Modern Mythologies, the Media and the Social Presence of Technology

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Abstract

Modern myth-making, different from that of classic polytheism in that it continuously create "new" stories along old patterns, instead of re-narrating more of the same, has invention, inventors and technologies among its major subjects. This may seem paradoxical, since in our society technology is generally associated with cold and even impersonal rationality, whereas myths seem to deal more with dreams and emotional needs. But in a society characterised by an overwhelming *presence* of technology and at the same time by a largely spread unfamiliarity with the hows and whys of its working, myth is one of the shortest ways to bridge the gap, to create an impression of personal acquaintance: with the inventors if not with their mental processes, with the familiar and ever-repeating *tòpoi* of their heroic achievements if not with the scientific backgrounds of their projects. In time myths have become less and less simple narrations, and have been progressively incorporated into the machines themselves, and the interfaces they exhibit. This is particularly true of some objects, from radio receivers to computers, that are the most visible part of our media environment.

1. The production and reproduction of myths concerning the invention, the essence, the possible future of technologies, and particularly of those technologies that are perceived as most influent on daily life and/or on the future of the human species, have been at least since the last two decades of the XIXth Century an important ingredient of the cultural life of many Western society. A myth-making that has taken many forms: among others, that of popular biographies which will occupy an important part of this paper, of popular fiction (with the specific sub-genres of late Nineteenth Century fantastic literature and of scienti-fiction, more recently science fiction, during last century), of journalistic debate and of (political or other) pamphlets. In the Nineteenth and early Twentieth Century it has also had, quite often, the form of the monument, either built by the proud nation-states for the glory of *their* inventors, or by the believers in the grand narration of the progress and of its martyrs. The age of monuments has gradually passed by, after the rhetoric intoxication of the years between the wars, but with it only one of the possible forms of the myth has disappeared. Decade after decade, the same myth-making has become embedded in many cases, at a more or less visible level, in technology itself: consider the myths concerning the super-human thinking powers of computers, and their role in developing all stages of "artificial intelligence"; or consider the myth of the cyborg and how it has influenced the design of human/machine interaction since the early Nineties.

The myths so produced and circulated have conditioned and condition the social perception of all technologies involved , have conditioned and condition the professional culture of those who have produced the technical innovations and helped their development, have conditioned and condition the general perception of technology per se as a social factor. In short, we may say that they are an essential part of what we may call the *social presence* of technology; by using this expression I want on the one hand to emphasize the impossibility of dissociating social processes from technical changes (technology being as much a socio-cultural reality as literature or religion, modern societies being made of people *and* artifacts) and on the other to recognize the specific role that modern societies recognize in technology as a relatively autonomous historical factor. By speaking of the *social presence* of technology I also want to emphasize the fact that the role and perception of technology (in general and in specific application) in a given place and time cannot be reduced to single transmissions of informations, be they in the form of internal communications of the technical community, of the "vulgarisation" addressed to a public at large, of the diffusion of single "mythical" items; technology *exists* in social life by the mere fact of the presence of its artifacts as a part of social landscape, by the sum total of experiences it has stimulated, by the ways these experiences have been narrated, re-told,

manipulated, *and* by the voluntary acts of communication whose goal is defining the so called "image" of technology.

A critical analysis of technology in the modern world, in terms of social presence as we just defined it, should take into account not only the single myths that surround it and its products, but the process of mythmaking as such, in order to understand

-which demands it fulfills

-the major patterns that tie the mythological representation of different technologies

- the role of myths in defining what we call a (social, cultural and technical) "galaxy"

-the role of myths in the different stages of the social presence of technology: the early penetration of its image, its adoption, the debates that surround such adoption, its penetration into habits.

Obviously I shall not even try to go much beyond this general listing of issues and questions. My following remarks, which originate almost exclusively from a research on a specific genre, popular biographies of the inventors, will concentrate on four points

   a. additional notes on the use of the word myth

   b. a critique of some social uses (or "functions", another term we shall discuss) of technology-related myths

   c. a consideration on the dynamics of mythmaking in relation to the dynamics of technology development and adoption

   d. a short analysis of the *topoi* related to one great area of technogy mythmaking, which I call "the legend of the inventor".

