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SCIENTIFIC AND RELIGIOUS IMAGINARY IN THE KNOWLEDGE SOCIETY

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Abstract

Knowledge society was favoured in its evolution by the rise of information society; therefore there is a strong relation within this type of society between information, knowledge and power. But this relation is mediated by technology, which nowadays has a remarkable influence on life conditions and social dynamics. One can easily observe the particular way in which informational networks influence the development of a veritable 'social synergy' as regards the spreading of new convictions, new lifestyles, new customs and new attitudes regarding social realities. As a consequence, the relation between technology and axiology becomes significant within contemporary culture, the modern ideal centred on the moral neutrality of Science and technology becoming obsolete in postmodern times. In this respect, one could also notice the fact that the emergence of new technologies, among them the genetic ones, could have tremendous influence upon ethics debates but also upon the way in which spirituality is conceptualized. As regards the interference between scientific mythology and contemporary religious mythology, the influence of imaginary is remarkable. Thus, we consider that in knowledge society the engineer becomes directly responsible for understanding and explaining the implications of this relation between Science, technology and spirituality for the general public. What we intend to emphasize in the present paper refers to the way in which contemporary technology, as a practical effect of descriptive scientific scenarios, could influence the way in which human condition is understood and assumed at practical but also spiritual level by contemporary people. Such a situation could also have important implications as regards the ethics of research and engineering teaching.

Keywords: imaginary, knowledge society, ethics, engineering

1. Introduction

The problem of interference between scientific imaginary and religious imaginary in knowledge society is quite a complex one and has a lot to do with the characteristics of communication in the knowledge society, which is a type of society where acquiring information is a condition for attaining knowledge, communication being largely mediated by the computer. Within such type of

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society the managing of information and the processing of it in a digitized form transmissible on the Internet is also facilitated. Giving the complexity of the subject, we are going to start from the notions of *information society* and *knowledge society*, which succeed in our opinion to cover a large part of the background elements involved in the interaction of the two types of imaginary we refer to.

In spite of being for many people only an abstract notion, knowledge society becomes more and more a contemporary reality. Of course, there are large territories on earth where such a structure won't appear soon. But as far as Western world is concerned, knowledge society tends to become a fact. It is a postmodern reality and, furthermore, an effect of the so-called information society.

On its part, starting from the age of internet establishing, information society expanded continuously, transforming the way in which people communicate nowadays. Gradually, it became a world of its own, generating daily habits, specific mentalities and new ethical codes. New habits regarding communication protocols in cyberspace tend to transform contemporary society in a very complex and subtle social mechanism of exchanging information. Therefore, information society as a multilayered communicational process represents a challenge not only for Sociology or Anthropology, but also for Communication Theory [1].

In fact, information society and knowledge society are in many ways interrelated, mainly because informational exchange is vital for knowledge development [2]. Of course, there are many interesting characteristics of this relation. Information is the basis of knowledge, while knowledge is the basis of power in these types of society and, on its turn, knowledge is not linked to any type of information, but to a selected and carefully structured one. This structured character of such information enhances its technological applicability. Therefore, for accessing power, accessing the new structured information becomes mandatory.

One of the consequences of this fact refers to the specific ethics of information society. In discussing ethics specificity in knowledge society one has to face issues like the problem of information access and value hierarchies implied in the dynamics of information society. Nonetheless, the very type of ethics that is characteristic for information society is radically different from the traditional ethics of obligation or from the ethics of duty on which the rise of modern capitalist society was founded. The so-called hackers' ethics is centred on pleasure and free will, combined with curiosity and passion for developing software and hardware technology [3].

2. Case-study

The present paper is focused on emphasizing the way in which religious and scientific imaginary interact within knowledge society, therefore our effort will be oriented on underlying the specificity of such interaction. Since

knowledge society is a postmodern phenomenon, in the sense that it preserves some characteristics of postmodern society, we will try to analyze it by comparison with modern society. So we will start with this comparison between the ways in which religious imaginary and scientific imaginary interacted in these different periods of time: the modern age and the postmodern age.

