

UTOPIA AND ITS MAPS

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ABSTRACT:

In the past centuries, scholars, philosophers, dreamers, idealists have devised a better world: they found it easier, other than in books, express it as maps, possibly attractive.

Nowadays, we have adequate numbers and quality of maps of any type, which let us face almost every type of emergency, specially in the field of seismic, environmental and hydro-geological risks.

Also we have an adequate cartographical support for exploitation of natural resources, actual or supposed, in the field of social applications (famine, drought, health and social displacements, ...).

Geomatics and Geoinformation, can give very important contribution to many human activities, on the contrary, they can terribly support, in very sophisticated way, the escalation of armies, wars and destruction, producing negative effects, both in high intensity and large extension.

Science and technique cannot be isolated from the whole human life context, but they should positively play a fundamental role in the real world. The encouragement of a peaceful use of mature and innovative technologies, in order to achieve concrete social, economic and cultural benefits for all the people, increases, to a high level standard, the quality of their life.

A correct information passes through a different conceived Cartography: see the Peters' atlas (Arno Peters, 1980), edited in the framework of Willy Brandt's report about North-South.

1. INTRODUCTION

The field of Data Processing meets the realm of Human Sciences, by sharing expertise and learning from one another. This is particularly relevant in Geomatics, where images, maps and 3D graphics are subjected not only to be modeled and computed, but also recognized and understood. In this frame, Linguistics (phrase – structure grammar, pattern recognition, parsing), Communication techniques, Psychology (e.g. Gestalt theory) and Philosophy of Science (a bridge between Epistemology and History of Science and Technique) contribute to form cognitive tools.

On the other hand, the survey and mapping disciplines, particularly Photogrammetry, Remote sensing and GIS, can give very important contribution to many human activities, but they can also be negatively used to support, in very sophisticated ways, the escalation of armies, wars and destruction, being able to produce devastating effects both in intensity and extension.

The development of science and technique must take into account human life, while positively playing a fundamental role in the real world. A peaceful use of mature and innovative technologies towards the achievement of concrete social, economic and cultural benefits for all the people must be encouraged; this would increase to a high-level of standard the quality of life of the human gender.

2. THE CITY OF GOD

The Ebstor's map of 1240 depicts the world as a circular construction, integrating biblical and classical elements (Fig.1a). The world was small: everything outside Europe and some North Africa and Middle Eastern countries is "Terra incognita". Most of the maps have a general "TO" shape. The "O" means the outer ring of waters, the Ocean, which encloses the lands; the

"T" is the general shape of the three continents, as related to the three sons of Noah (Fig. 2)

At top Asia is represented, as the main land mass: conventionally, the east is in the upper part of the map, where we normally place the North. Somewhere in this land is placed the Eden, from which flow the main streams: Nile, Ganges, Tigris and Euphrates.

The lower part of the map shows Europe and Africa: obviously, the available space is much more rich in details in Europe than in Africa, as only the Mediterranean rim is adequately known, and the rest of the continent is actually blank.

This type of maps are clearly related to the views of Augustine about the City of God: evidently, the will of God has placed Christians at the centre of Oeokoumene, as non Christian peoples are relegated in outer spaces, even at boundary of non-human beings (the monsters which brilliant and decorative effects cover the margins of the maps). So we have a graduate transition from the full mankind- the Christians- to populations which may expect in the more or lesser next future to become Christians, to an outer belt of savage people of the extreme South or the extreme North, to end up with intermediate beings, the monsters for which a best-like destiny can be envisaged (Palencia-Roth, 1997).

There is a strange but interesting intellectual proximity between the traditional mandala of Tibetan civilization and the early maps of western tradition: both are a true and complete "imago mundi" which is much lesser and much more than what nowadays means as a map for common usage.