2. Contrary to a simplistic interpretation of the term "myth", the process of mythmaking we are discussing does *not* imply, or not necessarily, a false representation as opposed to the veridiction implicit in scientific history[1].Myth-making may imply, and often does, a simplification; myth-making based on facts generally implies, in any case, a compromise between data that may be drawn from serious sources and narrative or representational patterns. In other terms, *myth* is not, in this interpretation, a "false tale", such as, according to a long Christian tradition, all ancient or "pagan" *mythoi* were; it is a *story,* different from novels or movies in that it is not attributable to a specific author, it is widely circulating under a variety of disguises, it conforms to a pattern that may be

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[1]   This statement should not be read as a "post-modern" declaration of skepticism toward historical truth. I am convinced, on the contrary, that historians have a duty to research truth and methods to find it, and that there is a positive difference between fact and fiction. Only, the idea of myth can include not only fantastic tales but also tales that are factually true in that their narration is structured along the lines of a mythical structure.

recognized as a part of what we may call the most modern of folklores, mass culture. Myths and myth-making about technology may share patterns and even whole story-structures with myths relating other fields of life, form art to young people's initiation to adult life: what makes them different from other areas of mythology is their subject matter: an aspect that the formalism prevailing in the humanities tends to disparage, but that has a very important role in matching the world of tales with the realities of social life.

Up to this moment I have sort of taken for granted the existence of what we may call a "modern mythology", a concept for which we are obviously indebted to Roland Barthes. We must now make it clearer what it has in common, what not, with the "mythology" of traditional polytheism. To put it simply, what makes modern myths different from classical mythology (or from the repertory of great Christian stories about Christ, the Madonna and the saints) is the fact that more than single stories that repeat unchanged across the decades we read or follow stories that are different from one another in many particulars, but are repetitive in their basic structures. We may so speak about *a* myth of the mad scientist even though many different stories have been narrated that focus on this kind of character; of *a* myth of the gangster ("as a tragic hero" according to Robert Warshow's famous definition) be he called Rico, Tony, or Vito. This "low intensity "mythology does not require any form of religious tie, even of the peculiar kind typical of polytheism, and may apply pretty indifferently to totally fictitious figures and to historic ones, for in mass culture as Edgar Morin demonstrated "reality is seen through the emotional lenses of imagination, fiction needs to be located in real and recognizable time and space".

Whereas classical mythology was a part and a sign of a perceived *presence* of the sacred dimension in concrete manifestation of life, in modern mythology as I defined it a continuous *exchange* takes place, between the deep stratum of emotional demands and the surface rationality of modern life, between concrete experience and the universe of meaning, between the reassuring world of known patterns and the confusing one that stands in front uf us to explore. And between the recognizable truth one can verify through sources and the ever-repeating structure of grand narratives.

The myths concerning technology are an essential part of modern mythology not only because it has such a relevant part of our life, but also because these myths have specific and absolutely important "functions" in the social presence of technology. This may explain how a product of the human mind generally considered an expression of pure rationality may be so deeply intertwined with the "irrational" (by definition?) world of myths.

We must proceed to investigate the functions of myths in the social presence of technology. I must

preliminarily make clear that the use of the term "function" should not be equivocated. Any simplistic representation of a social "demand" that creates in response a mythology (or, for that matter, an institution or a gadget) has no correspondence to how things really work. Stories abound in all societies, as ideas for new institutions or new gadgets, they are invented processed or simply told moment after moment. Some of these stories succeed better than others, and consolidate in shared myths in specific moments,   because they are perceived by relevant subjects or Bijker's "social groups" as the right answer to questions that circulate at that time (this is what explains, for instance, the success of many rumors), or because they are perceived as creating a continuity between old patterns and new processes (as we may see in the re-adaptation of the same biographical pattern of the inventor in different centuries, we shall return on this subject) or simply because they appear plausible in terms of fact.

Some of them have a longer life than others, generally because they can adapt better to different contexts. Myth-making, considered as a social process, is evolutionary like everything else, which does not mean it can't be accelerated by single figures, like an H.G. Wells for technology or a Walt Disney for children's stories.

3. This made clear, to understand the most relevant social "functions" of myths concerning technology we can concentrate on the one hand on the problem of the *social perception of things* in the modern world, on the other hand on the different, if connected, problem of the divergence between the obvious *familiarity of many products of technology and the absolute unfamiliarity of the technology* that produced them as such.

One of the most often quoted sentences in social sciences, Max Weber's "disenchantment of the world" can still give us some grain of salt, if we interpret it not in terms of a *withdrawal* of sacredness from the world, but in terms of the *separation* between the universe of things and that of meanings. Disenchantment as a reduction of things to their uses, contrary to what may seem obvious, has not neared the "materialist" society of our time to the physical universe, just the opposite.

