

Narrative Thinking in a Structure Oriented Culture.

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One of the beautiful and optimistic lessons of Chaos Theory is, that Being is open-ended at all levels: the physical, the biological and the noetic. The less cheerful side of the coin is that we are condemned to live forever with some measure of uncertainty concerning the future. Moreover, prediction is obviously less certain insofar as the rate of change of its subject is greater. Noetic evolution is more dynamic than biological evolution, and much more rapid than physical evolution, and prediction concerning noetic evolution is therefore the least certain of all. The combination of open-endedness and uncertainty is even more evidently present in all branches of culture that are expressions of noetic evolution. This being so, we cannot predict with certainty anything concerning the near future, and even less concerning the distant future, of any specific branch of culture including literature. At the same time, since it is not possible to separate the future of literature from the cultural-cognitive context within which culture will exist in the future, an understanding of the emerging options concerning the evolution of culture in the future may perhaps also teach us something concerning the future of literature. That is to say, the problem of the future of literature is not a literary problem, but a meta-literary problem, and even beyond this: it is a problem that touches upon the evolution of culture. The point of departure of this essay is that we are in the process of a tremendous cultural shift from a content-oriented culture to a structure oriented one. Hence, the central question that I shall try to answer in this discussion is, whether literature will still to be relevant as a means of expression in the coming centuries, and whether it will be compatible with the zeitgeist that is likely to develop in a structure-oriented culture of the future.

The attempt to forecast the course of the culture of the future is not by way of being a complete illusion, and this for at least three reasons: first, we can try to estimate the character of the development of culture in the future on the basis of an extrapolation of long-term cognitive trends such as the evolution of connectivity, from the most distant past of culture and continuing into our own times. Secondly, one may also risk a prediction of the future of

literature by means of an analogy from other language dependent domains of culture, whether pictorial or verbal, and having a crucial semantic-narrative or conceptual component, such as figurative art and philosophy. Thirdly, prediction is possible, at least to a certain extent, because our thinking is hypothetical- inductive by its very nature, and the construction of conjectures is in a sense an attempt to create new nodes in the lacework of our consciousness by tying loose ends of the processes that are particularly dominant in the present. The question is, what ends of which processes in culture have to be tied in order to acquire perhaps some insight regarding the future of literature in the next millennium? This question makes obligatory at least a passing glance at the close connection between fundamental properties of culture and those of mind, the most important among which is perhaps recursive or self-embedded connectivity, which will be clarified below.

Culture can be seen as a continuous process of sophistication of embodiments of mind. In a Kantian spirit I would say that indeed we do not know, and never will know what mind is, but that it is possible to know indirectly something of mind's nature by identifying those attributes that are imprinted to one degree or another, and common to all branches of culture. This subject is obviously too vast to be dealt with here and therefore in this essay I shall be concerned briefly only with the complementarity of Connectivity-Disconnectivity which appears to be the most basic attribute of mind manifested in all products of human intelligence of all times. In what follows I shall try to show that the character of the evolution of connectivity is likely to have important implications for the fate of literature in the future.

There is no culture without symbols, and the most basic property of symbols of all kinds is connection and separation at one and the same time; this is the very core of noetic or cognitive connectivity. That is to say, every symbol connects all of the entities that it denotes and simultaneously separates them from all other entities. The power of the connectivity of symbol systems is also a manifestation of their level of generality, abstraction and degree of stratification, which are the basis for the type of classification and organization offered by each of them (Avital, 1966, 1997). Every symbol system includes a recursion or progression of connectivity-disconnectivity over time, and this produces the orders and hierarchies in our world views. Generalizing, it may be maintained that the history of culture is to a great extent the history of noetic connectivity as it is manifested in the symbol systems that human beings have produced throughout that history. The most conspicuous and the most consistent attribute of the evolution of symbol systems is that their power of connectivity is continuously increasing, and this process is in all probability irreversible. The evolution of connectivity can be clearly identified at least with regard to the last 2.5 million years: beginning with the rise of the tool making; the emergence of language at some time in the course of the past million years, through totemism, mythology and oral and written literature, philosophy, modern science. This trend continues with the formalism of mathematics and logic, and up to the attempts being made today to forge an interdisciplinary understanding of the various areas of science such as Structuralism and General System Theory. It is reasonable to suppose that the continuation of this tendency in the future will lead to the

search for yet higher levels of a common denominator as the basis for a world view of a transdisciplinary character. A world view at such a level of generality and abstraction as this will no longer be anchored in natural language but in all probability will be the fruit of structural thinking, but at an incomparably higher level than Structuralism has so far attained. This conclusion is in my opinion unavoidable since only through such thinking will it be possible to uncover levels of abstraction and generalization or connectivity yet higher than everything that has gone before.