One can see modernism as a rationalistic and unitary project, founded on the enthusiasm of Enlightenment period towards natural science. Modern natural science endeavour was regarded as the trademark of western civilisation, its experimental method becoming an increasingly general accepted standard for all disciplines which claimed to have a more or less direct relation with human knowledge. In this respect, the image of science was quite unitary in modern age, in spite of the diversity of scientific disciplines. Especially humanistic disciplines, as Sociology and Psychology for example, had to fight for their status as true sciences by integrating the experimental method and the mathematical component within their methodology. Nonetheless, modern science, in general, was regarded as a privileged, rational and extremely efficient form of descriptive discourse capable of unveiling and representing fundamental characteristics of nature.

Giving all these aspects, Modernity favoured a unilateral form of dialogue between science and religion: an antagonistic one. For the first modernists, most of them adopting a mechanistic view upon nature, the synthesis between science and religion were almost impossible. Religion was regarded as irrational and non-scientific, especially as regards the importance of miracles within it, since a miracle, by contrast with a scientific experiment, is a unique, unrepeatable and supernatural event that cannot be rigorously, mathematically investigated. Thus, the odds of a synthesis between modern scientific image of reality and religious image were not great.

On one hand, scientific discourse was regarded as an aggressive competitor for the religious discourse in terms of natural descriptivism. On the other hand, religions diversity was not any more so important, as regards its epistemological authority in front of science. Giving all these aspects, the interaction between religious imaginary and scientific imaginary took place at the level of general public and was not a much diversified process.

By comparison, postmodern synthesis between religious imaginary and scientific imaginary has a regional and multilayered, plural character that has to be explained. This specific character is deeply linked to the communication patterns present in information society and to the underlying postmodern attitude towards epistemic and moral authority of scientific perspective upon reality. Therefore, we consider important to underline some details that individualize the information society from a communicational point of view.

Communication through internet is a technologically mediated process and this feature influences the communication protocols and the communication daily habits of the participants to social interaction. Being highly linked to information networks, network communities have a special relation with time and space, mainly because of the information exchange speed. Thus, the

members of such structures could replace easily the feeling of territorial and historical time belonging with the feeling of non-spatial and unhistorical communitarian belonging. Since such feelings have identity influence upon people, there is no surprise that information society inherited the postmodern obsession for continually questioning concepts like identity and reality.

These concepts become more and more fluid these days. Reality becomes plural, multilayered and more local in comparison with rationalistic perspective of modernity upon reality, whereas identity suffers also a process of successive transformations. There is somehow a paradoxical exchange. Reality was unique, objective and almost culturally neutral for modernity. Modern identity was not so questionable before information society emerged, especially because it was somehow geographically localized. In postmodern age, while identity became more and more geographically non-localized, reality became multilayered and culturally modulated. [4] In postmodern times, the feeling of belonging is not any more connected to territorial borders, but to network communities clustered around an idea, an ideology, a specific picture of the world, a certain view about human condition. Cultural identity, while more and more non-geographical, becomes at the same time an active factor of modelling the cultural embedded reality for any member of a network community [5].

People do not communicate face to face so often, therefore communication protocols changed, freedom increased, together with violent language. This happens because in technologically mediated communication at great distances the feed-back cannot be a physical one for quite a long time, even thaw, in extreme cases, people can influence eventually their partner access to cyberspace. The less people know their reciprocal identity, the more they allow themselves to speak freely one to each other, without any ethical filters applied to the information exchange.

Moreover, there is another phenomenon emphasized by recent trends in philosophy of information that characterize information society and unveils its postmodern character [6]. It can be understood only from a social constructionist perspective: it refers to the phenomenon of network processing information. It seems like the processing of information has a synergic character as far as network communities are concerned. This means that such a process depends globally by the network community; also the activity of generating the reality by transforming information into knowledge. As an effect, the reality is not 'created' by the individuals separately in accordance with their local cultural environment. Rather it depends on the dynamics of network community. Hence the necessity of investigating this phenomenon from a social constructionist perspective, since social constructivism alone seems to be insufficient to explain the group communicational interaction on internet [7].

