

PHILOSOPHICAL AND ETHICAL DIMENSIONS OF THE CONCEPT OF INFORMATION

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Abstract: *Human subjects, like computers, not only transmit, but also process information, evaluate it, distinguishing the usual, normal, from significant news. In addition to the computer, man is able to perform steps that allow him to collect information, which was not at the starting point, neither available nor likely to be taken spontaneously. The evaluation of information by humans also involves distinguishing authentic information from parasitic information (noise), redundant or, especially, fake and, implicitly, the development of ways and means of diagnosis to determine the validity of information.*

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A unifying trend aimed especially at the organic field, on the one hand and that of the psyche, of the socio-human centered on consciousness, on the other hand, is realized starting from the concept of information, from cybernetic and computational methods and models, correlated with the same concept. Even if the ontic status of information – as, by the way, of energy – arouses discussions and controversies, the consideration of the former as a fundamental component of real world systems (in addition to substance and energy) is generally accepted, even unavoidable.

According to P. Oleron (*L'intelligence de l'homme*, published by A. Collin, Paris, 1989, p. 176), information is not a (autonomous) whole, which would coat the nothingness, a kind of “full” which would fill a void, but a necessary complement, in relation to *functions, activities* and –

from a certain level – *knowledge*, already present. To mark the renewing significance of the *Information Theory*, geneticist Waddington noted: “It (information) establishes the crucial idea that in the world there are not only physical factors (spatial position, mass, acceleration, etc.), or chemical ones (atomic and molecular composition), but also another field of fundamentally important factors, which we can call *character specificity*” (see C. H. Waddington, *Tools for Thought*, J. Cape Ltd., London, 1977, p. 144).

Starting from telecommunication’s engineering preoccupations, Shannon and Weaver elaborated the relatively new theoretical-practical field of *Information Theory* (1949). The concepts specific to this field, such as: *information, uncertainty, redundancy, noise, information channel and channel capacity, coding and decoding, etc.* seemed susceptible to expansion in order to deepen natural language, knowledge, and the psychological subject as a whole. They were, quite quickly, adopted in the discipline of Cognitive Psychology. In Shannon and Weaver, information theory is based on the notion of *probability*, and information appears as a function (in the mathematical sense) with the opposite sign, aiming at the probability of the events in question; which means that the information carried by the event is higher, when it is rarer, less likely.

This definitive approach is also linked to the fact that the informative value in question also implies a qualitative value, an aspect of surprise. Probabilities can have distinct defining features (and therefore types): sequential probability, where the probable occurrence of an event in a sequence depends on the occurrence of the event preceding it; then, the statistical probability, depending on the size of the set from which we deduce the target element, in the sense that, the larger the set, the lower the probability of one of its elements occurring. In terms of language communication or learning, the perception and understanding of words will be more likely to be done correctly, as their occurrence is more likely, more frequent. The problem is analogous, when it comes not only to physical events or words, but also to meeting people, their way of acting and reacting.

The Shannonian concept of information explains three other essential notions of cognitive psychology and praxiology: uncertainty, choice, decision. In an action situation of choice (at least between action

and abstention) there is usually uncertainty. And the rational decision means making the choice – informally based – between several possible actions or, at least, between action and abstention, with the approximation and diminution of the inherent uncertainty.

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About the mentioned aspects of intelligence aiming at information, not only with cognitive psychology speaks, but also (in specific ways), the history, sociology, pedagogy, medicine, trade, military doctrines, politics, journalism works, etc. Pedagogy, for example, recommends, for a more thorough assimilation of new information, some fragmentation, staging, approaches, initially, predominantly metaphorical, so that the learner is not overwhelmed by the mass of new information, somewhat brutally spilled, into the avalanche. However, the aspect of surprise, related to the shock of radically new, unexpected elements, but with the avoidance of tendencies towards large disorganizations, often generated by the appearance of shockingly new pieces of information, is also preserved as a fertile pedagogical process.

In the ontology of information, W. Krajewski emphasized the existence of three fundamental components, inextricably linked, in the processes of nature and society (W. Krajewski, "Matter, energy, information," in vol. *Current metamorphoses in the philosophy of science*, Bucharest, 1988, p. 267). It is about the transfer and transformation of matter (substance), at the same time as the transfer and transformation of energy and information. Science and technology detect, assemble and transform – including for applications in extended or even new fields – a wide variety of information. For example, the sciences of education and the education system process and transform information to be assimilated (more or less well) by those who are trained.

