

IL PENSIERO ECOLOGICO:
Comments and interpretations of the
«Laudato si».
Lettera enciclica sulla cura della casa comune»
Francesco

A cura di:

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INTRODUCTION

Before considering the brand new Pope Francesco enciclica: "Laudato si", let remember a little bit the general system approach to climate change. Let be Σ a complex system, i.e. the Mother Earth, including environmental factors coming from cosmic, geo-cosmic, plus the ones generated by human, environmental aspects and so on. Further not environmental external inputs have to be added to the system Earth such as ethical, moral, religious, political, societal factors and values plus eventual other ones.

Let be Σ_E the ecologic subsystem of Σ (the Earth). The environment E around the system Σ influences and conditions the operation of the system itself (Fig. N° 1) due to the various effects produced by the environmental factors F_A applied to the system Σ .

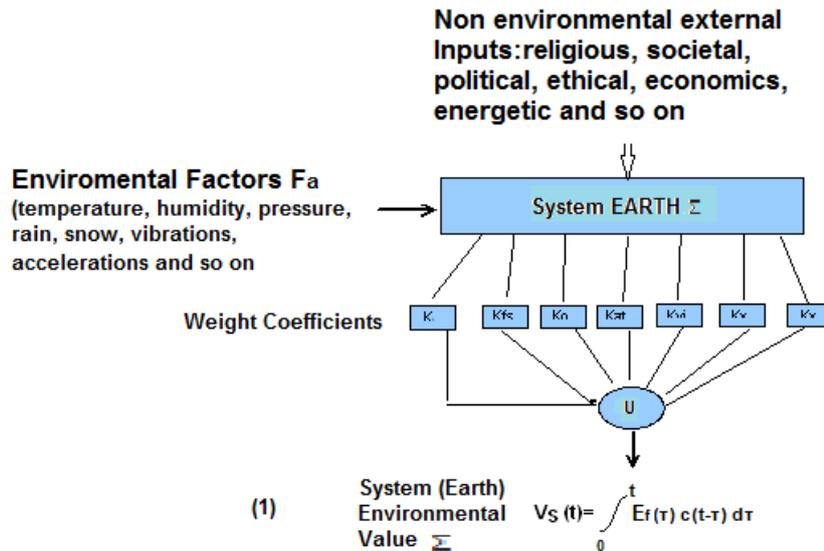


Fig. N° 1: System approach to ecology

The environmental value V_S of the system Σ is the convolution integral (faltung) of the environmental factors with the quality-cost of the system itself. [The mathematical demonstration has been provided by Giuseppe Quartieri in a published work of the 1980 at Undicesimo Congresso AICQ: *La sfida della qualità negli anni ottanta*, Vol. 1, Milano-14/15 maggio 1980]. The math demonstration process for deducing the Quality-Value of a system Σ results in the following formula:

$$(2) \quad V_{\Sigma}(t) = \int_0^t q(\tau)c(t-\tau)d\tau$$

System (Earth) Σ , quality $q(t)$ and cost $c(t)$ relative to the quality building at the instant t is conditioned by the evolution of the previous costs happened in the previous time interval and determined by a different instant “ τ ” (tau). This Giuseppe Quartieri general classic formulation is generalized to the environmental factors that define the system ecological and environment behaviors. However when applied to the Earth system ΣE other external factor have to be applied such as ethical, moral, religious, political, societal, economic and so on. This implies that the model is much more complex and it could appear very difficult to apply in practice but, nowadays, software dealing with convolution integrals are standard praxis in the theoretical labs and there are no difficulties at all.

The Giuseppe Quartieri model initially has been developed to deal with any energy plant, such a solar plant, aircraft, train systems and so on.

At the present time, ecologic systems have become very important requesting a lot of interest at the highest level possible. As above mentioned, this kind of system requests

many other input parameters (religion, social, political, ethics, economic factors and so on) to be included in the analysis, so that it could be very difficult to quantify them. In fact, the classical Quaternary general approach must be generalized to include those new parameters out of the natural and/or artificial environmental factors. In other words a more complex mathematical model could be necessary however present generalized math models are able to deal with all kind of “faltung” in standard advanced software computer laboratories. The model has to be generalized to include new values that cannot be quantized in terms of usual cost such as ethics, religion, social and so on. Those new values could be included in the “quality q” concept and, peculiarly, in the “quality of life ql” concept. In Fig. N°1, there are included input parameters due to external factors strictly not environmental ones such as: religion, social, politics, ethics and so on.

