect, will disagree with this schema and consider it incomplete. There is a wide-spread tendency to take for granted that the object X must be an object of a special kind, an object that was intended to be interpreted. Thus it is implicitly or explicitly assumed that an originator or author (A) deliberately chose or produced the object X in order to express, convey, or communicate something else which we may call “intended meaning.” Like Y, this meaning (M) is not a constituent

part of the object X; but unlike Y, which is the result of S's interpretive activity, M is the result of an act of association on the part of A. This act of association may be deliberate or habitual but, in any case, as far as A is concerned, it turns an ordinary experiential object, X, into a semiotic object or symbol. The addition often seems quite innocuous because we are so accustomed to dealing with conventional symbols.

The effects of that seemingly modest addition are momentous: it inevitably leads to the assumption that the result of S's activity in (3) should be considered a success only if Y constitutes a replication of M. If that condition is taken as a requirement, it vitiates all further discussion of the process of interpretation, because it at once shifts the focus away from the question, How is interpretation achieved? to the question whether or not the interpreter's result Y is an acceptable or *correct* replica of the author's intended meaning M. But since M is, by definition, in A's head, and Y must under all circumstances be constructed in S's head, there simply is no way of comparing M and Y in order to decide whether or not they match. One person's thought, concepts, sensations, emotions, etc., can never be actually compared with another's. At best, they can be tested for compatibility—but compatibility, no matter how well it might be established, does not warrant the assumption of *sameness*. In fact, the requirement that an interpretation of X, in order to be considered a good or correct interpretation, must match the meaning an originator has associated with X, is just another manifestation of the epistemological ingenuousness that leads realists to the unwarranted belief that what we experience should in some way correspond to an ontological reality and that, if only we try hard enough, we shall finally have a true picture of the world as it is.¹

Discarding the requirement of a matching replication and putting in its place the requirement of compatibility may, at first sight, seem to be no gain. One might think that, in order to establish an interpretation's compatibility with an intended meaning, one would need as much access to that meaning as if one wanted to produce a replica of it. That, however, is a false impression. Compatibility is a matter of avoiding clash, passing between obstacles, fitting into space that is not encumbered by the conditions that have to be complied with. The relation of fit is essentially a negative one: within the frame of reference, or grid, used to establish the fit, no point occupied by the one item is occupied by the other; a *match*, on the other hand, is a match precisely to the extent to which the two items share points within the chosen frame of reference.

The substitution of the concept of fit (and its dynamic corollary, *viability*) for the traditional concept of truth as a matching, isomorphic, or iconic representation of reality, is the central feature of the theory of knowledge I have called Radical Constructivism.² This conceptual shift has certain consequences for a theory of interpretation. In exploring these consequences, two questions arise at once; What constitutes *fit* and *viability* in interpretation, and how can they be established? I propose to examine these questions by first looking at simple instances of interpretation that do not involve an author and the supposition of an intended meaning.

Among the first professional interpreters were the augurs in ancient Greece and Rome. According to their various specializations they observed the stars, the flight of birds, thunder and lightning, miscarriages and monsters, the entrails of sacrificed animals, and other phenomena, and they interpreted certain findings as omens of

events to come. Although the prediction of the future was referred to as the discipline of mantics, or seers, it did not involve anything we would now call a semantic code. The particular phenomena the mantic selected were taken as symptoms (or signs) rather than as conventional symbols. The course of all events was believed to be predetermined by fate and the seer simply claimed to have privileged insights into the workings of fate. He therefore could discern connections between the events or states he took as omens and the events or states that were to follow. The connections between the two, however, were neither *semantic* (in the modern sense), nor causal; they were, as we would say today, merely correlational. The Greek mantics, for example, often chose to observe birds of prey, because, given that they soar at great heights, they had a wider horizon and could see further. Consequently they had information that was not yet accessible to an earth-bound creature. Observing them, a skilled seer could draw more or less intuitive inferences from their behavior and predict what lay ahead and still out of view for the surface dweller.³

In terms of the schema, the mantic, S, takes the behavior of a bird, or flock of birds, as object X and derives from it a future event, Y. The relation on the basis of which he interprets X as an omen pointing to Y may lie anywhere in the continuum from experiential induction to mystical intuition. I want to emphasize, however, that no matter how the seer has established that relation, there is absolutely no assumption that the birds fly in the way they are observed to fly because some originator intended that way of flying as an expression of the *meaning* a mantic might see in it. The flight of the birds, in that classic view, was just as predetermined by fate as everything else, and the skilled mantic was simply one who managed to *see* connections between events that remained hidden to other mortals.