The Old and New Testaments contained few doctrinal implications for geography: a world consisting of three interlinked continents containing descendants of Noah's three sons. In the eyes of some (but by no means all) theologians, a fourth inhabited continent, the Antipodes, would implicitly have denied the descent of mankind from Noah, and the depiction of such a continent was deemed to be heretical by them. Most medieval mapmakers seem to have accepted this constraint, but

world maps showing four continents are not uncommon: notably the world maps created by Beatus of Liebana in the late eighth century.

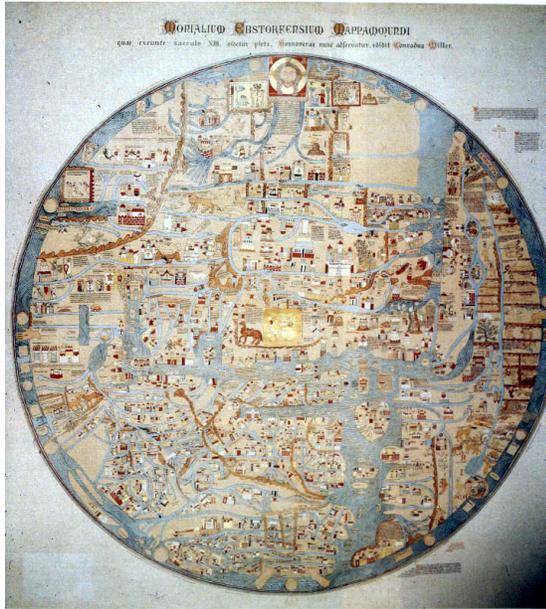


Fig. 1a The Ebstorf's map

Two centuries later, Isidore of Seville also linked monstrosity to geographical marginality: for him, the descendents of Ham are condemned to be servants of the descendents of Shem and Japhet. Both Ebstorf's map (1235) and Isidore's map (1472) represent the conception of Marco Polo and Odorico of Pordenone (1286-1331), the most famous travelers of their age. Marco Polo and Odorico come across the same culture, and their opinions are similar: both judge the "Other" from the European centre.

Odorico says: "...the men and the women have faces like dogs..."; Marco Polo at his turn: "...the inhabitants are a savage race, having heads, eyes and teeth resembling those of the canine species..." (Fig. 1b).

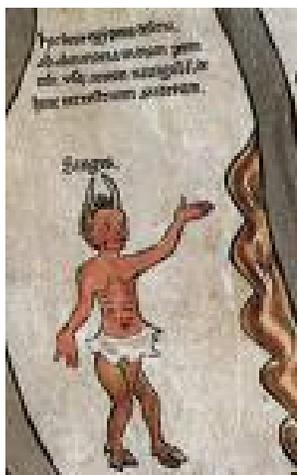


Fig. 1b A detail of Ebstorf's map

A great classical myth –Atlantis by Plato- deals with ideal lost world, lost somewhere in the Atlantic, but not too far to be searched.

Typical Christian myth from Middle Age deals, on the other side, with the search for more spiritual targets: the voyage by Saint Brendan, the search for the northern way to hermitages (in Island and beyond), the Isles of Avalon, the myths linked to King Arthur and the knights. This wide family of legends of the European West Coast is in turn of times Christianized and elevated to the rank of the search of Paradise –on- Earth.

Also a third pole, a pole of the unknown, exists: starting with the sparse knowledge that the classical world had about India and China, those realms (of fancy as well of reality) become the Land of Diversity, of the Other.