It is customary to assume that the rise of Structuralism was bound up with the work of Ferdinand de Saussure (1959). But there is in this a reduction of the structuralist approach to its linguistic-semiotic aspect alone, and this is too partial a view. The roots of structuralist thinking are much earlier and incomparably more complex than they seem. In the context of the present discussion it is essential to recognize the roots of the evolution of this approach in the past in order to become persuaded that this may indeed become the main cognitive prism of the future. If this should indeed come about, then this fact may perhaps determine more than anything else the fate of literature. The two central ideas of Structuralism are: first, the discussion of any matter: physical, biological, social or cognitive, from the viewpoint of the systems of relationships present in it and not from the angle of the contents and meanings involved in it. The second characteristic of this approach in its deep meaning is that these systems of relationships are manifestations of innate organizational properties of the mind and are therefore by way of being mental lenses through which we interpret and construct the world independently of the type of its contents. In other words, the most important argument of Structuralism is that the systemic patterning we impose upon the objects of our consciousness is an innate property of the mind.

It seems that in every situation we relate to the world with double vision: semantic and relational or systemic at one and the same time, only that in different contexts and in different areas of culture one or the other of these two ways of relating dominates and the other is then implicit or marginal. Throughout most of the time culture has existed, the dominant aspect has been the semantic-narrative-conceptual aspect and this fact is clearly noticeable in the history of literature, art, religion and philosophy. By contrast, throughout the same period the relational aspect manifested in mathematics, logic and formal thinking as a whole, has been implicit, secondary or marginal. However, during the past four hundred years we have been in a process of flipping the coin on a colossal scale: we are at the inception of an era in which the relational-systemic-structuralist aspect will apparently be dominant, while the semantic-narrative-conceptual aspect will apparently become secondary or less. This revolution is evidently a necessary stage in the evolution of culture, since the connectivity based upon language has apparently now reached exhaustion and the transition is required to a connectivity of a formal-structural character as a condition for the continuation of the evolution of culture. If this is indeed the direction of the development of culture, then the place of literature in that culture may be expected to be marginal at the most.

The complementary duality of meaning and structure can be seen throughout the whole of culture; sometimes implicitly, and sometimes explicitly. At the same time, throughout most of the history of culture the semantic, narrative or conceptual aspect has been the explicit and dominant aspect, whereas the relational or structuralist aspect has been completely secondary to mythical-religious and philosophical thinking, and usually implicit and unconscious. Thus, for instance, every figurative painting, whether it was made in the prehistoric era tens of thousands of years ago, or created today, includes two strata: on one stratum every such painting being a pictorial text, is readable and possesses a meaning. But every figurative painting has a further stratum, and that is the systemic structure or hierarchic structure which holds between all of the sub-symbols that constitute it. The same is also true of every linguistic utterance and every literary text. We are usually not conscious at all of the second stratum, which is syntactical in essence, but that has never prevented people from using language, since as Chomsky argued, this syntactical organization is innate (Chomsky, 1968). The two viewpoints: that which focuses and interprets the world through meaning, semantics or narrative, versus that which interprets the world through classes and systems of relations, are complementary. However, they are also completely different modes of connectivity or of classification and possess completely different powers of connectivity, generalization and abstraction.

