

## INFLUENCE OF TECHNO-SCIENCE ON SOCIETY FROM A HERMENEUTIC PERSPECTIVE

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### Abstract

This article deals with the concept of progress, its development throughout recent history and how it can modify our perceptions by providing new guidelines to understand the world around us, especially once we are devoted to design a theoretical and scientific framework to discuss the idea of globalization. Moreover, a proposal to take a closer look to the concept of progress from the field known as Analogic Hermeneutics is presented, trying to overcome the love or hate dichotomy that the concept of progress usually arises when considered by different sectors of the academic world.

**Keywords:** Progress, techno-science, Analogic Hermeneutics, globalization.

### Resumen

Este artículo se ocupa del concepto de progreso, su desarrollo a lo largo de la historia reciente y cómo puede modificar nuestras percepciones dándonos nuevas líneas de trabajo para entender el mundo a nuestro alrededor, especialmente al querer diseñar una estructura científica y teórica desde la que discutir la idea de globalización. Además nos proponemos ver con deteni-

miento el concepto de progreso desde el campo conocido como Hermenéutica Analógica, intentando así superar la dicotomía amor-odio que el concepto de progreso a veces produce cuando es considerado desde diferentes sectores del mundo académico.

**Palabras clave:** Progreso, tecno-ciencia, Hermenéutica Analógica, globalización.

## 1. Introduction

Throughout our most recent history, a phenomenon has been happening which can be related to the increasing economic and social interrelation in humankind. This process has been properly referred to as globalization, having, in its origin, a strong economical significance, as such it is generally linked to the world-wide expansion of the market economy. Thus, this idea is closely related to the capacity of universality always expected to be derived from a capitalist view of the world. However, in spite of the obvious existence of this initial link, it cannot be followed that globalization should be considered either a reality or a merely economical concept (Altarejos et al. 2007). As a matter of fact, the idea of globalization as a lineal phenomenon, even though it could be understood to be false – as stated by de Sousa Santos (2006)-, is nowadays usually acknowledged. In this sense, one of the most generally accepted considerations about this concept of globalization has been declared by Stutz and de Souza (1998), who show that the globalization makes reference to a process of amplification which represents how both the world and the economic systems are structured. From this idea it becomes clear that we could reach a more integrated and independent society.

Stutz and de Souza's perspective gets significantly closer to the description of progress that is becoming apparent in our reality, although it maintains a certain degree of linearity as de Sousa Santos (2006) has pointed out. At the same time, it should be added that, as Moore et al. (2011) do, rather than a "flat" globalization process, what has been happening since World War II (although Hirst and Thompson (1999) consider that the first steps towards globalization were given just after World War I) is a more complex phenomenon that may be termed *neoliberal globalization*. This conspicuous process is neither static nor homogeneous and make possible, from the early 30s and up to the 60s, social-liberalism as a dominating force; in fact, it was not until the 1970s and the 1980s that the economical policies related to liberalism would definitely have a significant expansion and effect (Moore et al. 2011).

Tehrani and Ogden (1998), in a way, reveal as well this idea by stating that we are experiencing an increase in the number of scholars that have spe-

culated about the new structures which are rising up in the emergency of a global economy under the signature of this ‘post-industrial society’, ‘economy and society of information’, ‘post-fordian flexible accumulation’, ‘disorganized capitalism’, etc. However, Tehranian and Ogden broaden this vision towards the social and cultural environments by using words such as ‘community democracy’, ‘post-modernity’, etc. As a matter of fact, after analyzing the discourse developed about the world which is bound to come, the authors have established the existence of three major discursive transformative scenarios.

In the first significant scenario, Tehranian and Ogden (1988) include Kissinger, Waltz, Fukuyama, Barnet and Cavanagh and Fawcett and Hurrell. In this context of continuity, the future of the world system is meant to be accounted for by the adaptation to the new international circumstances of the categories and the geopolitical logic of the realist school of international affairs. The aforementioned realist school, as İşiksal (2004) or Feng and Ruizhuang (2006) has shown, presents the characteristics of a normative theory with a practical orientation which justifies the hegemonic policy of the USA. Additionally, this trend rejects any sense of harmony in international affairs, since all the States are in a constant motion to increase their sense of power, therefore any possible moral principle within an abstract realm of ideas could not be put into practice as a concrete political action, and this is so because of the true nature of these characteristics in international relations.

