

Entries in *The Encyclopedia of Semiotics* (P. Bouissac, Ed.). Oxford/New York: Oxford University Press, 1998: Max Bense (pp. 72-74), Ernst Cassirer (pp. 108-110), Computer (pp. 136-138), Eugen Coseriu (pp. 148-150), Interface (pp. 319-321), Parallelism (pp. 465-467), Structure (pp. 601-603)

Ernst Cassirer

(Born: Wroclaw, Poland, July 28, 1874; died in New York, April 13, 1945)

In Cassirer's rich heritage of ideas pertinent to semiotics, there is a part that qualifies him as a visionary. Today his name is indeed associated with those who are making the networked world a captivating reality of human interactions. Cassirer himself – more a classicist than an innovator – would probably be confused at seeing his philosophy conjured in the analysis of the multi-user-dungeons (MUDs), i.e., the dialog of virtual personae embodied in textual expressions.

Cassirer's work is also referred to by scholars involved in the semiotic issues of representation as they try to advance in their attempts to emulate human intelligence. Still, Cassirer's work in semiotics remains relatively little known, although some modern semioticians (Lotman, Barthes, and Eco, among them) have pursued themes and notions that bear his imprint: symbolic expression, study of the myth, focus on culture as a semiotic system, to name just a few.

The explanation for this situation resides in Cassirer's work itself. It makes up a large body of philosophic elaborations almost Renaissance-like in scope, starting with his dissertation, entitled *Descartes' Critique of Mathematical and Natural Scientific Knowledge* (July 14, 1899, University of Marburg) and culminating with *The Philosophy of Symbolic Forms* (1923-1929, the fourth and final volume of which was published posthumously). His oeuvre is difficult, with many digressions, covering philosophic subjects ranging from themes originating in ancient Greek philosophy to the subjects of existentialism, positivism, and epistemology.

Commentators of his work place Cassirer's contributions between neo-Kantianism (probably in view of the influence that his mentor, Hermann Cohen, head of the Marburg school, had on him) and phenomenology (he takes a position close to that of Husserl in supporting a logic freed of psychological considerations). The focus of his inquiry is on knowledge, although his philosophic interrogation expands into the study of myth, language, art, religion, humanities, and the theory of science. Although not explicit, the ethical component of the work should by no means be ignored. Historic context is generously provided in his writings, sometimes to the detriment of the clarity of the argument that it is supposed to support, moreover, to prove. Cassirer was, in fact, preoccupied with the constitution of knowledge and its expression. His territory is only seldom the object domain; his inquiry regards what modern science and philosophy identify as the meta-domain. So much ahead of the current infatuation with meta-knowledge, his elaborations seem to be an exercise in abstract thinking, not a means towards a concrete end, as knowledge acquisition is today. His major works include *The Problem of Knowledge* (1906), *Substance and Function* (1910), *The Philosophy of the Enlightenment* (1951), and *The Myth of the State* (1979).

In Cassirer's view, philosophy and science evolve from myth. Nevertheless, the mythical world

is of extreme richness and therefore more dynamic than that of our theories. It is infinitely more impregnated with emotional qualities. “Science, the last step in man’s mental development,” appears to Cassirer as the “highest and most characteristic attainment of human culture” (*An Essay on Man: An Introduction to the Philosophy of Human Culture*, Yale University Press, 1962), and yet the expression of a particular condition summed up in what he called *animal symbolicum* (man is a symbolic animal). The human being is characterized by a unique ability: that of using symbolic forms. Through them, experiences with non-intuitive meanings are perceived. “Language,” he writes, “cannot be regarded as a copy of things, but as a condition of our concepts of things [...] language is a pre-requisite of our representation of empirical objects, of our concept of what we call the ‘external world’ ” (*Language and Art*, 1942).

It is obvious that for Cassirer, symbolic and semiotic are equivalent to the extent that symbol and sign are. As we know, this conception is embodied in the perennial popular assumption that all signs are symbols. While not eager to further differentiate in the realm of signs (as some of his illustrious contemporaries did), he nevertheless set the foundation for what later became the obsession with semiotics as a universal science. Hertz and Helmholtz were his precursors in defining symbols as objects of scientific inquiry: “These symbols are so constituted that the necessary logical consequences of the image are always images of the necessary natural consequences of the imagined objects” (cf. *The Philosophy of Symbolic Forms*). Transcending the functional level of existence (the world of receptors and effectors), the symbolic system is an artificial realm: “The fundamental concepts of each science, the instruments with which it propounds its questions and formulates its solutions, are no longer regarded as passive images of something, but as symbols created by the intellect itself.” Ervin Panovsky, Aby Warburg, and E.H. Gombrich later developed the thought and applied it to the history and theory of art. The symbol of concept itself is defined as a “systematic center” of interest and pertinence to all fundamental disciplines. Aware of the change in meaning of the concept, Cassirer tried to see what arches between the ancient interpretations and symbolic logic as defined by Boole, Peano, Russell, and others. He was fully aware of the metamathematical research that led Hilbert, as well as Brouwer, and Weyl, founders of the so-called intuitionist mathematics, to ascertain that the whole of mathematics can be reduced to the study of its symbols. Cassirer’s effort was to define the symbol in order to overcome the many fruitless dualistic attempts to capture the nature of human thinking and expression. Indeed, neither the Kantian distinction between form and content, nor the logical opposition true-false afford the richness of symbolic consideration. The functions of the symbol – expression, representation, meaning – allow for an encompassing perspective. This is what qualifies the symbol as appropriate for the fields of human inquiry usually considered unrelated: art, religion, science, technology.