Although, today, we tend to scoff at mantics and seers, we still accept a good many predictions that are based on the interpretation of signs whose relation with the predicted event is purely correlational, and some of the signs are not very different from the flight of birds (e.g., the recent Chinese successes in predicting earthquakes by observing and interpreting the behavior of wild animals who seem to know more about these events than the seismologists). Though less animistic, much of all present know-how is essentially still of that kind.

Pilots, mountaineers, sailors, and others whose life may depend on the timely prediction of the weather, will be the safer the better they interpret such atmospheric conditions as happen to be observable. In their case, too, the objects they interpret are signs only because experience has shown them to be more or less reliable indicators of things to come; i.e., induction has yielded correlations, although there is as yet nothing like a comprehensive causal theory of atmospheric processes and developments. A mountain guide, for instance, may interpret a certain cloud formation as heralding the approach of a snow storm, and he might say, "These clouds mean storm." In any such case, however, it is clear that the meaning is attributed by the weather-wise observer and not by some other originator who is using the clouds as a vehicle of expression.

Any prediction based on the interpretation of an experiential item that is taken as a sign pointing to a not yet experienced item, will be judged according to whether it is or is not *confirmed* by actual subsequent experience. The question of what constitutes *confirmation* is an extremely tricky one because it hinges on how well the

predicted item has been specified. It involves all the thorny problems of definition (e.g., how many drops confirm a prediction of rain?); but in this discussion we can shortcut all that by saying that a prediction will be considered good if, within a stipulated time frame and in the judgment of the people involved, a subsequent experience fits the predictive statement. Whether such a fit can or cannot be found is essentially an empirical question. Both the description and the experiences to be tested are accessible to those who must judge the fit and, though there may be practical difficulties, the question should, in principle, be answerable.

The situation is changed and becomes far more complicated when the item X is taken as a sign, not merely on the basis of the interpreter's experience, but as *expression* of a meaning given to it by an intentional originator. In the simple examples we have so far considered, the experiential items taken as signs, as well as the items they were assumed to point to and the relation between them that constituted the basis of the interpretation, were all three within the interpreter's field of experience and cognitive action. In cases where there is an originator's intended meaning, the relation between that meaning and the experiential item that is to function as the sign pointing to it are within the originator's field of experience and conceptual action and, as such, *not* accessible to any other interpreter. Nevertheless, we are firmly convinced that we can communicate with others. There seems to be a blatant contradiction between the claim of communication and the apparently irrefutable subjectivity of meaning. The contradiction, however, may be resolved if we consider what, actually, takes place when we communicate and, above all, what are the prerequisites of any communication.

On the simplest technical level, Shannon's Theory of Communication⁴ makes it clear that *meaning* does not travel from one communicator to the another. What travels is a *signal*. A signal, of whatever physical form it might be, has for the originator or source the specific meaning he or she has encoded in it. A receiver can *decode* a signal, provided two conditions are satisfied: he must (1) recognize it as a signal, and (2) have a specific meaning associated with it. On the technical level, moreover, it is usually taken for granted that the sender's and the receiver's codes are the same.

In the realm of telegraphy, Morse code, and other technical signaling systems, the "identity" of the sender's and the receiver's codes can be assured by simple means *outside* the communication system (e.g., distributing a priori a list of permitted signals plus their fixed meanings). In non-technical, i.e., not deliberately designed communication systems, the assumption of any such identity of codes and meanings becomes precarious.⁵

When the communication system is a natural language, we tend to ignore that precariousness. Natural language is learned in interactive situations, that is, in situations where speaker and hearer are reciprocally part of each other's experiential field and where, therefore, there is some feedback regarding the hearer's interpretation of the speaker's utterances, as well as feedback regarding the speaker's expectations about the hearer's responses.