The second macro scenario was exposed by Tehranian and Ogden (1998) and characterized by a discourse about the so-called collapse scenarios. Here, we find Attali, Huntington and Kaplan, and a sense of euphoria is presented as a common feature derived from the end of the Cold War and a fast-increasing sense of alarm due to a clear lack of responsibility as far as the human needs of the species go; this is evident when we observe both the force of the global capital and the fast-growing industrialization that pervades our societies. In this scenario the idea of a catastrophe or a (*quasi*) eschatological consideration of the human future is a recurrent feature. This absence of preoccupation as far as the human needs are concerned, has brought along, for some of the authors in this scenario, a process of protest from the peripheral or semi-peripheral population against the power centers. Thus, the authors of this context consider plausible an ever-increasing potential risk of violence.

The third scenario to be discussed here is the one concerning the “transformation scenarios”. Here we find the Anarchists, the Libertarians, the Marxists, Tinbergen and Tehranian himself, among many others. This notorious global event is based on the idea of a fundamental transformation of the international system. Put other words, this group stands for a deep metamorphosis of the international context, theorized from a more normative and optimistic

perspective than the others. The change expectations are backed up by a policy reformation, not forgetting as well to consider a revision of the strategies, the economy, the culture and, finally, the ecological conditions. In this environment, along with those other realms placed outside the scholar scope, we may find the Spanish social movement of “los indignados” (the outraged), so relevant these days internationally.

Hence, we may therefore declare that to talk about globalization and the consequences it creates in the new world means to make a clear reference to communication, social and personal relations, the new structures of power, as well as many of the most conspicuous changes within a very diverse array of fields (demographic, technological, political, social, cultural, religious, etc). (de Sousa Santos 2006).

Globalization, being as such both *immersed in* and *a basic part of* what Zygmunt Bauman has suggestively termed “liquid society”, becomes paradoxical and dangerous at the same time since it has turned into a sort of ideological and political movement. In this sense, as indicated by de Sousa Santos (2006), it has put forward a deterministic fallacy which consists in transforming the causes of globalization in its effects, putting forward the idea of the globalization as a spontaneous, automatic, inevitable and irreversible process. On the other hand, another fallacy has been gaining ground: that of the disappearance of the South, this of course implies that there is no difference between North and South, or among centre, periphery and semi-periphery in the world system.

This misleading discourse implies, up to a certain extent, the vanishing of the process of “situatedness” and the lost of identity within this big macro-sociologic frame that globalization has become these days. It is worthy of note to remember that the concept of “place” makes reference to this particular space (geographical, social and cultural) we identify with and which allows us to create and recreate the feeling of “being at home”. As such, this “situatedness” is countered, then, with those processes derived from globalization itself, processes which tend to erase the singularity of both places and people alike, or to increase the value of equality as opposed to diversity and, by so doing, “getting rid of” those peculiarities of the vernacular in local territories (González Cruz 2004). Therefore, it seems that globalization and its fallacies, those ones Santos referred to, show as well a certain kind of connection with what García Canclini (2006) has defined as stimulated subjects.

This new conception of the people as stimulated beings has a lot to do with the present techno-scientific developments, since the most radical deconstruction of the subjectivity, in García Canclini’s point of view, is being undertaken by socio-communicative and genetic procedures that boost up the stimulations mentioned above. In this sense, we have to bear in mind issues

such as robotics, cloning, trans-sexuality or the fictionalizations of personality in video games, in such a way that the real meaning of being a person is facing the *maelstrom* of the techno-scientific and globalizing dissolution (García Canclini 2006). This new configuration of the human-kind must be related, it should be fairly obvious by now, to our scientific and technological progress.

## 2. The scientific-technological or techno-scientific progress.

Throughout history, the concept of progress has undergone a great deal of transformations. As a matter of fact, until half-way through the XVIII century it was considered as a sort of accumulation of truths. However, from the XVII century onwards a new conception started to take shape. This new conception was based on the consideration of progress as the search for truth. This tradition has made it into the XX century, where different philosophers and thinkers have advocated the concept of progress as the search for truth. One of the most outstanding names is of course that of Popper, who in *Objective Knowledge*, declared that our preoccupation as far as science and philosophy were concerned should, of course, be the search for truth (Popper 1972). Do bear in mind, of course, that scientists develop and evaluate fallible hypotheses that must be tested in the framework of a particular theory. Some of these hypotheses will be therefore fallible and thus it follows that new ones should be developed which will be of course subjected to new tests and trials. Therefore, it will never be possible to state categorically that a certain theory is completely true or false, the point is that it does not really matter how long this theory has managed to be of value after being put to test by the different tools of the scientific community. However, it is obvious that some theories and not others will be able to keep their validity as long as they have the capacity to overcome the fallibility tests to which they will be exposed to over and over again. As a matter of fact, science, according to this thinker, is an insatiable search, since the approach towards truth is asymptotic, and therefore we will always be in a never-ending search for this “*true* truth”.