Synthesis of standard environmental analysis

The system approach to the climate change of the Planet Earth is usually subdivided in 6 pollution depot subsystems:

1. The atmosphere (as the main part of the biosphere).
2. Terrestrial plants set.
3. The layer of arable land.
4. The marine layers where marine plants grow up.
5. The deep submarine layers
6. The reserves of the fossil fuel resources.

Some of these subsystems are very well known other – such as the under-marine one – are less studied and known.

The atmosphere is the smallest depot while the fuel reserves are the biggest, however all of them have comparable dimensions. They strongly interact among them. Their study and the relative knowledge imply the comprehension of all of them. In other words they constitute a complex system to be studied and analyzed with all the methodology of the complex system.

At the moment the official (IPCC representation) better representation of the environmental analysis is shown by means of the World average temperature patterns (Fig. N°1). As most of people know, the planet average temperature is determined by the energy coming from the sun plus the greenhouse effect. All the approach is based upon the glaciation cycles discovered by Milanković; for years they were not believed, but then Milanković was able to give the evidence. The explanation is a mixture of effects of the Gulf Stream (the

frequency and started only after 3.5 million years ago closed, the Isthmus of Panama, and the warm current in the Pacific was before it went to the North Atlantic) and CO₂. That is an astronomical phenomenon to trigger it, stems from the fact that a frequency so precise (see figure) needs a mechanical fact that involves scanning time (like the pendulum of a clock) that are identified by the three motions Milanković:

1. The periodic variation of the eccentricity of Earth's orbit (the Earth moves around the Sun ellipse, very close to a circle, whose eccentricity varies periodically by 3%).
2. The variation of the angle between the Earth's axis and the normal of the plane of Earth's orbit (which varies cyclically between 21,5° and 24,5°).
3. Finally, the precession of the equinoxes.

These three movements have periods of about 100,000, 41,000 and 23,000 years. This periodicity is found and demonstrated in the geological data and the components shown in figure below. The not explained event is that between 3.5 million years ago to 1 million years, the periodicity was 45,000 to 100,000 years after the why, for now has no explanation climate. At the top, the horizontal axis shows the depth at which the sample was taken, at the bottom, the age of the sample. The three curves show the correlation among the abundances of greenhouse gases and temperature. The periodicity of about 100,000 years of glaciation. This periodicity is interrupted in this era (left) where it is noted that the temperature instead of decreasing, as was the case in the past, remains constant.

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1. The current values above 400 ppm for CO₂.
2. Above 1,800 ppm for CH₄ (Petit et al. Nature June 3, 1999).

It should be noted that could occur glaciations without changing the average value of the energy received from the sun during the year because the Earth orbit around the sun does not change (even if it changes over time the aphelion and perihelion). This over impose on some simplified energy approach.

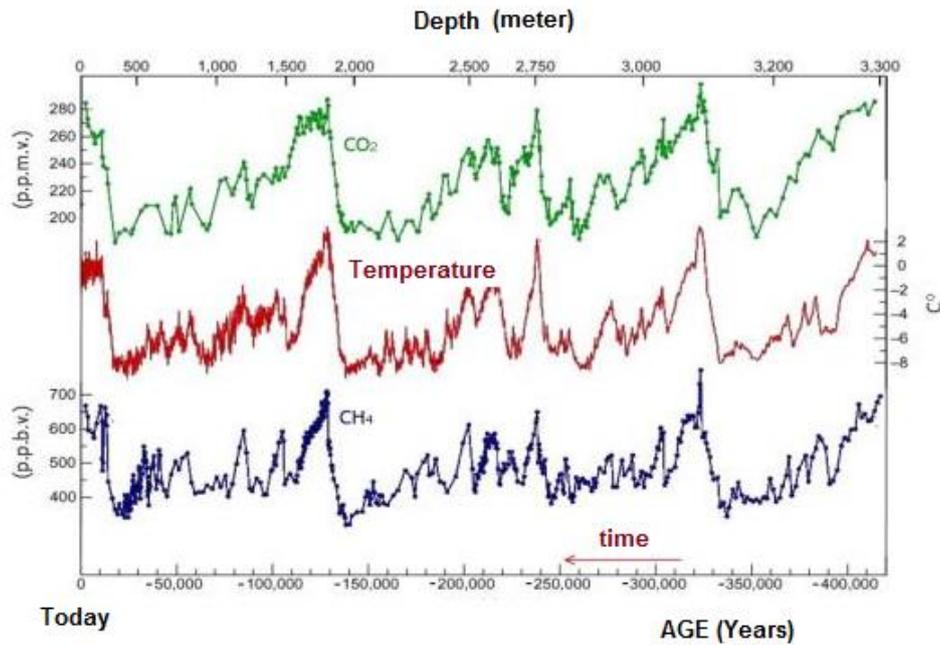


Fig. N° 1: Results obtained from the examination of samples of air contained in ice cores of the Russian Antarctic base of Vostok.

