Chapter 9

The Medial Turn in Knowledge Society

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http://dx.doi.org/10.5772/65420

Abstract

Many discourses tend to consider change in techniques as the main trigger for social change and economic development. This paper proposes the original hypothesis that the development of new techniques occurs *at the end* of a long lasting societal process, not as its cause. The rising of the knowledge society since the 17th century is engaged today in what we called *the medial turn* – defined as a cultural shift through the generalized digital communication. This process is the conclusive stage in the modernization process of societies conceived as positive-sum-game networks. Based on MacLuhan's famous idea that the "medium is the message", we address a few questions specialists and engineers are to be confronted to in the medial age.

Keywords: technique, engineering, digital media, knowledge society

1. Introduction

The impact of the form of the media had more structuring effects in the domains of scientific interaction and cooperation than anywhere else in the field of social communication. The "global village" emphasized by Marshall McLuhan (1967)(1) 50 years ago, which has been largely criticized and ironized by his bygones at the time, has now become the overall reality. It is possible to define it as a scientific global village without borders, centers, or authorities. But this paradigmatic shift is generally considered either as the expression of the ultraliberal ideology (as a particular expression of the Hayekian "Grand Society") or as a simple expansion of dematerialized communication in "reflexive modernity" (Anthony Giddens). All this is not false, but it is merely reductive because what really happens today is the emergence of a third form of communication we are far from understanding properly. The most cautious attitude toward this shift is a humble heuristics with a great portion of skepticism regarding linear historicity—which always considers the new as the continuation of the old in another form—

and some epistemological creativity more interested in original questioning than in preserving certainties.

2. The medium is (also) the message

The form of a media dwells in its technological hardware. What McLuhan asserts with his legendary formula is more than the classical Aristotelian hylemorphism that postulates the nondissociation of form and content; it is actually its complete turnaround. McLuhan never said that the medium is a message as such, but only that the form of a given message could be completely different if the medium changed, e.g., if a roman law expressed in simple scripturality is translated into mechanical scripturality at the Gutenberg Age. The first step to be taken, if we want to investigate this transformation in the meaning of the message, is to consider how this new kind of communication functions in technological terms. In other words, how the hardware determines the software. Traditionally, technicians and engineers were supposed to understand how things work and perform to their best. But if we read McLuhan correctly, it is much more than that. One could infer that their real job refers to (or at least should) the way their artifacts open a field to meaningfulness, whose options are, afterwards, constructed by social forces. It is well known now that the invention of the wheel by Inca engineers or handymen never ended linearly in new forms of circulation and territorial policies [2,3], but was simply (but is this so simple?) used as a tool for new toys. The main difference between the Inca handyman and the engineer of our medial age is that the handyman was never asked to imagine what kind of options and meanings his invention could acquire, whereas the contemporary engineer, on the contrary, has to assume this important effort. The point is that this effort is not necessary because of the universal accessibility of information, not even (!) because of the risks that technological innovations carry on; the point is, let aside that nobody else could perform this effort, this is (or should be) part of his or her scientific responsibility.

Another point should be mentioned too. We could argue that this mission is assumed by prospective studies that could be part of the education and the professional training of the engineers. But that is only the obvious, shallow part of the problem. The most important function is, in fact, to outline all the possible options opened by hardware techniques; we refer to what we could call the aesthetic part of technical investigation. When the perspective was discovered during the Quattrocento in Italy, nobody could imagine what kind of consequences this new representation technique could have in mathematics, physics, and, especially, in practical arts like architecture. It was necessary to wait for Erwin Panofsky [4] to understand the link between all these disciplines and arts. It took five centuries for the relation between this invention and its consequences to be seriously understood. No need to say that such delays are nowadays impossible to accept.

3. From power to knowledge

Since Arnold J. Toynbee, human history can be periodized in three different societal regimes: (1) nomadic hunter gatherers, (2) traditional societies, and (3) modernity. The most important