Besides Popper, many other authors, such as Lakatos, Bunge, Van Fraassen, etc. have considered as well, in one or another way, that science is the search for truth. However, it seems that nowadays this conception of the techno-scientific progress has fallen out of grace and not many voices are heard declaring that science is the search for truth. Therefore, other scientific conceptions about progress have emerged, some of them proclaiming that progress is based on what has been termed as problem resolution procedures. This premise is backed up by authors such as Kuhn, in *The Structure of Scientific Revolutions*, and Laudan, in *El progreso y sus problemas*. In this sense

Kuhn affirms that the later scientific theories are better than the previously stated to solve problems (Kuhn 1970). On the other hand, Laudan (1986) says that his conception of progress implies preferring that theory that gets closer to solving the greatest number of empiric important problems (Laudan, 1986). Laudan is therefore aware of the fact that the coexistence of rival theories is by no means an exceptional phenomenon, rather the contrary as a matter of fact. The usual way for the scientific progress to behave implies a fundamental cohabitation of diverse rival theories. Thus, the true development of science is closer to the coexistence of rivals and to the permanent presence of the conceptual debate than to the idea of normal science stated by Khun (Laudan 1986). Moreover, Laudan declares that the task of specifying the objects of science is something merely academic and that the characterization of the scientific development in terms of transcendental features such as truth or apodictic certainty makes science to become something non-progressive. From here it must follow the fact that Laudan finally assumes that only by fixing attainable goals for science can we keep hope in backing up truly the progressive character of science (Laudan 1986).

Another important author who has been working in this issue is Niiniluoto (1984) for whom there are two different types of progress: the *progress as accumulation* (the basic idea of this conception implies that the scientific knowledge grows by a permanent accumulation of information) and the *progress as approximation to the truth* (this way of understanding progress is founded on the belief that scientific knowledge is always correctible, subjected to a permanent revision and, potentially, false).

These two conceptions of scientific progress are overcome by the following idea: progress is based on an increase of verisimilitude. For Niiniluoto, the aim of science must be structured upon the belief of knowing the unknown, and our real progress depends on our distance to that aim (Niiniluoto 1987). However, the Finnish author is aware of the fact that truth is a goal never to be achieved, but we may know if we are getting any closer to it with our theoretical frameworks. As a matter of fact, he states that science progresses by achieving information which is closer and closer to what is consider to be the truth (Niiniluoto 1987).

This proposal, progress as an increasing of verisimilitude is, from our point of view, extremely thought-provoking, but it lays out the problem of incorporating the social perception as a limiting element in the aforementioned process of verisimilitude. Therefore, the conception of progress as resolution of problems and not as a means to get closer to the truth, or as an increasing of the verisimilitude, seems to match rather well our real world, since the concept of truth always becomes a kind of problematic term to refer to in the social sciences and, especially, in the case of sociology. This is due to the

fact that, the assumption of the existence of a unique truth towards which we are moving epistemically lays down the scientific development as something rather static.

From a historical perspective, Bird (2007) has proved that there are three different approaches when dealing with the issue of the progress and, more specifically, when we want to characterize scientific advances; namely: (i) the epistemic approach, (ii) the semantic approach, (iii) the functional-internalist approach. For Bird, the epistemic approach implies to be able to develop that kind of knowledge about progress we need to understand its true nature. The semantic approach, secondly, sets truth (or rather, verisimilitude) as the central element in the definition of progress. And, last but not least, the functional-internalist approach argues that the advance that is achieved when a scientific development is successful is so if this plays a specific role (for instance, the resolution of a scientific problem). Of course, the function must be understood in such a way that the scientific agents are in a certain position to judge if the function has been validated or not.

