Overpopulation and the Threat of Ecological Disaster: The Need for Global Bioethics

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Nature may not be interested in the survival of humanity. *Homo sapiens* is the product of an adaptive evolution, but if the species continues to indulge in unlimited reproduction and undisciplined exploitation of the earth's resources, it may bring about its own destruction as well as the destruction of other species of animals and plants.

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At the threshold of the Twenty-first Century, Humankind is facing a new Era. After 6 million years of genomic independent existence, and after 2yK of increased capacity in learning and transmitting information among the members of the group and from one generation to the next which supported an enduring technological tradition.

Following the emergence of our own species, *Homo sapiens* around 2 - 5 hundred thousand years ago in East Africa and its migration to the Eurasian continents, its physical adaptation to different environmental niches, and the development of new mental capacities due to a continuous stimulation and selection for subsistence, clothing and construction of shelters, after having domesticated plants and animals around 10-6 thousand years ago, there began a progressive and drastic reduction of natural biodiversity.

Humankind now has to face the effects of a dramatic and accelerated population growth (Fig.1). In the last two centuries human population size increased from one billion in 1835, to 2.5 billion by 1950. This number then doubled in only 45 years to almost 6 billion. This unprecedented increase in numbers, affecting specific geographical areas (tab.1), has accentuated the deterioration of the natural environment caused by the misuse of natural resources and

the depletion of fertile soils due to the clearance of forests, climatic changes and pollution.

Together with increased poverty and diminished access to resources, the struggle for survival has resulted in massive migration to urban areas, dramatic crises in multiethnic states, the breakdown of social relationships, and the rise of conflicts which are having a devastating effect on the lives and future of the populations involved.

It is the poorer countries which are experiencing this high level of fertility, formerly balanced by a correspondingly high death rate, and these are now the scene of extreme poverty and accompanying ecological destruction. Even apart from the harsh realities of poverty and environmental degradation, poverty and unemployment produces a surplus of frustrated, angry young people who are shamed by their continued dependency on their families. This is one of the frightening economic/demographic problems in the world, and is resulting in a rising tide of massive migratory pressures as more and more young people take sometimes incredible risks in their attempt to flee their own homelands and cross the borders into as yet more prosperous nations.

Large numbers of people require large quantities of energy and nutrition. They also produce large quantities of waste products and generally are inclined to act as an imbalancing force on the environment. Furthermore, the quality of the ecosystem is now threatened by the "green house effect," which is the direct result of a sometimes irrational industrialization. Ecological integrity is a concept that has to be advanced by anthropologists in order to facilitate the protection of the delicate balance of biological and ecological resources which make this planet habitable. Each generation makes decisions that binds humanity thereafter. Our knowledge is worthless if it cannot be the basis of future decisions!

Today, our species faces the prospect of doubling within a generation (25 years). Those who ever lived since the beginning of the Common Era (2 thousand years ago) total about 50 billion persons by comparison to about 44 billion who ever lived before that time. The world today is populated by almost 6 billion persons. This large and growing population is exerting a major pressure on natural resources. The increasing demands for marketable goods from non-renewable or fragile resources or high environmental threatens

us in the future. There are already indications of violence and turbulence in and outside the industrial world accompanied by an ideological crisis. The outcome will depend on our action or inaction as individuals and as associations.

The United Nations Conference on Population and Development held in Cairo on September 1994, as well the Rio Conference on Environment and Biodiversity of 1992, have stressed the urgency of facing demographic and environmental pressures on a global scale. The real problems remain the impact of population growth on food and energy resources, the problem of waste disposal, and the even more horrendous problem of pollution and environmental degradation. The conferences only touched on the surface of these problems.

Raising these issues is not enough. An holistic, specifically anthropological approach is urgently needed. As a result of this demographic and ecological impact, *Homo sapiens* appears to be the most destructive species the Earth has witnessed. In the last few decades we have witnessed a progressive and drastic reduction of natural biodiversity at the same time that Humankind is introducing new varieties or even new species with the help of genetic engineering.

It was in fact with the coming of the industrial age in the nineteenth century that man imposed his presence on Nature in a more violent way. In the Western world the collapse of Thomistic theology, followed by the development of scientism, positivism and mechanichalism of nature, led to an unconditional faith in progress, with ideological crises that also had social and political consequences such as Marxism.

