EARTH IS NOT A STARSHIP!

by Adriano V. Autino

In 1972 Aurelio Peccei (the founder of the Club of Rome), compiled the famous report entitled "Limits to Growth" The most suggestive image, draft by the Club of Rome, was the one of our planet, seen as a spaceship, traveling the cosmos.

That image became one of the pillars of the ecologist metaphysics, the so-called "sustainable development". It is a very powerful and evocative image indeed, able to synthesize in itself quite a lot concepts. First of all it addresses the adventurous spirits, suggesting that to move around it is useless: it is enough to take conscience that we are living on a gigantic spaceship, and we will daily live in a marvelous adventure (catatonic astonishment, would be perhaps a more appropriate definition!). Secondly the image stimulates our feelings of responsibility: if the world is a spaceship, we have to keep it in order, and to take care of the necessary maintenance, or, at least, not to dirty nor damaging it. Besides, and this is perhaps the most insidious aspect, a spaceship-world is a closed system: it is not worthwhile "to get off" while it is running, and getting off would estrange us from the direction of the trip.

Thirtyfive years ago we landed on the Moon, and then we stopped, according to Peccei's philosphy!

It is enough to sit down and think few moments, to see that our planet is not a spaceship. Such concept contradicts, in fact, the most elementary requisites of astronautics. Or, if we want to make it simpler, it denies the requirements of any transportation mean. A transportation mean owes, in fact, to bring us from the point A to the point B. Why? Because we want to see what is in B, or we have some business to do down there.

Where is the so-called Spaceship Earth carrying us? I borrow a passage written by Margherita Hack in her paper "Philosophical Implications of the Modern Cosmology"[(1)], that excellently answers to the question. Explaining the theory of the expansion of the universe (today taken as the most probable, upon sixty years of sound scientific observations), Hack says: "In reality the correct interpretation, result also of certain Einstein's and Friedman's theoretical predictions, it is that, in reality, the galaxies are steady in an expanding space. We can imagine the space as an elastic mean that is stretched, dragging the galaxies with itself. A very simple example is the one of the leavening pasta of a dessert. If peanuts and candied are absorbed in such pasta, while the pasta inflates, each peanut is estranges from all other ones."

Earth is carrying us nowhere.

Therefore it is not a transportation mean, and not at all a spaceship. Admitting, for hypothesis, that Hack and the whole modern cosmology were wrong, and that Earth carried indeed us somewhere – that is to meet another solar system or another galaxy – we should hope to never reach such a destination! Because it would result

in a disastrous clash, that would mark, as minimum, our end and the end of our Solar System. Very more fitting, still today, the definition that Konstantin Tsiolkovsky, a Russian elementary teacher, lived to the beginning of 1900, gave of Earth: "Earth is the cradle of humanity." And he added: "But one cannot live forever in a cradle."

If we want to move, if we want to prevent that the intelligent life and its civilization disappear soon from the universe, we have to settle on other "candies", in our universe-cake, at least in our Solar System, and to do this it is necessary to build true spaceships as soon as possible!
As to the maintenance of our planet, we have a lot to learn, before being sure not to make damages more than well. Also for this purpose – a useful corollary, provided that the primary objective of the settlement on other planets do exist – it is of vital importance to widen the study to other celestial bodies. Only comparing the terrestrial ecology with the one of Mars and Venus (at least) we can better understand as it really works an ecosystem (or it dries up, or it doesn't succeed to develop itself). Only learning to master closed artificial small ecosystems, we can have hopes to learn how the big ones work. And no automated exploration can replace the human ability "to experiment and learn on site." We need to go there, and to stay.

> *Beyond a critical point, the degrees of freedom – in an ended space –decrease with the increase of the number. This results valid both for men in the finite space of a planetary ecosystem, and for the molecules of a gas in a closed container.*
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> Pardot Keynes, first Planetologist of Arrakis (from" Dunes", Frank Herbert).
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> *The territoriality works this way. Let's take some quickly reproducing animals, e.g. mice (…), let them reproduce in an enclosure, assuring in every phase enough food and water. At the beginning you will see them behave according to their traditional way, when a conflict rises: the litigants will be faced, they will make pretenses and stabs, they will charge, they will withdraw; victory will go to the most braggart. (…) When the overcrowding will overcome a certain degree the struggles won't be symbolic anymore. There will be dead bodies. And mothers will start to devour their children. (...) The shortage of territory, of space in which to stir and to call own, induces to attack members of the same own kind, even in scorn to the normal solidarity of group, usual in the gregarious animals.*
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> From" You as beast", of Chad C. Mulligan (from "Stand on Zanzibar", John Brunner)

NOTES:

(1) M. Hack and others – 1993 "Pensiero Scientifico e Pensiero Filosofico" Franco Muzzio Editore S.p.A.