Technology is obviously a fruit and a motor of disenchantment, and we tend to see it in terms of direct opposition to the sacred dimension; this makes us to often forget that technology has been in various historic stages also a *compensation* to disenchantment. The whole process of mythmaking relative to technology would not be understandable without this ambivalcnce that is essential to the role of machines in the modern world. Technology has been able, in the age of the great faith in progress, to

create a world wonderful and realistic in the same time, the world of the great Expos, in which things that were becoming part of daily life were at the same time projected into the myth of unlimited expectations, in which each single achievement got its meaning (both intellectual and esthetic) from the great endeavor of creating a whole new world of shared welfare. It was the world of the Edisons and Marconis, in which the meaning of an object or a group of objects was symmetrical to an individual destiny, including disappointment ("They all told Marconi// That wireless was a phoney") and success.

More recently, another myth has succeeded in creating a symbolic (and illusionistic) remedy to a real condition of meaninglessness: that of interactivity, which I already quoted as a particularly evident case of a myth that is not narrated but directly embedded in the self-presentation, or interface, of things. The idea of the "prosumer", of the consumer of computing who is made an hero by the technology itself he/she uses, is a very interesting case in which a concrete phenomenon (a development in computing that makes it possible even for non-informed users to use complex software *as if* it were a simpler interface) overlaps with a plurality of aggressive marketing campaigns centered on a "You are the protagonist" pattern, and with what we may call a specific myth-making function of some gurus of digital revolution, such as Negroponte or Gilder. An interesting consequence of this convergence is unforecasted: as it happened for the profecies of virtual reality in an earlier period the easy spread of the myths tends to reverse itself into a rapid saturation, like the passing of a fad.

The example of the interactivity myth leads us to the other great "function" of technological myth-making: that of bridging the gap between the familiarity of technological products and the obscurity of processes. The use of popular biographies , from this point of view, is typical: for the person who knows nothing, and *does not want* to know anything, about hertzian spectrum, frequencies and amplitudes, a biography of Marconi is a good compensation, that makes him or her feel less excluded from the lab. For the person who knows nothing of that "method of invention" which according to Whitehead was the single major invention of the modern world, a biography can resolve the problem, reducing the method to a repetition of the same old tale, that of the hero and the enemies he must conquer.

This helps us also in understanding another seemingly paradoxical phenomenon: mythmaking about technology is even more conservative and repetitive than other modern myths (even though as we have seen repetition is structural to any kind of myths). How can this be if technology is the place itself of innovation? Well, the fact itself of telling us the same old story about invention and inventors may make the novelty easier to accept: it must be human, after all, if it is the fruit of human creatures who are the children of age-long habits and traditions. But we may surmise also another consideration: like the

standar biographies of the inventors, also some of the most conservative institutions of the modern world, from the Fair, which is now little different from the form it took about midNineteenth Century, or the Daily Paper, whose structure has remained virtually the same for more than one hundred years, are exactly the vehicles for the presentation of novelties. The cause may be that only a relatively stable frame can be a good background for the "figure" of innovation.

The "functions" we have discussed should not make us forget more prosaic uses of myths, aqiming to the promotion of products or brands, countries or professional lobbies. Also this type of myths may influence the perception of technology, but generally in a more localized way.

4. One short consideration about the relation between the development of myth-making and that of the concrete development and adoption of technology. Should be first be read as the mirroring or a distorted echo of the second? Or should myths be considered prophecies of real developments? Or ...? There is no rule in this area, and any classification of the kind so much loved by economic historians would be vacuous. There is no direct and linear connection, which does not mean that no connection exists: on the contrary, the link exists but it is of a historical nature, with all the impredictable variety of historical events.

We can find cases in which concrete and important developments of technology have been accompanied by no relevant mythmaking on the subject, others in which a mythology has developed without any correspondent technology breakthrough; cases in which mythology has preceded the concrete developents, others in which it has followed them. A case of the first kind, the development of an humble but very important product like the photocopy. Try and compare the fame of Chester Carlson with that of Bill Gates; and yet it was Gates himself to state that without the research department of Carlson's own company no micro-software would have been introduced. So what, I hear somebody saying, we are talking computing, not photocopies... But are we sure of that? Are we sure that the myth of computing and the non-myth of photocopying have nothing to do with the way the whole story has been told, and understood? With the idea of Apple and Microsoft being part of the IBM mold more than part of the "document company"?