The same argument applies on the problem of choosing a specific concept for investigating the dynamics of religious and scientific representations in knowledge society, a process deeply linked and influenced by the specificity of communication within information society. We prefer in this case to use the concept of imaginary over the concept of imagination, precisely for the fact that

social representations have a quite rich and interesting evolution within community [8], whereas imaginative function itself at the individual level plays only an episodic part in the process of generating new representations. However, our choice needs to be justified in a larger context, thence the necessity for some more explanations.

As far as the concept of imaginary is involved in our investigation, we intend to use in defining it the results of the French school of Studies about Imaginary, taking into consideration the contributions of personalities like Gaston Bachelard, Gilbert Durand [9], Jacques le Goff or Jean-Jacques Wunemburger. Thus, imaginary can be considered as a term that reflects the evolution of representations as products of imaginative faculty at the level of social communities, in contrast with imagination that reflects the use of imaginative faculty at the individual level.

The very use of the term 'imagination' in relation with knowledge based society implies some difficulties, giving the fact that 'imagination' has a very complicated history in European culture, especially in European philosophy, most of all because of its difficult relation with the concept of 'knowledge'. This difficult relation started with Plato, which rejected the positive role of sensorial data for the real knowledge. Such reluctances propagated throughout the whole history of ancient, medieval and modern Western philosophy, creating a negative reputation of imagination.

These aspects influenced the whole history of imagination as philosophical concept, which was quite a difficult one. As Helene Vedrine pointed out [10], starting with Plato and up to Sartre, philosophers regarded reluctantly the imagination, especially its possible contribution to the growth of knowledge. Scientific knowledge was no exception in this regard, on the contrary, giving the fact that any imaginative excess was considered a big risk for the truthfulness of scientific discourse.

Imagination represented for many modern philosophers a dangerous source of fictions that could downgrade the scientific discourse from its fundamental goal of describing the real world in an objective and verifiable manner. This situation became obvious within the process of maturation of the modern natural science in contrast with disciplines like astrology or alchemy. In fact, most of the time religious knowledge was carefully separated from the imaginative activity, being considered a source of illusion and heresy.

At this point it is worthy to mention the introduction of 'imaginal' by Henry Corbin, as a concept capable to reflect the legitimate use of imaginative faculty in religion, at least in those religions focused on a specific book, as it is the case with Islam or Christianity. More precisely, the religious representation of surrounding world is dominated by revelation, whose products populate the 'imaginal' of believers instead of their imaginary, which in its turn has a strong social component, being dominated by communitarian mentalities and by pure inventive faculty.

However, much later, authors like Cornelius Castoriadis and others emphasized the positive contribution of imaginative faculty in establishing an image about the surrounding world, introducing the concept of radical imagination [11], which reflects the influence of imaginative faculty upon our perceptions in a certain manner. The presence of mental imagery and the use of sensory representations were also put into evidence by authors like Max Turner and Gilles Fauconnier. Using psychological research methods, they demonstrated the surprising fact that simple sensations lay at the basis of the mental activity of elaborating the most abstract scientific concepts [12]. In fact, this aspect seems to be a normal consequence of the development of human brain, which is conditioned by the continuous flux of sensory information about the external world. In fact, the absence of such a neurological-informational flux influences the human brain, which enters into an abnormal state of consciousness.

Giving all these aspects, the presence of mental imagery within the human mind effort of describing the surrounding world poses intriguing questions regarding the specificity of imaginative faculty use in scientific activity. Are there any special criteria that maintain the use of imagination and the dynamics of descriptive imaginary within the limits of rationality? We think there are such criteria and emphasizing them is worthy for clarifying the differences among scientific imaginary and other types of imaginary with a rich dynamics. In the same time, the effort of understanding the mixture between scientific and religious imaginary in postmodern contemporary society could benefit from the clarification mentioned above.

