CYBERNETICS: GOLEM OF THE MODERN WORLD

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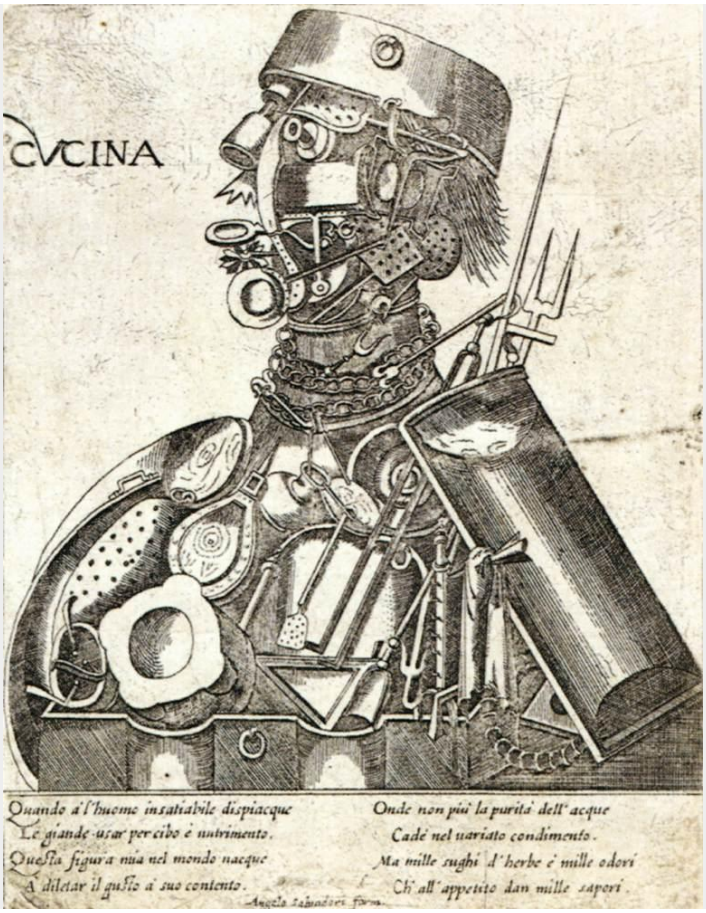

Cybernetics. The term is obsolete; its meaning almost entirely lost. And yet it retains an aura of hypermodernity, to which the futuristic imagination it conjures up is doubtless akin. It is possible that sometimes the imagination is more clairvoyant than word-usage, and that this word does not belong to the past but to the present of humanity and to its future.

This may be the case for this forgotten discipline whose root is to be found in cyberspace, at the cutting edge of technology. It could even be that what was in its time an attempt at a scientific revolution of a magnitude inversely proportional to its astonishing disappearance from collective memories, also theoretically structures technical modernity as no other discipline could dream of doing. Such is the thesis of Baptiste Rappin, professor of management philosophy at the University of Lorraine, a thesis supported by several of his articles, now gathered in a single volume, entitled, *Les origines cybernétiques du management* .

Rappin has indeed undertaken a genealogical investigation which has led him to resituate the origins of modern theories of organization and management within cybernetics, an interdisciplinary intellectual and scientific movement of the 1940s and 1950s, which has since been forgotten—an oblivion maintained by modern theorists of organization and management, readily seduced by the amnesia of this genesis from which were born all the concepts they use; surely because, as the Nietzscheans know, genealogy weakens ideology, especially when ideology reaches the stage of hegemony so that one can hardly challenge the sciences of management and economics. On the contrary, as the introduction to this anthology reminds us, Rappin's constant work of unveiling the theology of the "pan-organizational" trend places him at odds with the majority of management scientists, who conceive of their discipline only through the prism of utility.

More importantly, this genealogical research also leads Rappin to differentiate himself from the critical studies movement, which fails to grasp the specificity of pan-organizational ideology, despite its critical ambition. This specificity resides essentially in the biological—then cybernetic—concept of information. Being unable to detect this central role of information and its manifestations, critical studies have made themselves blind to the "new spirit of capitalism" (title of the book by Boltanski and Chiapello), which characterizes the modern society of information, and thus they are doomed to missing their target.

Information and Organization: The Roots of Cybernetics

To understand this new spirit is to understand its origin, which Rappin identifies in cybernetics. Cybernetics is an intellectual movement that took off thanks to the Macy conferences of the 1940s, bringing together several scientific specialists whose ambition was nothing less than to found a new conceptual matrix that would serve as a unifying basis for all the sciences, both "hard" and "human." This interdisciplinary refoundation drew largely from biology, in particular the concept of organization.