Viewed in the light of universal causality, the three components enumerated by Krajewski are also constituted as three types of causality, which complement each other: the material cause, the energetic cause and the *informational* one. They also recall three of the four Aristotelian concepts of causality: the material cause, the effective one, and the formal one; but less about the final cause, also postulated by Stagirit, by means of which reference to the presence of convergences with religion, respectively with the purpose of Divinity were made. In one area or another of the processes of the Universe, although the first three types of causes coexist, one of them may come to the fore. For example, in the living world, as Krajewski himself notes (*Ibidem*, p. 273), “the development of the embryo is due to energetic and material (substantial) causes, which appear as external and to an informational cause, which is internal.” As genetic information decides the structure and functional characteristics of living organisms, this internal informational cause, encoded in genes, is predominant, without breaking away from energy or substantial causality.

The numerous categories of devices and technical aggregates fulfill, under informational report, two more important functions: one, of detection and recording of different signal-stimuli, otherwise, most frequently, inaccessible (telescopes, radiation detectors, etc.), and the second – even more important in scientific knowledge – of evaluating and measuring the characteristics of those signals (intensity, harmfulness and / or utility, precise location coordinates, etc.). The connection between these functions, with the respective recordings – made not only by the devices, but especially by the human subject – was interpreted simplistically in the empiricist methodologies. According to P. Oleron, there would be no simple transformation of the collections of sensitive recordings into coherent explanatory ideas.

In addition, quantified and correlated information need to be extracted from sensitive recorded data for evaluations. The latter are established, only, as rational knowledge, through ideas. Starting from this higher level, other machines are produced such as computers, which generate new (artificial) elements of intelligence. However, computer systems, with their *soft* load, can generate neither artificial freedom, nor artificial morality, in the socio-human life.

The ethical dimension of information processing, although extrinsic to intelligent machines, is, however, extremely important for man and the social system as a whole. The presence of fake information (fake news, etc.), of intentional misinformation in interpersonal relationships, for example, through some networks of foreign secret services, are increasingly widespread and worrying realities. Conquests of psychology and other information-centered sciences can be used by misinformers, who specialize in manipulating the motivation and actions of individuals, and even entire groups and communities. It should be noted that intellectuals are – despite appearances – more vulnerable to misinformation (see H.P. Cathala, *The Age of Disinformation*, Military Publishing House, Bucharest 1991, p. 55), compared to other social groups. Among the causes would be the excessive pride present here, with the generation of the illusion of believing oneself sheltered from errors and lies, illusion correlated with the so-called Faust complex, respectively of the increased attraction to occult powers and secrecy.

The avoidance of such consequences of misinformation, within the relatively free movement of ideas, can be achieved, even partially, by accompanying the information with a critical dialogue with the target audience. The path of dialogue will allow the latter to become more active, more demanding, less vulnerable and more unmanageable. Experiments in group psychology (Lewin, Sherif, etc.) show that when two groups, each with a strong and lasting cohesion, are maintained in a state of segregation and avoid dialogue, despite the neighborhood situation, they will tend to increasing hostile relations. It follows that certain limits must not be exceeded in the policy of autonomy of professional, political or ethnic minorities, unless the aim is to compromise cooperation, positive and peaceful relations – as, unfortunately, often misinformers do.

For an advanced civic education and as an antidote to organized disinformation, with destructive intentions, the same Cathala suggested that non-duplicative opinion formers (starting with teachers) make disciples understand and feel clearly the difference between a person's opinion, never infallible, on the one hand, and the honest description of facts and events, on the other. Thus, they will induce the need to always think with their own mind and to find inherent limits in the argumentation of aggressive opponents and sometimes, even in some of their own,

previous, too one-sided arguments. Taking advantage of a number of elements of Popperian critical rationalism, they will thus understand that if the assertion of a universal truth, so-called absolute, is impossible, instead rational critique and the gradual elimination of errors are always possible.

Argumentative knowledge, science, on the one hand, and guiding power, on the other, are the main protagonists of the great debates, constructions and socio-human renewals, which must be carried out without excessively, sophisticatedly exploiting intelligence, science, but also without idolizing political power.

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