A case of the second kind, the myth of a phantom technology: think of all the virtual hype of the Nineties, with the promise of aptic technologies ready to come in a few months... Pure vaporware, to use a microsoftism. Phantom technologies are interesting id we are to understand the ways in which a myth can make itself credible in a supposedly hard world of scientists and materialists: one ingredient is

obviously pure marketing (and "virtuality" was a business for many a journalist, politician, *and* engineer in the Eighties), another is in many cases the correspondence of the myth to some forms of *ZeitGeist.* The obsession with multisensoriality in general, tactility in particular, found in virtuality its first target, but is still there, even if it is not expressed now by supposed technical breakthrough, more by artistic search...

For an example of retro-spective mythology, coming long after the fact one may think of Chales Babbage's Difference Engine, an object of many celebrations in the 1990's as it had been virtually unnoticed for a century and a half. An even more surprising example is the "discovery" of Jacques Vaucanson's automata. In all cases, retrospective mythologies are based more on the surprise of their real or supposed "correspondence" to new developments, than on a historical appreciation of their social presence at the time of their real existence. Myths of *clairvoyance*, one could say, not the last important of myth patterns if we consider the role of *clairvoyance* in modern magical practices...

Much more surprising, in fact, is the phenomenon of *prospective* mythology, which precedes in time real developments. The case in point is electrification: even before the birth of the Pearl Street power plant in New York which in 1881 marked the hitorical beginning of electric networks, the myth of Thomas Alva Edison as the greatest inventor of the century was alredy in full development. The *process* of electrification was destined to last decades, or even, according to Edison himself, to never end; but electricity was already recognized as the best form of energy, the most versatile and the least obtrusive for daily life, and a quantity of electrical devices were already recognized as revolutionary, from the electric lamp to the telephone. How much did the myth of electricity help the social acceptation of electricity as an indispensable, and even an unavoidable, part of daily life?

In 1886, a French writer, Villiers de l'Isle Adam, could already make the not yet 40 years old Edison the protagonist of his visionary novel, where an embryonal form of science fiction met the chronicle of technological developments; and he went so far as to make Edison say "Electricity is a wonderful Sheherazade", a story-teller at least as much as a practical innovation. In Villiers like in other writers, Albert Robida first, we can read the strict intertwining in the early age of electricity of myth-making in its most literal meaning, and the development day by day of technology. In the age of electricity, myths themselves are electrically produced.

Something similar, albeit not on such an extensive scale, can be said about the Marconi myth some years later. It was in fact a consequence and a development of the Edison myth, and it starting point can be found not in the moment of the experiments (1895) nor either in the stage of radio's advent as a

new mass medium, but in an intermediate moment, that in which the new technology became known as "wireless" in Britain, "RundFunk" in Germany, TSF in France, "radio" in the rest of the world. Familiar as a name, esoteric as a science. From that moment, *before* its recognition as the herald of a new stage of mass communication, radio got its mythical "skin" that mass communication would later inherit and further propagate: that of the symbol itself of a global time, of simultaneity as a conquer and as a new duty for everybody (for now the "right time", which was in fact everywhere the radio time, was not only the time of work but also the scientifically granted time); that of the first medium, earlier than the airplane, to "dominate space".

What has the "Marconi galaxy" as defined by Marshall McLuhan to do with this early mythology? Not much, and everything. Not much, because the following developments of radio as a specific medium, of television and later of all kinds of wireless devices (from the ubiquitous remote controls to wimax Internet connections) have made those early wonders less and less mythical, more and more obvious. Everything, because in that mythology we can find the basis of the social presence of radio as a tecnological *principle*, that has made all subsequent inventions of the galaxy not simply feasible but thinkable.

5. A mythology includes (in its classical version in particular) a series of stories, and/or (in its modern version) the ingredients and recipies for possible stories. The last point in this very schematic presentation will deal with some of the ingredients, or we can speak classically *of tòpoi*, that are typical of modern mythmaking dealing with technology. I shall take my examples from my favourite source, the popular biographies of inventors that were born as a genre around mid-Nineteenth Century, had wide circulation until the Fifties and after a partial eclipse due to the saturation of nationalistic rhetoric and to the advent of Big Science, have started circulating again with the PC revolution.