The history of relational thinking includes the history of formal-mathematical-logical thinking as well, but the limited scope of this essay does not allow me to broaden the discussion of this matter. However, it is clear that throughout the four hundred years following Copernicus, relational thinking received an enormous impetus, and during this period formal thinking has become a central instrument in modern science. It was mainly Galileo who marked the transition from the Greek rationalist and teleological thinking which explained the world in terms of values and contents, to an empirical, quantitative and relational approach (Gillispie, 1960). Here there was a very rapid evolution: from very simple classes of relations as Galileo formulated them within the context of free fall, through the work of Tycho Brahe, Kepler, Newton and Einstein, to more and more complex classes of relations, and up to most complex systems. Throughout our century the systemic approach has become the basis for most of the sciences. However, the development of scientific thought from relational thinking to systemic thinking by no means assumed that the source of these structures was in the mind, but rather that it was in the world.

As mentioned, the second component of Structuralism is the assumption of the innate structures and this aspect too has had a very long evolution whose roots are entwined with the history of rationalism. For Plato the source of knowledge was in the Soul, and all learning or knowledge was recollection of what the Soul had always known (Meno, 81). That is to say, here the idea was brought out for the first time, of innate knowledge which returned with the rationalists and especially with Descartes and Leibniz in the 17th century, and in a special version in the linguistic theory of Chomsky. The transition from the view that the source of knowledge - in the aspect of its

content and forms - is transcendent, to the view that the source of knowledge is within man himself, was long and slow. Taking some rather wild leaps, I will mention only a few outstanding personages such as Pico della Mirandola in the fifteenth century and Tommaso Campanella and Descartes in the seventeenth, who contributed to this transition by emphasizing human intelligence and the leading role of the self and self consciousness in knowledge. However, Kant contributed more than anyone else to this revolution, refuting the traditional approach which saw the mind as a tabula rasa, and in its place put forward the idea that mind or reason includes innate schematism or organizational categories. Another wild leap brings us to the beginning of the twentieth century, when the theory of relativity and also quantum theory, particularly in its Copenhagen interpretation, assume to one degree or another the participation of the observer in the characterization and possibly even the generation of the observed phenomenon (Heisenberg, 1958). From here to the Structuralist approach is but a small step.

My use of the term "structuralism" especially with regard to future culture, is somewhat broader than customary and it is therefore fitting that I should clarify the sense in which I use it. By the term "structuralism" I do not necessarily mean the study of linguistic - syntactic or generative - structures that came in the wake of the work of Saussure (1959), nor the study of formal aspects of literary works of the Russian or French schools, nor the study of myths and social structures in the manner of Levi-Strauss (Sturrock, 1979; Wittig, 1975). I mean by this term mainly the study of the metastructures of mind, but not only as a research method for the purpose of interpretation and explanation of the phenomena in some domain, but rather mainly as a conscious aim and subject of creativity. That is to say, if culture has so far been concerned throughout the whole of its history with the creation of pictorial, verbal-conceptual and formal symbol systems, which on the explicit plane have been the manifestation of the contents of consciousness, and on the implicit plane conveyed the structures of mind, then in the future one may expect a flip of the coin: on the explicit plane the structures themselves will become apparent and the contents will retreat to the implicit plane. This will require a grand synthesis or aufhebung of art, philosophy and science, but this will be achieved only at a stage at which it is possible to ignore the specific contents in each of these areas and preserve only what is common to all of them: the basic structures of mind. This structural Bead Game will be played with other means than words hence literature will have no part in it.

It is in the nature of things that when we have efficient means of connecting, we tend to neglect those which are less efficient. So, it was in the past with regard to totemism, mythology, and Aristotelian science. In our century it has happened to figurative art, and it may be that today we are also witnesses to the demise of philosophy. Despite the enormous discrepancies between them with regard to conceptualization and abstraction, the common denominator of all these branches of culture is that they are content oriented, whether based upon verbal or upon pictorial language. Like organisms, paradigms and symbol systems too sooner or later reach exhaustion of their potential for generalization, and then their metaphorical and creative potential also come to an end. In this situation the symbol system becomes a cultural

fossil and a subject for academic research, or it disintegrates into its components; or it survives only for literal purposes but not for creative activities of value. These three symptoms can be observed in the figurative art of our century: some of it is a tremendous achievement of the past which we view with admiration or boredom, while some has disintegrated into its perceptual components which are ignorantly called "abstract art" despite a complete absence of abstraction, and photography, which claims to be its continuation although its real value is mainly documentary. I fear that analogous processes, if much less extreme than those in figurative painting, have taken place in literature as well: here too attempts have been made to stretch syntax and semantics to breaking point as the Dadaists and others did on the one hand, and on the other hand the linguistic surrealism of James Joyce and his followers, who like the surrealists in painting succeeded in wringing from words further surprising semantic riches, but like surrealism in painting, for only a brief period and without a sequel. In literature, exactly as in figurative painting, the disintegration of syntax and semantics is a breaking up of the special connectivity of each of these areas of culture, only that literature is more resistant than figurative painting because we continue, and will continue, to use natural language for the needs of communication and documentation, with or without literature.

