

The Concept of Information

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habitus as well as more time-limited and space-bound conceits and performances.

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Although the first appearance of the word information in English can be traced back to the 15th century, the term rose to prominence in the second half of the 20th century as a result of its increasing centrality to the natural sciences (Segal, 1998). In the aftermath of the Second World War, information was seen as a key element in the process of reunification of different branches of science under the umbrella of cybernetics or the theory of messages. Cybernetics identified information (together with communication, command and control) as a central element in the organization of living organisms and physical systems (Wiener, 1961). In this sense, the term signals a convergence of the new paradigm of molecular biology with the systemic approach elaborated by cybernetics. Identified by Claude E. Shannon with the content of a communication act,

and given an appropriate logarithmic function, information is also identified in molecular biology with negentropy, that is with that physical force which runs against the natural tendency of life to disorganization. As negentropy, information explains how organized systems persist in the face of surrounding entropic forces (Campbell, 1982). This tendency culminates in the identification of information with DNA and thus signals a conceptual shift in biology towards a kind of hylomorphism (a new dualism of form and matter) or even a neo-Platonism (where life is reduced to the expression of a pattern that can be abstracted from a physical body and replicated across a number of media).

In a parallel but connected development, the term information becomes central also within sociology, where it is seen as the controversial marker of a qualitative shift in the mode of production from industrial to post-industrial societies. Theories of the information society maintain that we no longer live in industrial societies organized around the production of material goods in factories, but in post-industrial or information

societies centred around services and knowledge work, trading and extracting value out of knowledge-as-information. The term information society is thus often used polemically as a critique of Marxist political economy which is seen as based around the outdated characteristics of industrial production and thus not able to take into account the radical implication of this shift to information as source of added value (Bell, 1976).

A critical perspective on the informatization of knowledge in post-industrial society was also introduced by Jean-François Lyotard who made information central to his analysis of postmodernity. Lyotard identified information with a shift in the status of knowledge as such, where the latter is increasingly wrested away from its status of grand explanation or narrative and bent towards the technical requirements of performativity. For Lyotard, information refers to a mode of knowledge that is no longer reflective or contemplative but performative and pragmatic (Lyotard, 1989). This shift to knowledge-as-information is also confirmed by the discipline of economics where the latter is identified as a quantitative measure that determines, for example, the different value of goods or as a factor to be considered in the temporal dynamics of markets.

In media and cultural studies, the term information is identified first by Roland Barthes' cultural semiotics as a basic level of meaning or denotation – the raw perceptual material out of which the work of connotation or ideology is done (Barthes, 1993). The term 'information', however, is later marginalized because of the problematic implication that such raw perceptual input can actually be separated from the work of signification. Information is thus generally dissolved in the subsequent discursive constructionism which remained the basic paradigm of the field in the 1980s and 1990s. In the 1990s, feminist science and technology studies also elaborated a critique of the paradigm of informationalism in computer science and cyberculture. Informationalism is identified with a discursive construction of the body that reduces its phenomenological quality of embodiment to an abstract and reproduceable pattern of data. This analysis also draws on earlier feminist critiques of molecular biology and its tendency to identify DNA with the deterministic basis of life (Hayles, 1999).

The feminist critique of information resonates with accounts of cyberculture and global communications that emphasize their destructive impact on embodied forms of experience. Information is thus seen as an abstract force that, by virtue of its instantaneous transmission and its immaterial characteristics, undermines the phenomenological basis of perception as framed by

localized space and time (Virilio, 2000). Other sociological perspectives, however, have pointed out how within contemporary societies, information is the new mode of power and hence a critique of information is as important today as that of ideology and discourse was within modernity (Lash, 2002).

From a philosophical perspective, Gilbert Simondon's work provides us with a useful alternative to the phenomenological critique of information as an agent of disembodiment and alienation. He argues that the concept of information needs to be rescued from two different but equally reductive perspectives. On the one hand, it needs to be saved from the hylomorphism of Ancient Greek philosophy which conceives it in terms of a dualism of form and matter; on the other hand, it needs to be rescued from the technical theory of information which reduces it to a message exchanged between a sender and a receiver. For Simondon, the communication of information does not involve either a dualism of form and matter or an exchange between two pre-constituted individuals, but it is an aspect of the ontological process of individuation or becoming, of being understood as existing in a condition of meta-stability. When seen from the perspective of processes of individuation, Simondon argues that the concept of information problematizes our understanding of the adaptive relation between an individual and its environment (as framed by cybernetics) and that of a knowing subject with a known object (as understood by phenomenology) (Simondon, 1989).

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