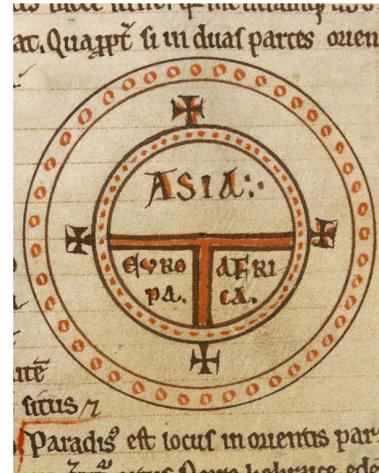


Fig.2 Isidore's TO map

The Middle Age travelers, merchants, monks, which in times of special peace and prosperity, go to fare East and come back, give important contribution to knowledge of these different realities. However, the contact is not continuative, and legend prevails over reality: so, at the end of XV century, the new generation of voyagers often appears rather confused about the aims of the search. Columbus, for example, is sure to be on the way to Katai, but does not refuse the idea of having personally seen the immense stream that flows down from the mountains of Paradise (which was really the Orinoco delta).

For ancient civilization of Mexico, an old myth tells about an original land in the Eastern Ocean whose name is "Aztlán".

3. THE NOVUS MUNDUS

The City of God had a number of characteristics proper of all utopia: regularity in the scheme, precise symbols, precious materials.

In the utopia issued after the Renaissance, the order devised is both moral and political. The final order of society coincides with the harmony of nature and hierarchy of Heavens: this is the general order of the Universe, in space and in spirit (Barberi Squarotti, 1990).

The discovery and colonization of the New World destroyed the medieval cartography.

Vespucci notes that the sub-equatorial lands are full with people, opposite to what the old scholars had stated: the extreme heat actually is moderate by a continuous oceanic breeze which makes climate quite pleasant; so experience is worth more than the long respected opinion of the ancient philosophers (and theologians). "I have found a new continent...and devised to call it "Mundus novus"-in his two (or four) letters, Vespucci greatly wonders about the life style of Natives, who have no God, no

law, no property, no rules for the everyday life, no king, no fear, it is they live in the perfect state of nature.

Such views have an immediate weight in the intellectual debate, specially rich and fruitful of the time: so, Thomas More introduces in his Utopia lot of hints at what Vespucci said. Raphael Itloideo, the Portuguese seaman, supposed to be one of the twenty four sail-mates of Vespucci, the man who leads the tale of the travel to Utopia, is clearly inspired at the equalitarian society described by Vespucci.

The Isle of Utopia is at the same time, and obviously, the non-existent place and both the place of felicity (Fig. 3).

Also to be quoted are some social attempts, in the light of Utopia, due to Bartolomé de Las Casas, at Cumanà, in present Venezuela, a colonization which is the work of private Spanish civilians and monks, who lead local Indians, the “Misiones del Paraguay” which on much larger successful scale, organize ample regions, as far as possible from “civilization”, in view of founding a new type of civilization in which Indians are the essential component.

Bartolomé de Las Casas acknowledged the humanity of the Other, a very difficult position for a European of his century (also of ours, often).

Garcilaso de la Vegas, son of a Spanish captain and the princess Chimpu Ocllo, cousine of Atahualpa, is an important trait-d’union between the Spanish and the Inca cultures, in the first time after the destruction of the Andine civilization: his influence over the contemporary philosophical and sociological views is remarkable. Specially, the idealized vision of Cuzco, the fortress-capital in the high Andes, with its apparent perfection, both in the physical and organizing structure, is impressive for the European scholars of XVI and XVII centuries.

American ancient societies had a view of world different from contemporary European (Lewis, 1998): indeed space and time were so linked, that map and almanac-calendar were the same thing (Fig.4).

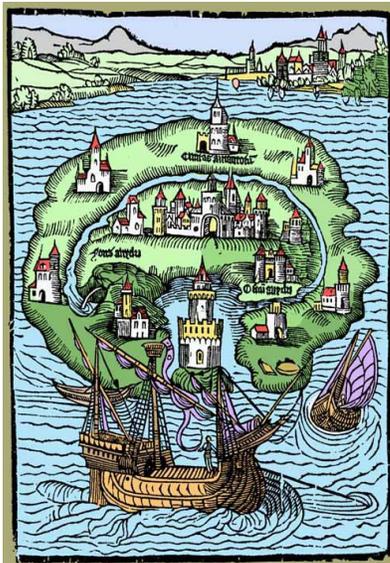


Fig. 3 More's Isle of Utopia

In his time, maps of world became closer to the ones we now, due to the number and ability of cartographers, and to the urgent need for useable representation of the world. A very great work was collected, in quantity and in quality, at the school of Lisbon. Mercator projection was originally created to provide for easy navigation since it possesses a crucial property: a straight line