There again, and as well from a historical perspective, Böhme (1990) considers that it is possible to state that the emergency of the concept of progress is due to the following factors: 1) the modern idea according to which progress implies a never-ending horizon; 2) the fact that progress does not imply the approximation to a well-known ideal of “completeness”, but rather it finds its measure in the present *status quo*; 3) the belief in progress itself putting forward some increasing value of what presently is; 4) the idea of progress becoming a historical principle and 5) the craftsmanship and technology, as well as the ensuing sciences, taking an essential place as far as the constitution of the progress of modernity is concerned.

The foundations of Bird and Böhme are coincidental, in a way, although to our better judgment, the statements put forward by Böhme are of a broader scope, since the author puts a huge emphasis in the socio-historic element; something that Bird seems to ignore. However, it is necessary to make clear that Böhme (1990) refers to the modernity and we may come to think that, in the postmodernity, the situation has been modified. But that is not really the case. The present reality shows us that the concept of progress, emerged from the modernity, manages to keep the same features. As a matter of fact, Agazzi (2011), in reference to the development of the techno-scientific system, says that the present process of globalization becomes the tool for the systemic elements to be generalized, in such a way that it seems to have been an unstoppable globalizing determinism that may bring about with it a concept of progress somehow different, although in essence it would keep its incompleteness, its non-finalization, its historicity and its scientific or, if one prefers, techno-scientific conditioning. Before proceeding we may briefly pause to

make clear that this unavoidable sense inherent in the globalization processes forces us to talk about it whenever progress is mentioned. Thus, in reference to the techno-scientific conditioning of globalization we may see that Dreher et al. (2010) declare that the technological innovation (and, in our words, the technological progress as well) is the machine that makes globalization work. However, and according to the essence of the progress, Agazzi has offered a beautifully thought-provoking turn of the screw by proposing that “the progress is not something to believe in, but something in which you can and must have hope for” (Agazzi, 1996). To this, he goes further by adding that having hopes means, especially, to bear in mind that final state which is considered to be good, desirable and valid. Our compromise for a better future has all the characteristics of a hope (Agazzi, 1996).

We are right in the middle of a context quite difficult to be measured and limited by a quantitative analysis: that of the imaginaries and volition. It logically follows that one of the options naturally relevant to apprehend the imaginary and the human volitions is hermeneutics. It must be remembered that hermeneutics can be understood as the art of interpretation. This interpretative process is based on the establishment and delimitation of a *text* (the idea of progress) that will be developed by a particular *author* (the scientific-technological system), this text will be “read” by a *reader* (society in general). In this reading, it will be usually understood that the scientific-technological progress is, without further enquiries, positive, since it makes life for the society easier (meaning “more comfortable”) and, besides, it gives answers and solutions for a great deal of problems. The issue here is, of course, much more complex than a first reading could give away. Let’s try to state it clearly. The problem that poses this interpretation, understood from a reductionist perspective and not as Agazzi does (1996), comes from an element of notorious simplification of the concept we are dealing with (Rescher, 1999); this is due to the fact of making more complex the phenomenon of comprehension of the scientific-technological innovations. As a matter of fact, the technological progress makes life a much more complex process since it multiplies both elections and opportunities (Rescher, 1999). However, the sociological concept of progress is reduced to a consideration of the implementation and development of those vital elements that the collective imaginary assumes as positive.

That is why the development of hermeneutic matrix is a necessary condition to allow for the study and research of the progress. In so doing we will be able to analyze those results achieved after having reached the goals offered by the description and interpretation of a particular phenomenon, as well as to evaluate the elections, opportunities and risks it generates. The application of the above mentioned matrix, as it is obvious and taking Niiniluoto (1984)



as the essential theoretical reference here, will depend on the degree of verisimilitude that it gets, and it will imply the establishment of hermeneutical elements that entail regularities (past facts, *postdiction*, o future facts, *prediction*) and that can explain the phenomena that are brought about. These hermeneutic elements demand that all scientific activity be considered as a potentially interpretable text. In such a way the scientific activity we may call *A* will generate a series of positive elements we will term *p*, being the negative elements called *n*. Additionally, there is a certain type of potentially positive (pp) and negative (pn) elements that we must detect to be able to elaborate the hermeneutic analysis of this progress. Do bear in mind here that *p* and *n* are postdictive elements and *pp* and *pn* are predictive. In such a way we would be able to establish a hermeneutic matrix that will allow us to rationalize our scientific activity.