Scientific discourse, especially the one that is characteristic for natural sciences, is focused on the objective and verifiable description of natural phenomena. In this respect, the use of imaginative faculty, although far from being totally absent, is constraint to respect some limitations and some pragmatic criteria able to assure the maintaining of epistemological truthfulness of the discourse. For example, such limitations involve the careful selection of fictional ingredients within the discourse, a tendency we could call: 'fictional prudence'. In fact, the same attitude is maintained as regards the total number of postulates in a scientific theory, which has to be as little as possible in accordance with descriptive necessities of the discourse. At last, but not least, the technological potential of a scientific theory or, more exactly, its technological applicability represents a criterion which could confirm its epistemological authority and could justify indirectly the use within it of some descriptive fictions which proved to be useful for the coherence of descriptive effort, beyond the fact that they are, after all, simple products of imaginative faculty. However, in this case, the objective character of the scientific descriptions in which such fictions are involved is favoured by the fact that their evolution depends primarily not on the individual use of imaginative faculty by isolated scientists, but on the social, public exchange of descriptive representations among various scientists that are members of the same scientific communities [13]. This aspect, which refers to the ratio between the public part

and the private part of scientific representations can be linked to the particular social dynamics of information society in postmodern times and, furthermore, could lead us to the use of constructionist assumptions adopted by Luciano Floridi when he discusses the problems of information society.

The mélange between scientific imaginary and other types of imaginary [14] with indirect impact upon the image of reality for the general public is developed on new coordinates nowadays, giving the fact that information technology has influenced the cultural dynamics of contemporary society. The particular way in which informational networks influence the development of a veritable 'social synergy' as regards the spreading of new convictions, new lifestyles, new customs and new attitudes regarding social realities is remarkable. As a consequence, the relation between technology and axiology becomes significant within contemporary culture, the modern ideal centred on the moral neutrality of science and technology becoming obsolete in postmodern times. There is no neutral knowledge within postmodern society. In postmodern times every piece of knowledge involves moral commitment. Enlightenment Age and Modern Age were characterized by a candid and quite naive epistemological optimism which involved total confidence in the positive moral nature of any piece of knowledge. On the contrary, in Postmodern Age, once the spectre of an atomic disaster started to be an obsession for any well-informed citizen, the real danger posed by the morally neutral use of scientific knowledge became more visible [4, p. 42].

In this respect, one could also notice the fact that the emergence of new technologies, among them the genetic ones, could have tremendous influence upon ethics debates but also upon the way in which spirituality is conceptualized. As regards the interference between scientific mythology and contemporary religious mythology, the influence of imaginary is remarkable. Because information represents an indispensable resource on the internet, the way in which elites and hierarchies are structured depends directly to the access to information. While this access cannot be controlled and severely limited by any institution in democratic societies, including the State, the only condition for achieving real freedom within cyberspace is represented by the turning to account of the computer knowledge: only the one who is smart enough and patiently enough has access to information that allows him to deepen the computer science, both the software component and the hardware component. In this sense, hackers' communities (a somewhat distinct category from that of the crackers, that often had a positive role in the informational era) has the freedom to access vital information and therefore has a certain form of power that cannot be effectively restricted by anyone [3, p. 45].

Information society is a multi-layered one, and within it we receive different identities and profiles, as in a world of mirrors that we do not see all reflected on us, but also on others. In fact, our image furnished to the others is not exclusively ours, but is sometimes built or re-built by the others, independently from us.

Sometimes, this continuously re-constructed image of us anticipates our progresses and when we get in to know, we feel that we are not only re-created by the others, but even that we are pre-created as identities in relation to what we consciously allow ourselves to be. Taking into account the emergence of social networks as Twitter or Facebook, one can easily conclude that the creation of personal identity in the information society is still dependent on us, but in a less and less intentional and personal manner. Pekka Himanen illustrates this aspect in his book [3, p. 89] when he talks about the creation of the consumer profile in the virtual world by some of the programs that are monitoring its behaviour, accounting for the share of the access to special sites in a certain period of time. But, in our opinion, the same situation is encountered as regards the cultural and religious identity of individuals in contemporary society.