One criticism against the standard IPCC approach is defined by the nature and competences of some (or better the major) part of the so called scientists belong to IPCC. Actually, by a simple review of the Curriculum Vitae of the IPCC members it is possible to deduce that half of these people are not scientists but they are government officials or government managers, who have the main objective of demonstrating the anthropogenic greenhouse effect, and make global management decisions on agriculture policies and economic choices. In this frame, the real scientists who dare to dissent from a management oriented specific single guideline-thought are threatened of cutting their funding. To this purpose it should remember the admissions that someone of them published years ago in the press, but also the arrangements and corrections executed on the overall temperature range accuracy predictions in the last years.

To some extent for concluding this synthesis, all matter is affected and vitiated by two devastating factors:

1. Political and economic interests on the one hand.
2. The enormous media pressure that leverages the ancestral fears of man.

Consequently, somebody for sure affirm that true science, unfortunately, is relegated to a corner to be simply a spectator. Let consider now the Roman Catholic Church “Laudato si” Enciclica approach.

The enciclica “Laudato si”

Recently the new Catholic Church Enciclica: “Laudato si” has been issued by Pope Francesco Bergoglio and devoted to the topic of Climate Change of our “Sister Earth: the House of all the people in the World”. The main purpose is to try to present scientific solution by taking into account these new and modern aspects of the pollution, climate change, concurrency plus, considering the brand new interferences of the other power such as the religion one and the climate as a common welfare.

At the moment, Sister Earth or Mother Earth is sick, abused and poisoned appearing to be transformed even more in a big and giant waste deposit. The sacred ecologic directive is finalized to rebuild not only the planet climate balance but also the social ones disturbed by the human avidity, by the market cynics and corrupted and short vision politics. The hope of conserving the planet climate avoiding the collapse where and when the equilibrium is defeating is the first lever to be used to influence an eventual “worldwide government”. This should be finalized to reach good politics and fight and reduce the predatory and cut-throat finance. According to Pope Francesco Enciclica wording: the technology is strictly linked and served to finance. This is a very simple truth!

However, it should be clearly stated that, by definition, religion topics are out of this book but some very short references will be reported at least for sake of clarity, for sake of the rights of information disseminations but also for sake of possible cyber-interferences and deceptions.

The already famous “enciclica” of the Pope Francesco (Bergoglio, 2015) clearly defines the Catholic Church Position concerning the Climate Change question investing the overall Planet Earth. After the Joan XXIII Pope “Pacem In terris” enciclica focused on nuclear peace needs dated 1971, the global religious, ethic, social, political approach of the “Laudati si”...enciclica is devoted to all the people of the Earth and based upon scientific grounds.

Here in the following there is a simple a short synthesis to illustrate the presented state of art. To the most of the people, this enciclica appear to represent a catastrophic approach. The official presentation has been hold by prof. Hans Joachim Schellnhumber. Founder of

the Potsdam Institute of the Climate Impact Centre that following the enciclica, has affirmed the following:

1. Men have devastated Sister Earth or, according to other people, Mother Earth that is now full of waste and appear an open air waste dump.
2. All the matters concerning the Climate Changes and the relative common good management presented in the “Laudato si” enciclica are proved by scientific tests and theory.
3. In this context it should be clarified the difference between science and technology.
4. Whilst fundamental science gets the priority for research, the relative technology development has to be carefully ethically managed since its use could be wrongly directed and oriented to the extent to become the sources of the negative Climate impact.
5. The second general point given is that people and its governors have to accelerate the end of the coal and oil usage for limiting average Earth temperature increase to 2°C otherwise the collapse will be not avoided. Technology should reduce it growth rate to improve environmental quality.
6. According to this theory of this need of acceleration the climate change quality decrease is mainly due to men. In other words, the enciclica asserts the anthropomorphic centrality thesis that is naturally refused and denied by the multinational energy (fossil and so on) industries.
7. This last basic multinational approach implies – according to the enciclica – the need of a global governance of the overall planet common goods that belong to the humanity.
8. In other words, even if the private property is approved and recognized by the Pope and the overall Catholic Church, it should be governed by the principle of the subordination of the private properties to the universal destination of the goods.
9. Consequently, there exists a universal right to their usage in terms of first principle of all the ethic and social juridical ordinance. In brackets this thesis was also shared by Pope Wojtyla and Pope Ratzinger.
10. The culture of the waste dump and consumes is synthetized in the following simple numbers:
 - The richest 60 men in the World possess the same amount of goods and richness as 3.5 billion of people.
 - The eventual sustainable development and/or growth should be limited