Every child, in order to survive in its community, must learn to interpret a great many linguistic signals in terms of responses that are considered compatible by the adult speakers among whom it lives. "Shut the door!" for instance, must be responded

to with a sequence of motor acts which has to be learned in a succession of experiential situations, a succession which provides occasion for the acquisition of simple but nevertheless specific skills and, above all, occasion to experience what has to be avoided. Most of us have been scolded at one time or another for slamming a door when the instruction was to shut it. In time, we have learned to shut doors so that the givers of the command are satisfied—which is to say, we learned to adapt our interpretation of their signal to their expectations. But that learning was neither intuitive nor instantaneous—it required a certain number of trials, errors, and the gradual isolation of *viable* ways of responding. We would not expect a child that grew up in igloos or tents to have acquired either the skills to comply with that command or, indeed, the meaning of the phrase. Though this example is extremely simple, the principle it illustrates is fundamental to all linguistic communication: a linguistic message, under any circumstances, can be interpreted only in terms of the receiver's experience.

At the beginning of the 18th century, Giambattista Vico formulated a constructivist epistemology by saying that humans can know only what humans can construct. That also fits the theory of interpretation. In order to understand a piece of language I hear or read, I must build up its meaning out of conceptual elements which I already possess. If I am told that a mermaid is a creature with a woman's head and torso and the tail of a fish, I need not have met such a creature in actual experience to understand the word, but I must be somewhat familiar with what is called "woman" and what is called "fish" to construct a meaning for the novel word. And if I am not told that the fish's tail replaces the woman's legs, I may construct a notion that is more like a fish-tailed biped than like the intended traditional mermaid. My deviant notion could then be corrected only by further interaction, i.e., by getting into situations where my conception of a creature with legs as well as a fish's tail comes into explicit conflict with a picture or with what speakers of the language say about mermaids.

Once we realize that words cannot refer to things that exist independently of an experiencer but only to speakers' and hearers' representations of experiences, it becomes clear that communication is possible only within the bounds of what Maturana has called a "consensual domain"⁶, i.e., a domain in which the communicators have adapted their conceptualizations to the conceptualizations of others by a succession of interactive experiences. The notions, concepts, representations, or meanings of two communicators, however, can never be compared to establish *sameness*—they can only be tested for compatibility, and such compatibility as has been or can be established will necessarily be relative, because the number of testing situations is, in practice, always limited.

It is important to realize that the compatibility of two items does not entail their identity. Indeed, a demonstration of compatibility cannot even be turned into a proof of likeness. We believe to have *understood* a piece of language whenever our understanding of it remains viable in the face of further linguistic or interactional experience. Only a subsequent statement or speaker's reaction to our response can indicate to us that an interpretation we have made is not compatible with the speaker's intended meaning.

The more or less permanent meanings each one of us has established for words and phrases in the course of acquiring a given language is the direct result of our

individual histories of interaction with speakers of that language. Insofar as our reactions to others' recurrent use of a word have turned out to be and remain compatible with those speakers' apparent intentions, we believe to have *understood* what they intended; and insofar as we have abstracted a conceptual structure from repeated uses of a word, that conceptual structure is, for the time being, what we think of as its meaning. The more frequent the situations in which our meaning of a word seems to fit a speaker's intention, the more we will tend to believe that it is *the* conventional meaning—and almost inevitably we forget that fit, no matter how often it might recur, does not demonstrate that our understandings actually match a speaker's intended meaning. There is always a next occurrence of the word that may show us that our understanding was a misunderstanding.