drawn on a flat Mercator map depicts a loxodrome, so angles are immediately transferred from the chart to the Earth surface. So, an old-time navigator could draw a line from one point to another on the map, measure the angle the line made with longitudes and then use his compass to keep the ship pointed at that angle throughout the voyage. This method did not produce a path of shortest length, but, in the days when calculating longitude was an unsolved (and frequently catastrophic) problem, the sheer convenience of the idea outweighed this deficiency.



Fig. 4 A petroglyph from Peru

Utopia, at literary stage, is clearly linked to the idea of the travel: so, in the era of geographical discoveries, Giordano Bruno open his view beyond the limits of the classical and Christian world - strictly hierarchical-wide open to the endless spaces with unlimited worlds.

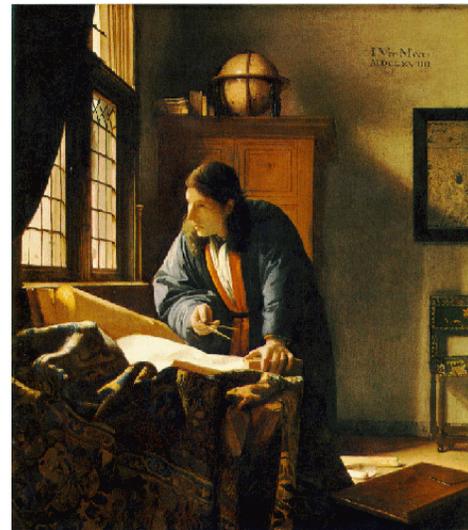


Fig. 5 Jan Vermeer The cartographer

4. THE CITY OF SCIENCES

In Campanella's work, two peoples are arguing, a seaman, who is back from one of Columbus's expeditions and a Knight of Malta. The first describes his travel around world and his stay at the City of Sun, placed in somewhere in the Sea of Sunda. In this Island, the Bragmans have shaped a society having everything in common, also Science and joke. The urban outlaw reminds of the Renaissance's ideal town (Fig. 6)

Campanella is the type of a planner who trusts a technical future. Campanella foresees some spectacular evolutions of human knowledge, as the mechanical propulsion of ships and even the flight.



Fig. 6 The City of Sun

However, Campanella does not neglect the social evolution, as he says that everybody shall do what is more proper for him, for best result (also Marx, much later, says something alike). In Bacon's New Atlantis, which appear after the author's death, some travellers reach on the route from Peru to China, the island of Bensalem (the Son of peace): here, life flows on the model of an Academy, and could have therefore influenced the foundation of the British Royal Society.

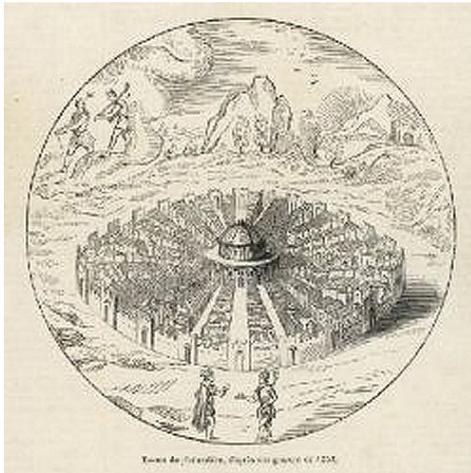


Fig. 7 New Atlantis

According to F. Bacon, the knowledge as turned to the progress of mankind, cannot be a possession of the few: on the contrary, the widest cooperation, the largest diffusion of knowledge are necessary for the good of man. Foundation of Royal Society by Charles II (1662) and institution of Greenwich Observatory (1676), are both linked to the interests of high trading class of England.