and strictly conditioned by the planetary resources, i.e. water, air, agriculture and under soil goods, marine and sub marine ones and so on.

- All this for not living to the next generations only devastations and rubble.
- Diminishing of ground water table that are falling down much more than the safety limits.
- Actually NASA satellite detection show that a range from 20 to 37 ground water table stratum in all the continents of the planet have over passed the sustainable critical points; in other words people drill much more water than is going to be produced by Mother Earth.

11. Global finance is working against worldwide people that pay money for saving banks. This is a truth for catholic believers and not believers.
12. The scope of this enciclica is focused to all the people of the World to give them common feelings, environmental, universal and equal hope for all.
13. The dialogue between religion and science is based - along the enciclica – on the hypothesis that science by itself cannot explain the “life” and the inherent essence of all God’s creature whilst ethical principles even assuming different apparent face along the history maintain the same appeal that rational intelligence can grasp and retain forever.
14. Sometime, lack of good knowledge and respect of ethical principles have justified the abuse of the Nature and the despotic dominion of human beings on the World of part of it. Violence’s, wars, injustices, inequities have dominated history but a better knowledge, awareness and consciousness of an appropriate ethical patrimonies would allow to the religions to respond better to the present global requests.
15. Uncertainty and precariousness characterizing the risky society promote and facilitate collective forms of egoisms.
16. This implies the need to change consumer’s mentality to save and change the development model and style of life.
17. So the environmental and climate degradations and relative risks imply the review and rethinking of everybody behaviour.
18. Environmental and climate education has to be improved to all the levels basing it on the scientific information: this would call for a universal ecologic citizenship.
19. The big long lasting richness of the Cristian spirituality calls people for an ecologic conversion. Mainly this conversion comes to embrace (my) ecologic thinking (Ref.

N°).

20. In the end of the day, Pope Francesco enciclica suggests and requests people to come back to a modern San Francesco model of life based upon the “*ecologic conversion*”. This implies peace and happiness, sobriety, humility and freedom of life living, appreciating every person and enjoying simple things, limiting needs to rationality and avoiding clouded richness, acting on civil and political love, enhancing ethical, sacramental religious aspects and brain resting; in one word: *quality of life*.

IMPLICATIONS

According to the “Laudato si” enciclica on Climate Change analysis the implications of the above synthetically described main phenomena would cause a lot of potential catastrophes that would be very negative for the life of human beings and animals. Just limiting the results to the effects of exceed the average World temperature of more than the 2°C increase, the following effects are forecast:

1. The loss of pole ice sheets (glaciation effects) implying the collapse of the Larsen platform, the opening of the Arctic route to ships, the melting of ice in Greenland and so on.
2. Reduction of alpine glaciers.
3. The acceleration in the growth of the sea level (only for Bangladesh are expected 60 million displaced people in the next 20 years).
4. Sea water level increase over 50 meter.

Many other possible minor consequences are predicted in the Enciclica but all of them are due to the effect of men activities. This anthropocentric theory is the basis of the “Laudato si” approach for the saving of the “common house”. Most of the Climate Change problems and effects are due men activities and actions mainly due to industrial production, directly linked to technology improvements.

However, observing the glacial diagrams and climate changes along the glacial ages obtained by measuring with geophysics log methods the average temperature, sea water levels, the ocean water flow such as the famous “nastro

In the 5th IPCC report of 2013 they value human responsibility in climate change in more than 95% and write, the rise in temperature of the Earth and the ocean levels are clearly manmade.

In other words, the most important scientific approach processed by scientists of IPCCP and their alternative group: the NIPCC, are basically convinced that the Planet Climate Changes have been happened during the glacial ages overcoming the above limits without destroying the animal and being life.

REFERENCES

Pope Francesco, "Laudato sì. Lettera enciclica sulla cura della casa comune", Paoline Editoriale Libri, 2015; edilibri.mi@paoline.it