To *interpret* an utterance or a written piece of language (be it a message or a text) requires something more than the construction of its conventional linguistic meaning. In fact, to interpret an utterance requires the insertion of whatever we consider its conventional meaning into a specific experiential context. In the case of a prosaic message, this is relatively easy to see. If a subject, S, let us say Susan, leaves her office, walks out on the parking lot and picks up a sheet of paper on which someone has written, "Thursday, November 11th, 3 p.m.," she will have no difficulty in understanding the words or symbols, but she will probably be quite unable to *interpret* them. They clearly specify a particular hour on a particular day, but since she has no clue as to why that point in time is being specified, she has no way of relating that conventional meaning to the framework of her own experiential world. Had she found the sheet fixed to her car in a way that she would consider deliberate, she would search her mind for a possible sender and a plausible interpretation in terms of an experiential event or situation to which the message might refer. But the sheet of paper came to Susan from nowhere and without a pragmatic context. Hence, though she knows what it says, she cannot tell what it is intended to mean.

In the case of a text, the situation is more complicated. First of all, there are different kinds of text. If Susan, instead of a single sheet, had picked up and read a primer or a school book of any discipline, she might have acquired some new conceptual structures because the text would have led her to combine conventional meanings she already possessed in ways she had not previously combined them. In that sense, the text could modify and expand the range of her over-all conceptual network. The mechanism of such conceptual expansion is, in principle, similar to the mechanism that enables us to acquire a concept of *mermaid* without having to construct it from direct experience. There is nothing obscure about it. It derives from the fact that the language user comes to establish "conventional rules of language." As in the case of word meanings, the speakers of a given language come to obey and abstract rules of word combination as a result of their continuous interaction; and again, any such adaptation and abstraction must be based on the individual construction of patterns of concepts and actions which turn out to be compatible with actions and reactions of other users of the language.

Primers, school books, and the like, usually declare their didactic purpose in the title, which might say "Italian for Travelers," or "Introduction to Meteorology," and they give sufficient indications as to how the concepts they explicate are to be linked to potential experiential situations. That is to say, they explicitly point out what was

lacking in the message on the sheet of paper, namely, how the reader who understands the words and phrases they contain can apply his understanding to his or her own experiential world. And since that experiential world may at some time come to comprise a journey to Italy or an occasion to discuss meteorology, the conceptual structures Susan may derive from the found text are, at least in principle, liable to be tested for compatibility in interaction with others.

What, however, if Susan had found a novel? Literary writings usually do not indicate their purpose. They may, of course, have some didactic effect, but that effect is, as a rule, considered beside the point in a discussion of literary interpretation. If the novel Susan finds, for instance, describes at some point someone walking in Paris, and Susan gathers from that description how one gets from the Pont Saint Michel to the Place Vendôme, that kind of learning would surely be deemed irrelevant to the interpretation, let alone evaluation, of the novel as a piece of literature. Yet, it is far less clear whether the fact that a novel suggests to the reader a way of dealing with a fiercely jealous spouse is to be deemed altogether irrelevant from a literary point of view.

Is it the author's didactic intention that matters? One can hardly doubt that Ibsen wrote *Ghosts* to teach the public a lesson. And while there may be little, if anything, to warrant the assumption that Goethe published *The Sorrows of Young Werther* in order to warn young men against falling in love with married women, it would be difficult to maintain that, when writing *Faust*, he did not intend to impart some kind of wisdom. However, if we accept any such supposition—and it might seem quite reasonable to do so—it immediately raises a serious question: How on earth can a reader be sure that the wise conclusions he or she draws from the text do, in fact, constitute the wisdom the author intended to impart? That question, needless to say, must be raised not only with regard to wisdom but with regard to any *deeper* meaning or content that is presumed to lie beyond the conventional linguistic meaning of words and phrases.

Any proficient speaker of the language in which a literary text is composed can be expected to understand the words and phrases the text contains.⁷ But that kind of understanding (which, in principle, is equivalent to what Susan could bring to the found message) is not the kind literary scholars have in mind when they discuss whether or not a certain interpretation of a text is justifiable, plausible, or correct. I submit that whatever one might choose as the measure of justification, plausibility, or correctness when one is concerned with literary interpretation lies beyond the realm of linguistic competence (which is taken for granted as prerequisite) and involves relations one establishes between the conceptual structures called forth by the text and the conceptual network that constitutes one's own experiential world. These relations, by definition, are subjective, in the sense that they cannot connect anything but the reader's own conceptual structures with the reader's own experiential world.