Beside the utopians, also distopians exist, Swift being the best known of them. In the Gulliver's travels, Swift devises a different society, in which a race of horses (Houyhnhms) dominates over men (Yahoos), just acting to reason and not to passions.

It is however to be remembered that progress in the geographical knowledge of the world follows regularly enough the explorers coming from Europe and more precisely: the merchants and the armies.

Europe conquers, sacks, offers the Christianity countries and peoples with which it comes in contact, provided that they have any interesting resources.

In the XVII century, an important geographical controversial, about the real shape of the world (it is flattened at the Poles or at the Equator?) has a result: the measurement of a meridian arc at Inari Lake (Finland) and at Ecuador, by Cassini and Lacondamine: an indirect, but very important result will be the determination of "meter", which is to become a great symbol of universal thought (a metaphor of the Revolution's Reason).

The development of Geography, as a consequence of better mapping methods, of the growing number of travellers which explore all that remains to be explored in the world, encourages a new type of utopists, the one who dreams over existent, more than on the fancy. A special example is Fourier, who is known as a dreamer over maps, as support for improvements of social welfare.

Also Kropotkin and Reclus, a traveler and a geographer, both have a basical anarchist spirit, trustful in the future of the mankind, with great hopes on the progress of knowledge, Sciences and techniques (Mattelart, 2000).

Kropotkin takes part to the compilation of a monumental work by Reclus (Géographie universelle, 11 volumes): this work is the official birth of modern Geography, and is deeply interconnected with new political philosophy, dedicated to universe brotherhood. In his youth, Reclus had worked in Nueva Grenada (present Columbia): possibly he was there influenced by old memories of Reducciones, also present in the past in that area.

Reclus' conception of freedom is extended beyond the political into other fields, including economic (Clarck, 2004)..

Proudhon envisages the public control of railways, an idea which comes more and more in the future century. For him, it is clear the linkage among public services, democracy and progress. In the middle of XIX century, the idealism of anarchists is captured by the service-networks, first railways and alter the energy system.

So speaks D-503, in the novel "We" by E. Zamjatin (1920): "In 120 days Integral first shall be ready for launch in the interplanetary outer space...A grand scope is before you: to turn to the fruitful yoke of Reason the unknown aliens of other worlds, even the ones still savages because they are free."

On the background both of Herbert Wells (1866-1946), a socialist, pacifist and author of appreciated science fiction novels, and the fantastic anti-utopian Russian literature, Zamjatin, a naval engineer of his own, points against the Moloch of future mechanical totalitarianism, against the dream that some sort of machine, however complex, will solve all problems of human society: notice in what times Zamjatin is writing.

Above a quite different basis (social, cultural, psychological) Aldous Huxley comes back to the subject introduced by Zamjatin of a foreseeable future: not so dramatic as Zamjatin has seen it, but equally ill-promising (The Brave New World, 1932). Even worse, as the years have brought the horrible disappointments of WW2, is the next future envisaged by G. Orwell (1984): a technological tomb of all hopes of Mankind.

5. CHECKING THE QUALITY

While the Mercator projection is very good at preserving angles, obviously it does not preserve area, so some regions of the Earth are distorted in size.

The inadequacies of using the Mercator projection for world thematic mapping have finally been noted.

A correct information passes through a differently conceived Cartography: see the Peters' atlas (Arno Peters, 1980), edited in the framework of Willy Brandt's report about North-South.

Arno Peters, a distinguished geographer, has devised a non conventional representation of Earth's surface: he has divided the whole ellipsoid in 60 equal surface areas, aside of more or less intense human usage. His main aim was to eliminate the "normal" euro-centric image of the world of common atlases, also putting in objective comparison all parts of the world. (Fig.8).