The other central concept that the cybernetics movement borrowed from the physical sciences was that of information, whose connection with the first constituted the founding principle of cybernetics. Norbet Wiener gives the following definition: "Information is the name for the content of what is exchanged with the external world as we adapt to it and apply the results of our adaptation to it. The process of receiving and using information is the process we follow in adapting to the contingencies of the surrounding environment."

It was thermodynamics, now surpassed, which allowed cybernetics to articulate these two concepts. Indeed, information is only the substratum of thermodynamic exchanges; it is the "content" which cannot be reduced to the container (energy) and cannot be measured. It is also thermodynamics and the reinterpretation of its second principle that allows Wiener to define it negatively as the inverse of entropy: "Just as the quantity of information in a system is the measure of its degree of organization, the entropy of a system is the measure of its degree of disorganization; one is simply the negative of the other." As Rappin points out, in-formation must here be understood as shaping, opposing entropy, that is, undifferentiatedness.

Information and its accumulation, organization, constitute respectively the arche and the telos of cybernetics. Nevertheless, not all information is information, since even it does not escape entropy. The content of a message can indeed get lost in the “noise,” a concept of the communication sciences that has been effortlessly transferred to the classical economics, thanks to cybernetics. This is where the last cornerstone concept of cybernetics comes in: the feedback loop, which allows the highest possible degree of organization by controlling the information in order to avoid its loss. However, any model of control implies the establishment of finalities without which no measurement is possible. This teleological problem has the merit of forcing cybernetic theories to clarify their foundations and, by placing them in the history of ideas, to see their limits and to formulate a critique.

Two main philosophical tendencies emerge from the reading of Rappin's work. The first, which could be described as pragmatist-consequentialist, clearly positions itself in relation to the history of

philosophy, by means of a binary rereading of the latter, and whose overcoming leads to a non-dogmatic positivist approach. The second one differs from it by a systematic aim, in the literal sense, at the end of which its philosophy is colored by religion.

A Modern Positivism

The first of these currents finds its epistemological expression in knowledge management, which regards the concept of knowledge in relation to that of data and information. Data corresponds to the most "raw" element of any physical phenomenon. Information corresponds to the relationship between data and agents. And knowledge corresponds to the information that the agents judge to be of priority through their interaction with the world. Knowledge is here synonymous with cogniscience; that is to say with (cognitive) activity—nm it is the interaction of an agent with limited resources with the raw and unlimited data of the world. This discrepancy between limited resources and unlimited matter leads to a relativism that is both epistemological and teleological: knowledge being an action, its veracity can only be measured by its consequences.

It is this pragmatism, taken from the Americans Dewey and James, that allows the theorists of knowledge management to offer a reconciliation to the history of philosophy, which they consider to be entangled in a sterile dualism between rationalism and empiricism. "The true is everything that turns out to be good in the realm of belief" (William James)—becomes "knowledge is a justified true belief" (Nonaka and Van Krogh).

However, this conception, whose proponents include the illustrious Wang Yangming, is only problematic when the "justification" of a belief is established only in terms of its practical consequences. Rappin shows us that the main theoretical difficulty of knowledge management is also practical, and lies entirely in the question of the evaluation of the evaluation. The evaluation of a belief by its consequences only pushes back the epistemological problem to the evaluation of the consequences. The problem is very concrete in all modern organizations in which this evaluation of the consequences is nothing other than the dedicated feedback process, which it is up to the managers to analyze in order to decide on the new goals of their organization.

Relativist pragmatism is therefore forced to introduce a subjective element, which the theological current dismisses by building a system of religious inspiration. It is thus through a detour via theology, in particular the Jewish thought of the Renaissance, that cybernetics reaches the stage of theoretical

unity.

Cybernetics and God

The whole of organized Information, assuming all the attributes of divine perfection, takes the name of "collective Intelligence;" or the name given to it by the theologian Pierre Teilhard de Chardin—noosphere. Also, for the latter, it is the force that opposes the chaos of entropy: "the descending flood of Entropy, doubled and balanced by the rising tide of a Noogenesis!" This negative definition explicitly given by Wiener precisely allows for avoiding the subjectivist pitfall of knowledge management by abstracting information, and Intelligence, from human representation. Intelligence (Collective) is thus entirely in the act, "everywhere distributed, constantly valued, coordinated in real time" (Pierre Lévy). In terms of Aristotelian entelechy, Collective Intelligence is to itself its efficient, formal and final cause: God or "that which moves without being moved" and opposing the entropic non-movement.