During the III Congress of Aesthetics and Art Theory (Halle, 7-9 June 1927), Cassirer went into the details of his encompassing theory. Quite a number of scholars used the occasion to draw attention to some of the theory’s weaknesses, but they were quite unanimous in pointing out the perspectives opened to their respective fields. This prompted Cassirer to ascertain the fundamental thought behind his symbolic theory – the unified, holistic character of any symbolic (and thus semiotic) theory.

In retrospect, and in view of the many attempts to specialize the symbol, this fundamental position deserves to be recalled. Indeed, a symbolic perspective makes sense as a unified

framework, and not as yet another avenue towards limited applications and specializations as a result of which the whole is ignored to the detriment of the many components of which it is made.

Significance (the German notion of *Prägnanz* that Cassirer used covers more than significance, involving also pithiness, precision, meaningfulness) is correlative to the symbolic form. It is an intrinsic aspect of symbolic activity, reflective of the focus on the whole, rather than on the parts. A symbolically significant experience (such as cause, time, or space) conveys meaning and becomes part of self-consciousness. Symbolic significance is a relational notion. Again, the art history and theory of his time saw in Cassirer's theses a very promising avenue for their own progress during a time of their crisis brought about by an increased tendency towards ideological interpretations.

It is in this vein, and in the intrinsic inter- and cross-disciplinary perspective, that Cassirer's semiotic elaborations become visionary. And it is exactly this contribution that makes his work so attractive to current researchers in artificial intelligence and other fields of advanced scientific inquiry. The metaphor of symbols as life mirrors – a direct reference to Leibniz's *miroirs vivants de l'universe* – and not as receptacles serves as a description of the dynamic nature of symbolic activity (cf. *Symbol, Technology, Language*, 1933). Culture, as the quintessence of all symbolic systems, owes its dynamics to its semiotic condition. Only through the medium of culture can the relation between the individual and the world take place. Science, myths, art, and language are communicative structural elements between the human being and reality. When Cassirer refers to *animal symbolicum*, he actually has human activity in mind, in particular, the generation of symbols (*animal symbola formans*).

Cassirer was quite blunt in observing that “Science does not mirror the structure of being,” thus continuing the post-Kantian critical examination of how knowledge is attained and of its significance. He carried through a notion of symbolic productivity that resonates in today's attempts to build effective computational procedures rooted in a constructivist philosophy: “The logic of things, i.e., of the material concepts and relations on which the structure of science rests, cannot be separated by the logic of signs, for the sign is no mere accidental cloak of the idea, but its necessary and essential organ. It serves not merely to communicate a complex and given thought process, but is an instrument, by means of which this content develops and fully defines itself.... Consequently, all truly strict and exact thought is sustained by the symbolic and semiotics on which it is based.”

It would be risky, however, to speculate that this is an exclusive or a comprehensive foundation for what modern cognitive science focuses on. Rather, we should see it as a conceptual structure, subject to further refinement. The constructivists of our days would subscribe wholeheartedly to the notion that knowledge results from setting up a sign system within which humans can operate with more control and efficiency than within reality:

“We find that all theoretical determination and all theoretical mastery of being require that thought, instead of turning directly to reality, must set up a system of signs and learn to make use of these signs as representative of objects. Only to the

degree to which this function of representation asserts itself does being begin to become an ordered whole, a structure which can be clearly surveyed.”

Cassirer’s work bore the burden of those who illuminated his thinking – from Vico, Herder, Helmholtz, Georg Simmel, Cohen, to none other than Einstein. Its author in turn influenced – in addition to his students at the universities in Berlin (where he started his academic career), Hamburg, Oxford, Göteborg, Yale, and Columbia – many of the scholars who in the meantime gave modern semiotics its own reason to be. Kagan, who initiated what became the famous Bakhtin Circle – of significance to modern semiotics – upon returning from Germany identified Cassirer as one who influenced his philosophy of language. Panovsky, Warburg, Gombrich, and many of their followers, in Germany and throughout the world, wrote under his influence.

Cassirer’s students, in particular those at Yale University, acknowledged not only his role as a professor, but also a long-lasting influence. It was actually stated that “Cassirer was probably the most important philosopher that has taught at Yale” (*Proceedings of the Colloquium Philosophy of Culture and Symbolic Forms: New Perspectives on Ernst Cassirer*, October 1996). Although a 20-volume edition of his unpublished works was begun in 1995, it is probably too late for his ideas to effectively further the field of semiotics.

Unfortunately, his contribution was all along of less interest to semioticians, who saw in him more the philosopher (of language, in particular) and who, at times, appeared more concerned with the implicit legitimacy of their endeavors than with the significance of semiotics for those working outside its castle of arguments. Nevertheless, some of his writings continue to be read as almost prophecies of developments we currently experience:

“Physical reality seems to recede in proportion as man’s symbolic activity advances. Instead of dealing with things themselves, man is in a sense constantly conversing with himself. He has so enveloped himself in linguistic forms, in artistic images, in mythical symbols or religious rites that he cannot see or know anything except by the interposition of this artificial medium” (*An Essay on Man*, p. 25).

This age is, indeed, the one in which the “tangled web of experience” that he described expands as we continue to “weave the symbolic net” of our inter-conditioning and interdependency. More than a semiotic awareness of symbolic forms, Cassirer made possible a cognitive self-awareness based on semiotic assumptions.

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