Gerard Mercator's view of the world is so familiar to Westerners that his map is often taken simply to represent what is 'true' and 'natural'. But on closet inspection the 'natural' turns out to be the 'conventional', the result of tradition and ethnocentrism. Three important details show the map's ideological origins and implications: Europe is at the centre of the world; the map is oriented to the north (so that we look *up* to Europe and America and *down* to Africa, South America and India); and the relative sizes of countries and continents are inaccurate : Greenland and Europe, for instance, are presented as larger than they are, South America and Africa as smaller.



Fig. 7 Arno Peters' map

The opposite approach is also useful, precisely when one wants to stress the differences in situation or usage of various areas, neighboring or not: new map families have been developed, for which available cartographical techniques can save the real shape and reciprocal proximity of parts even as the parameter under study involves a multiplication or reduction of areas concerned. For instance, this new approach let us see at first glance, the great differences for a wide range of consumptions in different societies and countries. In a special case, the pro-capita consumption of energy, Holland would appear much larger than India or Mexico. (Figures 8, 9a and 9b).

This type of mapping is also the result of a cultural and political environment, full with hopes (Brandt, 1980).

Foundation of UNESCO (1946) is a first step for a non political organization of human society: notice that the first president is a Huxley (J., not A.).

Another step may be considered the Bandung Conference (1955), where with some prominent politicians of the time

(Nehru, Tito, Sukarno, Nkrumah), delineate a world with a third force meant as a balance between the two Blocks.

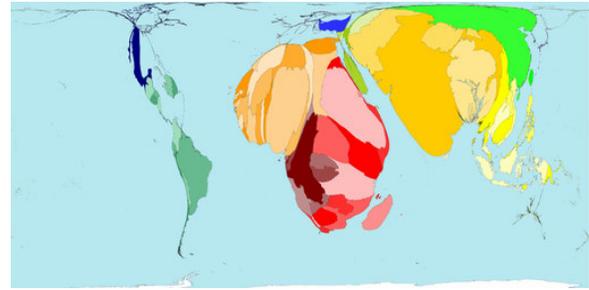


Fig. 8a Thematic map of minor's work

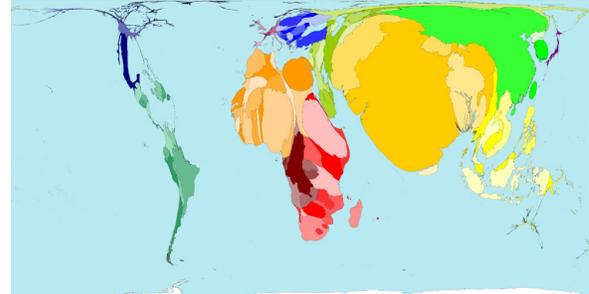


Fig. 8b Thematic map of analphabetism

Unfortunately, the following decades do not confirm these hopes: actually, the Conference of New Delhi (1976) and Belgrade (1980) acknowledge that circulation of scientific and social information, far from becoming more free, is more and more in the hands of the real power in the world.

6. ЧТО ДЕЛАТ?

"What to do?": that was the question in a well-known book by Čerņiševskij, a distinguished Russian populist, about the threatening situation of Russian society in the end of XIX century (thereafter in a even better known paper of Lenin).

Norbert Wiener (Cybernetics, 1946), shapes the connection between social needs and information, in the hope that a rational society will avoid the horrors of a new war: to this aim, Wiener envisages a public control of Information at all stages (acquisition, transmission, usage).

"The centre is everywhere, the periphery is nowhere": so, anarchist-type geographers, as Reclus and Kropotkin, state the world is unique in diversity, and do not approve the view, in the same time linear and too simple, of the sequence: westernization, modernization, development and secure progress.

Information inside the Informative Systems (spatially referenced or not), is fully compatible with the proposed sketch: actually, information systems may be taken as a part of universal media.