Another major theorist of cybernetics, Norbert Wiener, founded it even more explicitly in theology by relying on the writings of Rabbi Loew, better known as the Maharal of Prague. However, Loeb's theo-cosmological conception has the particularity of inscribing division and duality at the beginning of the universe—the second letter of the Hebrew alphabet, bet, thus appears before the first in the Torah and is present in the first word of "beginning" (bereshit). The Exile, before being the historical one of the people of Israel, is metaphysical and designates the imperfection and incompleteness of all things following the Rupture. The eschatological horizon of redemption then becomes that of the search for the lost Unity, the "victory of the one over the rupture" (Neker). Wiener transposes this rupture scientifically to the notion of entropy, the force that splits the unity of the universe. From the entropic chaos, only a few enclaves of organization emerge, the understanding and multiplication of which by human scientific activity should make it possible to restore the lost unity.

However, a fundamental difference separates the scholastic theologians from their cybernetic emulators. Scientists by training, the latter are hardly inclined to metaphysical speculation and seek to secularize the premises of the former. They wish, in other words, "that what was theological become technological (or anthropological)," starting from immanence rather than from transcendence, starting from Creation rather than from God. Contrary to appearances, this enterprise has nothing to do with a semantic eccentricity and everything to do with a reversal of the tradition of Western thought of the One and the Many, consecrated by the Greeks.

Cybernetics, or Sophistic Modernity

In the traditional Greek thought, crystallized in the Neoplatonism of Plotinus, supremacy is normally granted to the One over the Many. From the first Principle emanates an infinity of manifestations (the Many), which constitute the many traces of the first Principle. The Greek philosophical discipline consisted thus for a good part in identifying what Plato names the chorismos, the "breaking up," and the link between the visible manifestation and the principle which makes it come to Being.

Cybernetic thought refuses to see this disseverance—by giving, via the scientific method, priority only to the phenomena, it takes the Many as its cause—and this, despite maintaining the horizon of a divine principle of Unity. Or, more precisely, because it is a horizon and not a link. Instead of seeing in the organized phenomena the Trace of a first divine principle, cybernetics intends to reconstitute and reassemble this principle by collecting the multiple phenomena like so many pieces of a vase to be put back together. Unity seems to underlie this operation; and yet it is perpetually absent, indefinitely postponed. Cybernetics is in fact an ideology of postponement, of "differentiation" (in the Derridean sense). The phenomena do not emanate from the Unity, they constitute an infinity of signs, in which the sense flows without ever being fixed.

The reference to Unity and to God hides in reality a bias for the Many. This is the conclusion and the reproach that Rappin addresses to cybernetics. For this heir of Plato, the gigantomachia peri tès ousia remains a burning actuality—and the supporters of the Many, formerly better known under the name of sophists, have never been so numerous. The triumph of the cybernetic organization is none other than that of Hippias.

With the Many triumphs movement. In the cybernetic age, it takes the very concrete form of circulating information, of Collective Intelligence whose material effectiveness is realized within information systems, according to the founding intuition of cybernetics assimilating the human brain to a computer. Its hegemony, already comfortably assured, threatens to make disappear a whole part of the being-in-the-world which had irrigated human civilizations—reflection (or representation).

Reflection, which characterized intelligence for the Ancients to the point of its usage being designated, could thus properly disappear within the generalized fluidification induced by cybernetics. For the cybernetic Collective Intelligence, always already in action, reaction and pro-action, reflexivity is an obstacle to connectivity—that is to say, to interaction (with the environment). The re-presentation

violates the only cybernetic horizon of the Good (the accumulation of organized Information) and is in this way the opposite principle—entropy.

The disappearance of reflexivity also leads to the disappearance of consciousness and of the subject. The thinker Pierre Legendre had already identified this risk of modern "de-subjectivization," in the abolition of this "imaginary gap" between the (re)acting bodies and the abstract representations. For this anthropologist, dear to Rappin, it is the gap between his own body and the projected images, which he begins to produce through language, which constitutes the small human being in subject. Now, the cybernetic project aims precisely at the abolition of all these brakes to interaction that are distance, the gap, delimitation and even definition. The absence of definition, characteristic of the Sophist for Plato (this being "undulating with a hundred faces"), haunts cybernetics ever since its original concept of information, which is nowhere defined, except negatively.

The man of the cybernetic future is sketched out in the background; and Rappin finds the best current approximation in the figure of the *homo sacer* of the philosopher Giorgio Agamben. In ancient Rome, this term designated an individual exiled by society, which deprived him of his rights and excluded him from its law. Now, any law requires distance—that of representation—a limit between facts and their judgment. Cybernetic fluidification abolishes precisely any limit of this kind in favor of a permanent state of emergency. In the end, its utopia is that of a society without laws, an immense de facto way against which no right can be opposed.

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Featured: "Humani victus instrumenta: ars coquinaria" , anonymous engraving, dated 1569.