As it is obvious, the knowledge that gives foundation to our postdictions is clear, whereas the one which allows us to establish the predictions presents a certain degree of diffusivity. However, Niiniluoto (2001) gives a solution to this problem considering that this postdictions are the *evidences* we may use in our historical studies, but, also, they are as well indispensable in our studies about the future (predictions) (Niiniluoto 2001). The objects of future studies can be conceived as a tree with long branches structured in a densely laid out pattern. By so doing, our researcher shows us how the future remains open. Therefore, the studies about the future must (i) constitute possible future alternatives and, thus, be of a realistic nature, (ii) establish the probability of future alternatives and (iii) evaluate the preference or the desire of the future alternatives (Niiniluoto 2001).

Following Pohl (2011) in a way, we can consider that the interpretation of the progress requires a transdisciplinary approach that will consist in the comprehension of the complexity of the analyzed topic, in the analysis of the different perspectives about the topic, in the increasing of the abstract knowledge and the one about case-study knowledge, and finally the oriented approximation, normative and directed to the *praxis*. Therefore, Pohl states that it is highly needed the participation of the representatives of the different disciplines of knowledge, the public opinion, the private sector and the collaboration of the civil society throughout its representatives.

The aforementioned interpretations of progress (based on postdictions and predictions) leads to suppose the comprehension of the contingent reality of the present, the contingent reality of the past and the contingent reality of the future. By which it is needed to observe and conceptualize the present, remember and interpret the past and conceive and evaluate the future (Malaska 2001).

This conception of the scientific progress is both more democratic and participative and it may bring about the minimization of the damaging effects of the globalization we have been discussing from the beginning of the text.

### 3. Globalization and techno-scientific progress

The applied techno-science is the part of the techno-scientific system that shows a bigger predictive component. Of course, this does not mean that the basic techno-science does not present a predictive component as well. What happens here is that the techno-scientific artifacts with the biggest immediate applicability do allow us to foresee more easily the social consequences derived from its use. Furthermore, both techno-sciences have an important element of design that makes them become processes, so to speak, with a clear and relatively automatic drive.

This idea of the automatism of the techno-scientific progress makes necessary the socio-political control of the scientific-technological progress, this is to avoid the fact of the neoliberal globalization developing a techno-scientific activity lacking any kind of humanistic values and views. Bear in mind here that, under the neo-liberalism, economy has been characterized by free market policies; this fact presents an internal logic and it obviously generates its own set of rules which operate outside of the human direction (Moore et al. 2011). As a matter of fact, “the intensification and expansion of scientization is broadly evident in the global knowledge economy, where firms and governments increasingly rely on science and technology to achieve, maintain, and strengthen their competitive positions” (Moore et al. 2011).

Put other words, the diverse techno-scientific advances that are being produced are expected to be correctly managed and evaluated, by so doing we are trying to avoid a dangerous drifting off the humanistic route that may be found in the globalization process. Moreover, we are already the spectators of a kind of marketing of the techno-scientific knowledge which forces those regions with a weak economical potential to be in the periphery of the techno-scientific system. This fact sets the ground for the techno-scientific materialization of the *fallacy of the disappearance of the South*, in which academic institutions reject or underestimate the research stays and Fellowships, research projects, etc. which are undertaken in collaboration with the South; of course that is the case when the research does not imply the techno-scientific neo-colonization of the *target* country. According to this, de Sousa Santos (2006) declares that the globalization presupposes the localization in the most powerful regions. That is why the techno-scientific researchers are currently looking for undertaking their academic careers in the centre of the globalized techno-scientific system. In this way the techno-scientific globalization res-

tricts the taking of decisions to the interconnection among the international agents of the world-wide techno-scientific system located right in the centre of the already mentioned system.

With respect to the development of the globalization, understood from a general perspective, de Sousa Santos (2006) affirms that a second way of producing the globalization named *insurgent cosmopolitanism* is being created. This consists in the generation of a transnationally organized resistance concerned in taking to the front the inequities produced or intensified by the globalization itself.

This “revolutionary” process allows us to have a clear view about the fact that the globalizing process, and its resulting consequences for the techno-scientific progress, may assume the possibility of a phenomenon which may create a new insurgent cosmopolis. In it the hermeneutics of the possible breaks up with the determinism of the imposed reality. As a matter of fact, this insurgence rejects the supposed deterministic objectivity of the globalization assuming a relativist unconditioned subjectivity. This affirmation may be backed up using the arguments exposed within the insurgent movements. In this sense, the 15M Movement (Movimiento 15M 2011) states in its manifesto that: “the priorities of every advanced society must be equality, progress, solidarity, open access to culture, ecological sustainability and development, the welfare and happiness of people”. Ecologists in action expose in a hyper-brief text entitled *Los mitos del progreso técnico* some poignant views, for instance it is said that: “Progress is without the shadow of a doubt a reality, especially when describing this evolution, but it is also an ideology, that is to say, a set of opinions and beliefs more or less stable, most of them unconscious, which have an influence on our behaviors” (Ecologistas en acción 2008).