Two new factors have been added to ideological changes since the first half of this century:

1) The ecological impact of Man on the environment, which began with the industrial revolution, and with the population explosion that accompanied it and the growth of medical knowledge, has become apparent during the second half of this century;

2) The innovative impact of Science, first with atomic physics, which proposed the fission of the fundamental unit of matter, the atom,

and then with molecular biology, which has led to the decoding of genetic information and the interventions of biological engineering, destroys traditional concepts such as the individual and the species as fundamental units of life.

The human species is now beginning to consider Nature as an ambience that is capable of supporting life (Ecology) and as matter out of which humanity itself is formed, as well as all the other living organisms (Comparative Biology). Mind reflects on matter, yet mind is made of the same material as matter!

Man now also knows that he is an integral part of Nature, so that we can perhaps say that "Nature through Man thinks of herself;" hence the anthropic interaction between Man's consciousness of himself and his knowledge of Nature. This stage of fundamental rethinking is however overshadowed by the threat of ecological disaster and catastrophic population increase, which might not only impose limits to development, but could well undermine the very survival of the human species. The future survival of our species depends on the interaction between humanities' reproductive characteristics and the carrying capacity of the Earth for humans. Therefore, there is the need for a new science which, with V. R. Potter, we propose to call "Global Bioethics", that would envisage a naturalistic, evolutionist and scientific vision of ethics for life. Any such general theory for the evaluation of criteria for good and evil must adopt the same criteria as science.

In European cultural history, the first forms of ethics amounted to the relationship between individuals, the balance between individual freedom and the maintenance of good relations within a specific social group: father and mother, son and daughter, husband, wife and kinsmen.

Subsequent ethical philosophy in the Western world bore on the relationship between individuals and society, in the sense of an widely-defined group of known or unknown "fellow-citizens." This involved systems of jurisprudence, together with such concepts as democracy. Yet still there is no codification of any ethical system such as is needed to regulate the interaction between humans and earth and the animals and plants that grow on it. The relationship between humans and the things of nature, as A. Leopold (1933) writes, is still

strictly economic. The Earth is considered only from the ownership point of view, and all the norms that regulate the relationship between humans and the Earth imply only privileges and no obligations for humans. The extension of ethics to this third element, to the ambience utilized by humans, is an evolutionary progression and an ecological necessity. It is the third stage in a sequence through which the first two have already been passed. It is becoming increasingly urgent to follow this sequence now that the world is experiencing a serious crisis that is not only economic and ecological but involves cultural and moral values, even identity.

Ethics and Anthropology

The natural and humanistic sciences (zoology, paleontology, archaeology, ethnology, genetics and psychology) have for some time provided valuable data showing how there is no contradiction between the affirmation of the animal nature of man and his unique quality as a cultural creature. It follows therefore that our very survival may depend on achieving a more balanced and harmonious relationship with the other elements in the ecosystem. To this end it is necessary to create a bridge between the humanistic disciplines and the naturalistic ones in order to create a synthetic vision of the history of Man as natural history, in which precise scientific knowledge, and not ideological position, constitutes the basis of the relationship between humanity and the rest of the natural world.

Since ancient times, isolated thinkers from both East and West have reiterated the harm man suffers from a wrong use of the natural ambience, but until now there has been no "social awareness" of that situation.

Nature may not be interested in the survival of humanity. The present Humankind, *Homo sapiens*, is the product of an adaptive evolution. However, if humanity indulges in unlimited reproduction and undisciplined exploitation of the available resources, it may bring about its own destruction as well as the destruction of other species of animals and plants.

The days are numbered. Demographic predictions indicate that the population of the Earth will inexorably reach at least 10 billion by the year 2050 if not sooner. If all these people seek to share contemporary Western levels of consumption, disaster will ensue, and

it is extremely unlikely that the human species will survive to the end of the next century.

It is necessary to create a new pact between the human species and Nature to make our existence on this Planet still possible. This complex challenge, essential for the survival of Humankind, must be discussed and faced at the beginning of the third millennium!

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Note: Some of these ideas will be debated at the 15th Congress of the International Union of Anthropological and Ethnological Sciences, which will be held in the year 2003 in Florence, Italy, and which will have as its general title: Humankind/Nature Interaction; Past, Present and Future. Interested attendees can contact: XV IUAES Congress Firenze 2003, via del Proconsolo 12, 50122 Firenze, Italy.