Again, there are three types of elements involved: the conceptual structures that constitute the linguistic understanding of the text; the over-all conceptual fabric that constitutes what we call our experiential world; and the conceptual links used to connect the two. Analogous to the way new conceptual connections are formed when we first encounter the word "mermaid" and construct a meaning for it, reading a piece of literature may lead us to modify or extend the conceptual fabric of our world. But

whereas we can test our concept of mermaid for viability in contexts where others use the word, there is usually no possibility of testing one's interpretation of a novel or a poem for its compatibility with the author's intentions.

The fact that the reader has, as a rule, no possibility of interacting with the author renders it questionable, to say the least, whether it could ever be established that a given interpretation of a text is right or correct in the sense that it embodies the author's intended meaning. In the first place, there is no way of establishing whether or not the text is, in fact, a viable expression of the intended meaning. Authors, after all, have no external reason to question the expressive adequacy of their texts, unless they become aware of the fact that readers interpret them in ways that are incompatible with what they, the authors, intended. If an author does become aware of such a discrepancy (in the contemporary scene it might, indeed, be brought home to him by a critic's review), he may still tend to blame the particular reader's insufficiency of interpretive acumen or effort rather than his own technique or ability of expression. (There are, I believe, few instances of authors rewriting their literary texts because of readers' misinterpretations.)

The question of the expressive adequacy of a text, however, becomes almost irrelevant in the face of the obstacles that preclude any verification of a reader's interpretation. If no direct interaction between reader and author takes place, there may, of course, be some indirect interaction, in the sense that the reader interprets other works, comments, or explanations of the author in question. Any such further reading may or may not lead to a modification of the reader's interpretation of the first work; but the interpretation of the subsidiary readings will, as a rule, be no less uncertain than the interpretation of the original text—and two uncertainties do not add up to more certainty.

If, indeed, the reader consults critics' or other experts' comments and explanations, this complicates the issue, because it introduces yet another interpretive step. What critics and experts say, again, can relate only to their own interpretation of the author's text and not to the author's intended deeper meaning. The reader thus must interpret what they say about their own interpreting. At best, this may lead to some consensus about how the text can be interpreted, given the conceptual fabric that constitutes the reader's and critics' experiential world. But such a "shared" experiential world exists only to the extent to which individuals have interactively established a consensus; it cannot possibly extend to include an author who has not participated in that interaction.⁸

Theoretically, then, one would expect that individuals of an interacting social group could arrive at a consensus concerning the interpretation of a given text. In fact, that seems to happen in certain places and at certain times. But since whatever consensus is achieved can be no more and no less than a relatively smooth fit of individual actions and reactions, a consensus concerning an interpretation does not, and cannot, imply that the participating individuals' interpretations have to be the same. A consensus merely requires that the manifestations of their interpretations are mutually compatible and do not give rise to perceptible clashes.

Thus there would seem to be an inevitable indeterminacy about the correctness of anyone's interpretation of a text. No amount of investigation of related texts and no amount of interpreting other readers' or critics' interpretations could ever establish

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that there is *one* true meaning of a text, let alone one that matches the author's intended meaning. By means of direct interaction, some interpretations may be eliminated as no longer viable, but they cannot confer the stamp of uniqueness or correctness on any that survive. The viability of an interpretation, after all, can be assessed only from the interpreter's point of view.

This state of affairs is analogous to the state of affairs in science. No matter how well a theory works within the framework of scientific goals—explanation, prediction, and control—it can never be shown to describe or match an ontological reality, nor can it be shown to be the only possible interpretation of the scientists' experiences. There is, however, an important difference. The scientist has, as a rule, a fairly well-defined framework of goals. He searches for explanations with a view to predicting and controlling experiential situations. In that respect, the mantic (though he may have used a different methodology) is related to the scientist, because he, too, interpreted signs and omens in terms of experiential situations. Both he and the scientist are judged according to how well some experience that is subsequent to their pronouncement can be fitted into their prediction.