The question is whether in the culture of the future, which will move even further away from a contentual orientation towards a structural orientation, there will be room for literature, which is content oriented par excellence. Even if we suppose that language will continue to develop in the future as it has done so far, the question in principle is whether in the distant future the connective power of words will still be at all relevant to serving the maintenance of the open-endedness of mind? Will words still be capable of expressing the subject matters, the yearnings, the metaphors and the creative urge of human beings who will undoubtedly live, if live they do, in a reality different beyond all imagination from ours? A question that suggests itself is whether any invention that the future may bring is likely to serve as a life raft for the salvation of literature from the process I have outlined above; for in the past the invention of writing, and its gradual crystallization from a pictorial script to an alphabetographical one, had the most important implications regarding the development of literature of all times. Writing freed literature from limitations of visual thinking, scope, complexity and style, and protected its authenticity from the fallibility of the oral story tellers. All of the good (and bad) contributions of writing to culture as a whole and to literature in particular, came to maximal realization following the invention of printing. However, since the inventions of writing and of printing, it is doubtful whether any invention in the future is likely to serve literature as a new booster since the problem of literature is no longer the limitation of memory, the richness of language, accessibility, or portability of the narrative, but rather the possibility that we have already exhausted and reached the limits of connectivity of words as a means of symbolization.

The history of culture is inseparable from the history of the physical and mental extensions mankind has constructed. Within a mere half century mankind has transformed the computer, which is a cerebral extension, into a

mental extension and we are now at the beginning of a process of creating a global Virtual Mind which is in the course of being woven within networks that involve millions of computers. This process is in itself an additional factor that will accelerate the relegation of literature and every other cultural branch that is constructed on pure text, and this is likely to happen in two stages of completely different character: first, as a continuation of the influence of the cinema and television, most user interaction with the computer is also of the kind that encourages something of a return to visual thinking. However, visual thinking as it is today is not only content oriented but moreover of a much lower level of abstraction than that of verbal language, and works to the dismissal of literature. Secondly, at some stage in the future I believe that teams of transdisciplinary creators will be formed, who will construct the great cultural syntheses of the future. These works will incorporate color, form, sound and movement but not words; and their organization will be systemic-structural, aesthetic, holistic, dynamic and integrative at a level that there has never been before.

That is, if indeed we are at the dawn of a new cultural era of a structuralist nature, in such an approach, the structure as an organizational system is indifferent to the type of elements to be organized through it. These elements may be atoms, cells, colors, forms, sounds, or movements, but not words - since it is impossible to detach the syntax from the semantics of linguistic utterances. The aim of this type of work will be the representation of metastructures of mind, or more accurately: the complementarity of mind-reality. Therefore, it is likely that a totally new level of creativity will emerge in which there will no longer be room for the individual creator from science, philosophy or any specific art, but teams of scholar-creators from all domains that can contribute to the common work, which should represent the fundamental structures of mind. Clearly structural multimedia of this kind can be presented only with the help of computerization and therefore members of such teams will possess expertise in the relevant areas at a level that will permit them to use a computer not only as a "writing" tool, but rather, and mainly, as an instrument of thought. These works will be at a tremendous level of abstraction and complexity and these too will push literature off the cultural stage because it will be seen as irrelevant or insufficiently interesting. Finally, a symbiosis is gradually being built up between our private mind and that Virtual Collective Mind which will continue to flower at an exponential rate in the future as well. Sooner or later in the course of the coming millennium it, and we through it, will perhaps contact cultures beyond our solar system and here my imagination fails to guess what culture will blossom from such a meeting. One thing is certain: it will not be a culture built upon words, nor upon literature.

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