The above mentioned statements show us that the ideal of progress is still assumed by the *alter-world* movements, but it involves a reclaiming for new conceptualizations of the term. This insurgence conceives a progress always in search for the epistemic equity. Put other words, the conventional techno-scientific progress has, from this perspective, a clear ethnocentric drive that is implied in the consideration of that which does not belong to the Western frame of thought as pre-scientific, mythic and pre-rational.

#### **4. Conclusion: Towards an Analogical Hermeneutics of Progress.**

If we suppose that we are designing the future and, hence, we come to think in our progress in general and in our techno-scientific progress in particular, it seems compulsory to interpret the corresponding rules of a future situation we may term *B*. However this is not as simple as it may seem to be. Starting from a given situation (let’s call this *A*), many different possible *B*-situations

may emerge, this implies the “ontological assumption that future exists as alternative, futures instead of the future, is commonly accepted among futurists” (Malaska 2001). As a matter of fact, the *B*-goal could be the realization of some kind of more desirable future state or even the avoidance of some undesired threat. The problem springs forth when the election of *B* can detonate a political, social or economical controversy in the initial *A*-State. Facing this possibility we have two general options according to Niiniluoto (2001): reaching for the consecution of some *conservative* (as in the preservation of the *status quo*) or *emancipating* (as in a radical change or a new alternative tendency) aims. Be aware of the fact that, for a non-conservative goal, there is no action *X* to be evaluated other than the elaboration of a hermeneutics of the future. If finally the utopia is preferred, as has been the case as far as the alter-world Spanish movements are concerned in recent times, the recommended actions in the set referred to as  $X = \{X_1, X_2, \dots, X_n\}$  (related to *A* and *B*) become the necessary means to express the achievement of the desired goals. The consequences are, thus, constituted by the creation of alternative scenarios for the future (Niiniluoto 2001).

In occasions, the excess of subjectivism produced by the hypertrophy of the utopia brings about a destruction of the movement itself or a kind of social blindness carried out by the fact of struggling quite seriously against some of the basic principles which regulate the life of a society. This can be observed, for instance, in the general rejection that Spain has experienced in recent times against the use of biofuels or the implantation of the electric car.

Having all this in mind, our final proposal relies on undertaking an analogic hermeneutics of the techno-scientific progress. What we mean by that is very clear, we are in for an interpretation covering both ends, the objective and subjective, of information and by so doing creating a never-ending dialogue between both sides. Put other words, and following in a way Niiniluoto (2001) or Malaska (2001) among others, it seems compulsory for us to be based on the information we already have in the present in order to figure out possible futures we may encounter and, therefore, choose from this array of futures some concrete realization of one of them (of course, this supposes the adoption of a clear criterion as far as decisions are concerned, but we shall not give this consideration much thought in the present pages). Besides having as one of our main sources of research objective information, it is as well important to introduce some degree of subjectivity in the process. This implies the increase of creativity and the development of the imagination in the hermeneutic process, but of course this drive presents its own set of risks, since it definitely can produce a sense of illusion than will never be materialized into the world of shapes and matter. We are aware of the fact that this idea poses serious problems in order to be incorporated within the techno-

scientific system, but it could be viable as long as the political system assumes the high importance of these elements generating, then, suitable criteria for encouraging the already mentioned creativity. These days, the main criterion used is that of the innovation, which is of course relevant but can be as well a bit unsatisfactory since, most of the times, it is of a rather conservative nature.

It is necessary, then, to have some well-determined goals, from a relatively realistic perspective and, hence, some relatively utopian goals as well (for a utopian goal there shall be no evaluable X-action) in order to impose a limit to the possibility of our hermeneutics of the techno-scientific progress. Having reached this point in our discourse, we would like to add that our work on the hermeneutics of the techno-scientific progress does not end here, in fact our working team is at the moment developing new research lines in the field with every intention of implementing a more concrete and systematical proposal to back up even further the present pages.

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