By contrast, literary interpreters, though they might be said to explain the texts they interpret, cannot refer to subsequent experience as testing ground of their interpretations' viability. While the scientist's interpretation of experience or experiments and the mantic's interpretation of omens are, in the last analysis, always an instrument for the management of further experience, the interpretation of a literary text seems to be an end in itself. The constraints within which it attempts to achieve viability are set by the text alone and not by any external area of experience. Hence, the quest for *the* interpretation of a text turns out to be a futile undertaking. It would seem more appropriate to consider objects of literature, and of art in general, in the way suggested long ago by Paul Valéry:

Once published, a text is like an appliance of which anyone can make use the way he likes and according to his means; it is not sure that the builder could use it better than others. Besides, he knows well what he wanted to make, and that knowledge always interferes with his perception of what he has made.⁹

Notes

- 1 This parallelism of theories of interpretation and theories of knowledge must have been noticed by literary scholars who happened to read Montaigne, Vico, Berkeley, Hume, or Kant. Recently it has been explicitly stated, for instance, by Fish (1980), Schmidt (1980), and Craige (1982).
- 2 cf. von Glasersfeld, 1975; 1980; 1981.
- 3 cf. Burckhardt, 1892/1952, Vol. I, p. 502.
- 4 Shannon, 1948.
- 5 I have placed "identity" between quotation marks because even on the technical level the identity of codes can be achieved only within the causal determinism of the machinery and becomes uncertain at the interface with the human user who interprets the machine's output.
- 6 cf. Maturana & Varela, 1980.

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- 7 With this I deliberately exclude works such as Joyce's *Finnegans Wake* from the discussion, because no one could reasonably claim to be a proficient speaker of the language in which they are written.
- 8 In this context it is imperative to remember that the interactions that are relevant to interpretation must be linguistic as well as nonlinguistic.
- 9 Valéry, 1957, p. 1507 (my translation).

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References

- Burckhardt, Jakob. *Griechische Kulturgeschichte*, Vol. I-III (1898-1902). Stuttgart: Kroner, 1952.
- Craige, Betty Jean. *Literate Relativity*. Lewisburg: Bucknell University Press, 1982.
- Fish, Stanley. *Is There a Text in This Class?* Cambridge, Massachusetts: Harvard University Press, 1980.
- von Glasersfeld, Ernst. Radical Constructivism and Piaget's Concept of Knowledge. (Paper presented at the 5th Annual Symposium of the Jean Piaget Society, Philadelphia, 1975). Reprinted in F.B. Murray (Ed), *Impact of Piagetian Theory*. Baltimore: University Park Press, 1979.
- von Glasersfeld, Ernst. Feedback, Induction, and Epistemology. (Pape presented at the International Congress on Applied Systems Research and Cybernetics, Acapulco, Mexico, 1980) Reprinted in G.E. Lasker (Ed). *Applied Systems and cybernetics*. New York: Pergamon Press, 1981.
- von Glasersfeld, Ernst. Einführung in den Radikalen Konstruktivismus. In P. Watzlawick (Ed), *Die Erfundene Wirklichkeit*. München: Piper, 1981.
- Maturana, Humberto. Biology of Cognition. In H. R. Maturana & F. J. Varela, *Autopoiesis and Cognition*. Dordrecht: Reidel, 1980.
- Schmidt, Siegfried J. Fictionality in Literary and Non-literary Discourse, *Poetics*. 1980, 9, 525-546.
- Shannon, Claude E. The Mathematical Theory of Communication. *Bell System Technial Journal*, 1948, 27, 379-423 & 623-656.
- Valéry, Paul. *Au Sujet du Cimetière Marin* (1933). Reprinted in *Oeuvres de Paul Valéry*. Paris: Gallimard, La Pléiade, 1957.
- Vico, Giambattista. *De Antiquissima Italorum Sapientia*, (1710). Naples: Stamperia de' Classici, 1858.

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