Virtual space, as space of communication, is an independent one in relation to the communicators, being a place of awareness of the radical differences. The availability of communication is the only element that unites the communicators. However, within the latter, we cannot know surely if the other is aware of the differences between him and us in a similar manner with ours. The consciousness of these differences, as a premise for communication activity varies in the information society, from one communicator to another, in a more pronounced manner in comparison with other types of the society, just because the spatial factor plays a lesser role than the temporal factor. In addition, the specific relationship with time established in computer mediated communication favours the 'fragmentary' character of communicational identity assumed on virtual space.

The problem deepens inside knowledge society and therefore in this case our fragmentary identity in relation to our performance as communicators is not generated only by us. Within the virtual space, as Pekka Himanen shows, our actions are continuously monitored by electronic means, our acts of communication (the accessing of certain sites, for example) being grouped for creating to us a commercial profile or of other type, according to which certain institutions (commercial ones, but also, more rarely, with cultural, religious or political character) adjust online the market strategies, inclusively the advertising offering. These profiles, created by the others in relation to us, overlap the fragmentary and discontinuous image that we create about ourselves and deliver to the others as a reflexive identity.

As a result, what happens in the network society, as Manuel Castels calls it, is not just a re-creation of the message, but even a re-creation of the participants to communication, both in terms of their 'external' identity and of their personally assumed identity [15]. This re-creation of the self is a phenomenon deeply linked to the religious need of individuals. In fact, religion is for many people, even today, a central part of their identity, together with their native language and their specific set of cultural values inherited through education. In postmodern information society, which generates in many parts of the world the emergence of knowledge society, the collision between scientific imaginary and religious imaginary could lead to tensions, but also could lead to

complementarity. As far as religion is concerned, one of the main issues in knowledge society is to take into consideration the ethical implications of the use of technology.

One could easily ask himself about the ground of a possible competition between scientific and religious imaginary in postmodern world, mainly because such a competition represents a daily event of our time and because any possible complementarity between religious and scientific imaginary could represent a response to the need for holiness but also to the need for knowledge that prove to be characteristic for contemporary people. The answer, in this case, seems to us, at least, quite simple: religion and Science, both of them, claim to discuss, in ontological sense, about ultimate reality. This is the ground of confrontation, but also the ground of a possible dialogue and coexistence, since reality became in knowledge society a major component of identity. The link between methodology of Natural sciences and the understanding of reality as the 'truth about the nature of the world' has been emphasized by many philosophers of science as well.

"When we ask for the proper description and rationalization of the methods of science, we seem to expect the specific results of the particular sciences again to come into play. How could we understand the ability of the methods of science to lead us to the truth without being able to show that these methods really had the reliability imputed to them? And how could we do this without employing our knowledge of what the world is like, revealed to us by our best available science? How could we, for example, justify our trust in sensory observation in science unless our understanding of the perceptual process, an understanding grounded in physics, neurology, and psychology, assured us that perception as employed in the testing of science theories was, indeed, a good guide to the truth about the nature of the world?"[16]

Nowadays, technology is not any more an optional way of optimizing various kinds of economic actions, as it was in modern society. Technology is vital in knowledge society, because it assures the survival in a network society in which the competition has different rules, starting from the fact that time and space boundaries do not affect any more so strong the configuration of economic and social space. Therefore, the link between technology, communication and ethics has to be reconsidered within the cultural context of network society.

3. Discussion

In this context, postmodern non-localized multicultural mentality expresses the need for spirituality in a new paradigm, which leads to new and specific forms of morphological evolutions of descriptions regarding the world, religious imaginary and scientific imaginary mixed in postmodern regional multilayered manner [17].