http://dx.doi.org/10.5772/65420

sociological question is to understand how these societal regimes establish their cohesion. While nomadic societies are hold together through a strong symbiosis between actors, society, and environment, all integrated by ties of symbolic exchange, traditional societies mainly reproduce their synthesis by the media of power [4]. The particularity of this media is that it cannot be shared, you have the power or you have it not. If you lose it, somebody else would get it and reversely. In this sense, power is a resource for a zero-sum-game. Power must be legitimated. Since human agents are led by conscience and not by their instincts, situations of big risk of societal collapse excepted, this legitimation can only be reasonably asserted and universally admitted if a transcendent dimension guarantees power relations. In other words, God's will is the guarantee to legitimate social hierarchy. Due to the astronomic discoveries in the late 16th century, which drew scholastic thinking into deep contradictions between its Aristotelian frame and the newly discovered realities, the transcendent dimension backed away, especially in Europe [5]. The everlasting wars during all this century began to embody again the figure of a Deus absconditus, a hidden God who turns his back on humanity, away from the consequences of the misusages of human free will. This situation of a complete contingency is unique in human history. In the absence of God, humans had no other choice but to use their own reason (which is, after Augustinus, a gift of God) to master a kind of social order, to avoid collapse, and in other words, to share their reason and knowledge in order to figure and end to disorder and war. Instead of the transcendent divine will, a new world had to be created, imagined through the immanence of reason. But this new way to manage human affairs involved another resource than power, i.e., reason and knowledge. This is the turning point: reasonable knowledge is a resource for positive-sum-games, totally different from the zero-sum-power fuelled games. And there is more. If done properly —and this is an institutional issue of paramount importance—sharing knowledge between two or more sources gives place to a synergetic effect. This effect can only be reached if ideas and reasons have the freedom to circulate. So, the knowledge society has its roots in the early Enlightenment. It fueled the process of individualization and rationalization supported by the proofs that their synergetic answers were capable to create social order in God's vacancy.

Modernity is not a creation of scientists, technicians, lawyers or philosophers; it is the creature of the positive-sum-game. Under given conditions, this game is the chance to interconnect different kinds of knowledge in order to achieve new solutions and innovations. The misleading idea was that the man is a homo faber. He is that indeed. But he was a homo faber during all his history and did not wait the late 16th century to develop his abilities and it is, therefore, important to acknowledge that these competences began to be cumulative and synergetic only as parts of a positive-sum-game. This means that by essence knowledge sharing opposes to power games. Knowledge is the only win-win game possible. Alas, the dark side of the process is that, if human transactions are considered under this light, there is no limit in human material needs. The Greek called this illimitation pleonexia, which is the mother of all Hybris, the loss of measure. It is insofar a perversion of "human nature" since the material universe, in any traditional society, must be conceived as a strictly limited and ordered cosmos. The conception of unlimited goods is impossible in the mind frame of such a cosmos. Thus, whereas the synergetic effects achieve Enlightenment and all the modern achievements in the ideational world, this process has its shadowy or even cursed side in the illimitation of the material world.

Parallel to the elaboration of knowledge society during the 17th century, this new paradigm of human transactions gives place to what we call "risk society" since Ulrich Beck in late modernity.

Another consequence of the positive-sum-society is individualization. Even if freedom of will and action is certainly the most important normative achievement of modernity, this constitutive part of the individualization process has its dark side too. In a traditional zero-sum-society, social ties are strong and give human beings a kind of ontological security they cannot afford anymore. Social ties are strong in the traditional world because everything in the "great chain of being" (Arthur O. Lovejoy), which forms its cosmos, is linked by relations of indebtedness, especially among humans. And, the social logic of zero-sum-games is the imbalance of cost and benefits in every form of transaction. If (A) makes a profit (a+) on the costs of (B), (a+) and (b−) are equivalents under the condition that in a further transaction (A) has to carry the costs and (B) will profit on histurn—either as a reduced (A/B) or enlarged form of exchange (A/B/C….A). Under the condition of positive-sum-game, (a) and (b) are not in a relation of indebtedness, but of mutual profit, either in a reduced dual (a+) ⇒ (b+) or in collective form (a +) ⇒ (b+) ⇒ (c+), etc., like in Mandeville's fable of the bees (1704), where private vices contribute to public virtue. In such a situation, social (debt) bonds are replaced by the individual pursuit of profit, happiness or vice. This pursuit is moral insofar, as the individual advantage (a+) can be considered as the condition for (b+) or (c+). This is the exact definition of individuality. In other words, the price of freedom is not just loneliness, but also the ontological insecurity. In place of God, modern individualistic societies placed the ongoing process of Mandeville's fable.

The two pillars of modernity, illimitation of goods and individualization, share obviously the same root; and insofar, the two dark sides of these pillars, the ecological collapse due to unlimited growth and social loneliness, are coming from the same origin. Unfortunately, this origin has hardly been unveiled.

4. Orality, scripturality, and beyond

But let's get back to our initial concern, the form of communication. If we consider its history we can distinguish one shift and a half—and possibly another full shift occurring today. The first and most important shift is the passage from orality to scripturality, from the word to the letter [6,7]. Besides the obvious effects of this transformation—from direct to indirect communication, from immediate to mediated proof, from concretion to abstraction, etc., —Walter J. Ong and Jack Goody underscore its cognitive effects in the direction that, once again, the medium is the message. Literacy, as training to read linearly from one side to another and from above to below, transforms the perception and understanding of the world while restructuring our brains. Once we have learnt how to read, we live in another world than in the oral one, by forgetting the memory of the former world. Another shift occurred when Johannes Gutenberg invented his printing machine. Here too the consequences were of unexpected relevance. The dereliction of high literacy (Latin and Greek) in favor of the lingua franca homogenizes

http://dx.doi.org/10.5772/65420

territories and, according to Anderson [8] builds the modern nationalist imaginary. Not to speak about the protestant schism, the democratization of knowledge, the formation of the public sphere, and, last but not least, the production of paper money. The whole process of secularization relies on this invention. In clear words, it is this invention that renders possible the modern positive-sum-society. Gutenberg was a genius handyman; he should have had the speculative intelligence of a Copernicus to draw conclusions about his invention. Both lived at the same time. We can only speculate about what would have happened if they had actually met.