In post-modern civilization, a special issue is development of networks: this is the natural evolution of XIX-century railways and of XX-century highways. So, Internet's WWW is not simply a "software", but also a cultural active element.

Our time is not able to trust in the dreams of Utopists, since we have experienced degenerations of ideologies...So, a strange sense of mourning takes us, as if we had to cry for something we loss...(Bertrand Russel).

Is this really true?

The global community relies upon hierarchical principles of market, and managerial attitudes. Top decisors celebrate their rights at special events as Forum at Davos, and similar.

The so called culture of global business community has shaped new, fanciful terms like techno-globalism, marketing imagination, and so on, for finding the real, tremendous, overwhelming force of its interests.

In this frame, also culture, in the normal sense of the word, is labeled with a precise market value. So everything has a money value, from drink water to the access to the highest forms of human creativity.

In the backstage of Techno- utopia is indeed almost ready for use the idea of total control, even is sold as security.

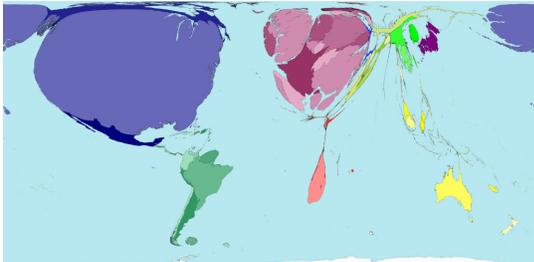


Fig. 9a Thematic map of families with over 200 dollars daily income

The global liberal order asserts itself as the best of all possible worlds, imposing its own market-liberal utopia: we must apply market and Human Rights and the world will be perfect (Žižek,2007).

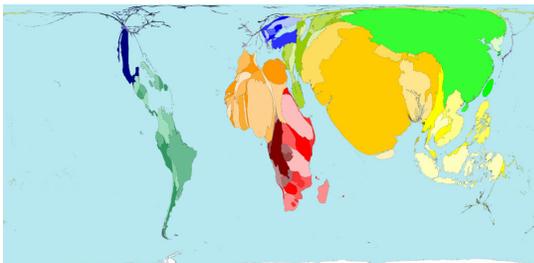


Fig. 9b Thematic map of families with below 10 dollars daily income

In very recent times (In Defense of Lost Causes), the lacanian psychoanalyst and philosopher Žižek finds that ecological problems, new forms of apartheid (the Wall and slums), the pressure for privatization of intellectual creativity, of natural basic resources (drink water, minerals, wood, human DNA,...) are the huge monsters of our immediate future.

The enormous growth of immense slums of the mega-towns of (specially, but not only) the Third World, pushes a growing amount of marginal, low-salary workers, displaced people from devastated countries, unemployed, and the vast variety of poor in our time, towards intolerable modes of life, and creates premises for immense disorders in the next future. And nevertheless our world owns sufficient resources to cope with our problems: actually, we have now a rather precise knowledge of world resources and of their limits: this happens for the first time in the history.

A good deal of present problems and of their apparent impossibility for a prompt solution, has been the impetuous integration of the poor nations of the World in the global economy, which seems to have damaged more than being of use.

Just an example: in many countries which depend basically upon agriculture, a limited number of multinational companies is trying to acquire formal rights (that means a right to sell) over seeds and rainwater.

Nikola Tesla (1856-1943), possibly the first scientist who devised a wireless world, looked at Science as a common service, a way to improve the lot of mankind, not just a means for enhancing wealth (less than ever, the wealth of the few), or to bend to compulsions of market economy.

As Giulio Giorello says, notwithstanding the evident lack of success of utopia hitherto tested, still a ample space of hope lies before us: the same incoercible spirit of freedom is alive as well in the scientific research as in the social utopia (Giorello, 2009). That is the same spirit of “eroici furori” of Giordano Bruno’s infinite worlds, for which the art of trying is worth more than the real success.

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