In fact, the final result of all the tendencies mentioned above is a unique mixture of religious and scientific imaginary of the general public in postmodern age or, if you prefer, in postmodern knowledge society. The uniqueness of this

combination refers to the coexistence of conflict and complementarity among the two types of descriptive discourse mentioned above, as a response to the postmodern needs for sacredness and causal explanation, for an integrated form of knowledge regarding the structure of universe and the place of human being within it.

Beyond all the aspects concerning the information processing, storage and circulation within information society and the strong relation between information possessing and technological development within knowledge society, it is important to understand the specific synthesis of religious and scientific imaginary in postmodern times by comparing it with the same process that took place in modern period. It seems to us that modern relation between religious imaginary and scientific imaginary was a much more conflicting one than the postmodern relation.

The reason for that is the fact that natural science had a quite different cultural profile in modern times in comparison with postmodern age. First, this modern profile was a quite unitary one as regards the possibility of interpreting the experimental results and theoretical predictions within Natural sciences. Second, modern science prestige, gained through technological successes, had a quite strong cultural component. In a quite Enlightenment manner, modern science was seen as having the potential of solving almost all the problems of modern society. Moreover, the rational knowledge of the properties of physical world was regarded as being good by itself, representing in the same time a mandatory step towards social progress.

Beyond the fact that mechanistic view upon the world was more or less consciously projected also on human being, even cultural anthropology was influenced by this strong relation between mankind and technology. Thus, one could easily talk about a veritable Eurocentric view upon different cultures on earth. Europeans were so proud of the fact that they were able to develop modern technology and modern science that they looked somehow reluctantly to those nations or to those tribes with modest achievements in this area. The very dignity of human being was somehow linked in modernism to the scientific and technological achievements of civilization.

On the contrary, rational character of modern science and its tremendous technological breakthroughs became insufficient to guarantee its moral character in postmodern times, especially after the beginning of nuclear age. The use of nuclear power for killing thousands of innocent civilians at the end of Second World War represented a crucial turning point as regards the moral status of technology in postmodern world. Suddenly, technology unveiled its destructive power as regards the future of humankind, the cultural, political and social problems of postmodern society becoming incompatible with the unidirectional process of developing solely technology. Moreover, even the status of scientific knowledge changed, its moral neutrality becoming almost dangerous in terms of circumstantial misuse of its destructive potential.

What became more and more obvious was the fact that scientific achievements need to be interpreted and signified axiological in order to mean something for society and scientific information about physical world have to be culturally integrated in order to have a positive contribution to social progress. As a consequence, the scientific picturing of physical universe structures became insufficient and unsatisfactory for the needs of postmodern people as regards the discovery of their true identity and true place as human beings in universe, especially because their cultural and spiritual needs became plural, multicultural or characterized by cultural syncretism. Also, starting with the emergence of the Relativistic Theory and of Quantum Theory, Natural science discourse became suitable for different, alternative interpretations in ontological and epistemological sense.

4. Conclusions

The tendency of mixing scientific imaginary with religious imaginary when discussing and understanding the problem of reality generates specific attitudes in postmodern times, which lead finally to the emergence of a veritable 'scientific mythology' which, on its turn, poses some ethical problems. Finding an equilibrium between moral development of individuals and the need for developing technology is in fact one of the fundamental problems in knowledge society. Technology is morally neutral, but such neutrality could be dangerous exactly because it is incapable to give Humanity a code of behaviour.

The whole problem is further complicated by the fact that the use of technology, most of all information technology, within the network society puts more and more pressure on human identity, on human nature, on human condition generally speaking. The human condition is not changed in its fundamental aspects, but its limitations become somehow vaguer, its relation with life and death, with time and space changes due to technological progress. All these new realities are assumed, commented and analyzed in the knowledge society, but their spreading depends on informational networks, and on the new relevant information hierarchies, so finally they are deeply related to the dynamics of communication in virtual space.

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