Our intention in this short essay is to highlight the opportunity of a third revolution in the form of communication that we call the medial turn. By medial turn we understand the computerization of communication through electronic social networks and devices. The main differences between scriptural and medial communication are as follows:

1. The material supports are not anymore paper, pens, books, libraries, archives, newspapers, or bookshops, but hardware and software, electronic networks and architectures, and so on.
2. Immaterial issues as grammatical skills, knowledge, memory, patience, interiority, rhetoric capacities, or linear thinking are replaced by algorithms, googling, iconic capacities, high-speed competences, flexibility, ubiquitous abilities, constant updates, personal flexibility, etc.
3. Instead of linear communication, the medial world performs reticular through growing and more and more interconnected networks; besides this spatial effect, communication excludes the factor time by instantaneity.
4. On the cognitive level, the patient linear and causal thinking is replaced by high-speed rhizomatic and simultaneous cognitive structures.

The following four options should therefore be tested:

1. The medial turn is just a continuation of the Gutenberg-galaxy: there is no McLuhan-galaxy; scripturally is the last word in human communication; it is the posthistoric hypothesis.
2. The medial turn fulfills the program of scripturality; it is a qualitative shift of scripturality due to computerized devices; mediality fulfills scripturality; we can speak about as the hypothesis of reflexive modernity.
3. Mediality is per se a revolution in human communication; literally, communication is replaced by icons and numbers; we can call it that the postmodern hypothesis.
4. "Gutenberg" was only the first step in a process we largely ignore and we only named "modernity" by default; this second step should help us understand what the process of modernization really means; we call it the protomodern hypothesis (Haesler, forthcoming 2016)./11/

These four hypotheses [9,10] are all true and productive but each one from another perspective. The main criterion to distinguish them is purely heuristic: which hypothesis generates more

questions? As a matter of fact, we can neglect the first one, which is based on the "end-of-history" assumption (Fukuyama's thesis). It is enough to say "nothing new under the sun," besides the pure quantitative effect of dematerialized communication. The second one is also heuristically poor. The only question of interest is what scripturality is missing, compared with mediality. Obviously, it is the ubiquity of communication and the shift from the stock to the flow of information, as underscored by Rifkin in The Age of Access [12]. As far as in the medial age we no more have to know what, but only to know where we get the information, the Google sphere offers us an effective relief. Due to this alleviation, we can communicate without any local and temporal restraints. The postmodern hypothesis is the most radical one and seems to be the richest, in heuristic (discriminant) terms. In his thesis of "singularity," Kurzweil [13] postulates a post- or trans-human age in which, through the "law" of Moore, machinery intelligence supersedes the human one. But this radical perspective that scenarizes an anthropological revolution, where only a small elite of super humans will remain consistent with machinery, while reducing the rest of humanity to "human waste" [14], is a kind of "end of history" too; it is the proper end of human history. So, its heuristic power should be at first eschewed for ethical reasons, but it could also be for epistemological reasons. Since the "context of discovery," according to Reichenbach [15], still engages human creativity (not to speak about the "context of justification), which always has its unpredictable and imaginary part, this anthropological revolution would exclude human nature from the whole process of discovery and opens the door to endless algorithms.

If the hidden agenda of modernity is the substitution of zero-sum-game by positive-sum-game structures in the medial society, the price to pay for all the synergetic effects of this sort of games is double: (1) on the one hand the algorithmic management of every form of scarce resources, and (2) on the other hand the reduction of human nature to a hybrid, as cynically emphasized by the new guru of world sociology, Latour [16]. Probably, the algorithmic management of scarce resources could not be worse than the actual agonizing muddling-through strategy of short-term thinking politicians. On the other hand, the reduction of humans to nothing more than cross-points in a universal network destroys their uniqueness (mere singularity!) in all living systems, to be the only species who is conscious of the consciousness of other humans and to be aware that the others know it as well.

The hardware of the medial age is now close to perfection. According to our McLuhanian assumption that, as the medium determines the message, the hardware will determine the software, the only specialist to be able to imagine what kind of software could be produced by that kind of hardware are the engineers. It is quite an understatement to say that they are not fully aware of this responsibility.

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http://dx.doi.org/10.5772/65420

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