The model for a topical analysis of the kind is E. Kris' and O. Kurtz's book *Legend Myth and Magic in the Image of the Artist*, that was part, in the 1930s, of the Warburg school production. Dealing with a different but not altogether diverging subject (the artist and the inventor being all figures of what is generally recognized as human creative), *Legend Myth and Magic* teaches us to read recurring *tòpoi* as part of a sort of general portrait of "the artist" as a social pattern, to which every single artist is invited to conform and which is the criterion to judge single lives.

The *tòpoi* that may be recognized as present, if not in the totality, at least in the large majority of popular biographies of inventors between 1848 and the 1960s are four:

a. the association of his (it is indeed a rare case that of a female scientist like Marie Curie, let alone a female inventor) creativity in adult age with an obsession dating from childhood

b. the difficult social conditions in early life

c. the hostility of fellow technicians

d. some help from chance.

a. The first *tòpos* (which we can find virtually unchanged in the biographies of computer wizards like Jobs, Gates and so on) emphasizes the *original* nature of the talent, which does not derive by a teaching but from inside a mind. Innovation could not be more mythically emphatized. Moreover, contrary to the majority of "normal" people, who find their vocation through experience, in the classical inventor vocation is configured not as a subsequent *result* but as a prioritarian calling, which is after all the root meaning of the word "vocare". Vocation is an additional evidence that an inventor is not a person like you and me: he is *different*, is ideas are *new*, his genius explains itself by itself. Fact is, the early vocation of people like Marconi or Edison *is* documented in their papers and in the whole story of their lives: which is a typical example of how mythical pattern not necessarily are impose upon reality but at least in some cases can absor and make use of it.

b. Poverty is such a widespread *tòpos* of inventors' biographies that its absence is in many cases defined as surprising. So for instance an American journalist who met Marconi before WWI felt the need to explain that he was not the typical inventor, since hunger was unknown to him; and Henry Ford, in his biography of Edison, similiarly insisted that his subect did not come from a poor family, but from middle class, even though he started very early to earn his own living. Why then the myth of the poor inventor? First of all, it asserts the power of the genious, which can overcome difficulties able to defeat any ordinary people. Second, it distinguishes the inventor from the other great entrepreneurial figure, the capitalist: while this one has the power of money, the inventor has not. We may say that if he does make money at all, the inventor does it against Money itself. Or, in one model of biographies, that which Positivist rhetoric defined "the martyrs of Progress", he is simply the victim: of Money and the stupidity of his fellows.

c. The hostility of fellow inventors is probably the main dramatic ingredient of the majority of inventors'biographies, as we may see in the most widely circulated products of the genre, the so called Hollywood *bio-pics* dedicated to subjects such as Reuter or Pasteur, Edison or Bell. It emphatizes how progressive the role of the inventor is: not just creating new devices, but defeating ignorance, so deeply

rooted also in the scientific and technical communities. And, we might say, the fight between the hero and the backwardness of the presumed "community" makes it clearer how revolutionary the invention is. To quote the Kuhn pattern that is now part itself of science mythology, while "normal" advances (evolution) are understood and accepted by fellow researchers, really innovative ones (revolution) are not because they involve a "jump". The "jump" idea is so much a part of modern science and technology common sense that it is considered an essential part of technology history, even though this interpretation requires considerable overlooking of how evolution really works.

d. The last and most surprising *tòpos* involves the presence of chance in the decisive moments of invention. Why chance? Is it a religious factor? Sort of: invention after all is such a miracle that it is difficult to attribute all its merits to a single person. But there is a deep psychological truth in this *tòpos*: chance, in the story of Philippe Lebon's invention of city gas or in that of James Watt's study of steam, is an previewable factor that changes one's point of view, that makes him see things that he and others had never noticed before.

Through these, and other, *tòpoi*, the legend of the inventor creates its own synthesis of what we may call "the essence" of technology in general, of single technological innovations in particular, as a *presence* in social life.

The age of the great individual inventor has seen its influence partially reduced in the second half of the Twentieth Century (a simple test will demonstrate it: ask your friends who invented television and compare the number of the right answers with that of the people who know who invented radio); but not all the myths relating to single great inventors have disappeared, as the legends of Steven Jobs for instance demonstrates, complete with its typical *topos* of adolescent genius. The myth is more and more embedded into the technology itself, that "communicates" itself through its interface, but also through the narrations built around it day by day, "revolution" after "revolution", by the marvels promised in advertising: another tool of mediation between a technology that is farther and farther from our average skills and nearer and nearer to all aspects of our life.

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