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POPULATION PROBLEMS IN THE CONTEMPORARY WORLD

Earthly civilization has now entered a phase of development which requires urgent need of imagination to discern its eventual evolution.

Demographic problems occupy a considerable place in global development. Numerous authors interested in the future of the planet have referred to the important factor of population increase. Nevertheless their attitudes toward demographic problems, the manner in which they conceive their own roles, their forecasts are all diverse and reflect a wide range of ideas from serene optimism to nihilistic pessimism.

At one end of this spectrum are those who can be called *demographic maximalists* who think all demographic problems are pure inventions and that the earth can easily nourish a much larger number of humans than at present: 50-100 billion people, for example. The demographic maximalists badly misunderstand the concrete conditions of present reality and hide themselves behind nebulous attractions.

Another point of view, close to the preceding one, is *dem-*

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ographic populationism which says all population increases are welcome, and the larger the increase the better. Among the champions of this theory are certain leaders of developing countries, in Africa especially. For them, "It is better to be poor and have children than rich and have none." The Christian religion is also close to this point of view. "God gives children and He will nourish them," said Martin Luther. The Vatican today espouses a similar position; in his 1968 encyclical "*Humanae Vitae*," Pope Paul VI rejected all methods of birth control.

Next are those who profess *demographic utopism*. For these the world's population problems will be resolved through space settlements. Gerard O'Neill, professor at Princeton University, has proposed a grandiose project for the construction of a space colony for ten thousand people between earth and the moon, the cost of which would be, according to him, 100 billion dollars, or 10 million dollars per person.

O'Neill paints a gay picture of life in this cosmic city which he thinks could be under construction by 1990. In this city, he writes, there will be restaurants, theatres, ballets. Obviously this "cosmic" solution to demographic problems seems more like science fiction. Even if man will eventually be able to travel for long periods in space, this will not be for a long time yet while the problem of world population needs an immediate solution.

Then there is the theory of *demographic fatalism*: demographic problems will disappear by themselves because human population is a self-regulating system capable of resolving automatically all contradictions arising within its dynamic. This is a kind of let-it-be theory, a policy of non-intervention, based on a neutral attitude toward demographic problems.

"Certain scholars," writes the Soviet academician Piotr Kapitsa, "think that the solution to global problems should be left to the 'wisdom' of nature which, for millions of years, has guided its own evolution. But I think we must not lay down our arms in the struggle against these problems nor simply allow civilization to develop in whatever manner it wishes." We are in complete agreement with his point of view. To trust in the success of self-regulation is to renounce a possible influence on the future of humanity, to place our future in the hands of fate and to tend

toward a kind of *demographic agnosticism* based on our impossibility of knowing the dynamic of populations.

Another approach to these problems is *demographic biologism.* This is the theory of R. Pearl and L. Reed which was quite popular in the Twenties. The two authors stated that the demographic dynamic varies according to an increase of a logistic curve; at the beginning the rhythm of growth increases and when a certain critical point is reached, it decreases to zero. Eminent biologists, Pearl and Reed based their calculations on this curve (already proposed in 1838 by the Belgian mathematician P. Ferhülst) on the law of population increase among fruit flies and applied this law to human society. Nevertheless the fifty years which have since passed have clearly shown the inconsistency of this biologization of social processes. All previsions of population figures made by scholars have been proven wrong by facts.

Other researchers have approached the question differently, thinking that demographic growth is an essential factor for the development of societies and that it is thanks to this population growth that different social formations follow one after another. The sociologist Maxime Kovalevski and the economists A. Bogdonov and I. Stepanov, all three of Russian nationality, as well as certain western scholars, belong to this category which we will call *demographic determinism.*

This category presently includes all those who consider population growth as a negative and not a positive phenomenon and as the unique source of all of humanity's evils from war to famine to misery. Those in this category predict the imminent end of humanity because of over-population of the globe. This determinism serves to camouflage the true causes of the calamities which afflict humanity and permits, among other things, to overlook the totality of socio-economic and political factors.

The rapid growth of world population has also created a certain *demographic alarmism* whose primary exponent was without doubt Thomas Malthus. In his *An Essay on the Principle of Population* he foresaw in 1798 that all sorts of evils were about to explode on humanity because of the increasing number of humans on earth.

To support his position Malthus had recourse to the theory

of two progressions: one, geometric, of population, and the other, mathematical, of the means of existence. Although their initial values are the same, the first will progress more rapidly than the second causing there to be, according to Malthus, less and less material goods per inhabitant. Humanity progresses, therefore, toward its own extinction.

The "discovery" of geometric progression is generally attributed to Malthus, but this is incorrect. Many scholars, among them Ortes and Franklin, established this phenomenon well before him, and it is no accident that Marx has called him a plagiarist. On the other hand the very fact of the geometric progression of population flows automatically from the process of the multiplication of human beings.

Geometric progression means that there is a relative mathematical increase of the level attained and not an increase of a determined number which is added to the level in question. For example in a population of ten thousand people with a determined increase, that is with an excess of births over deaths, the increase will be not only of an absolute value but also of a relative value which characterizes the rhythm of absolute increase of the initial figure. If the increase is of 1%, the absolute increase will be 100 persons. But if, in a determined number of years the initial figure doubles, the absolute value of growth, at the same rhythm, will be 200 people. This increase in the absolute growth means that the increase of 1% is actually an increase of 1.01% as a geometric progression.

It is as naive to attribute to Malthus the merit of having invented geometric progression of demographic growth as to deny its reality presenting it as an as yet unfulfilled prophecy. The error of Malthus is not in having affirmed the existence of a geometric progression, but in having believed in a *mathematical progression of the means of existence.*

This mathematical progression is the real "discovery" of Malthus, even though he did not and could not furnish a proof to buttress it, since industrial and agricultural production do not agree with any law of mathematical increase. Even applying the law of falling expenses elaborated by G. Clark in the 19th century, we can find no mathematical progression, for the level

of costs varies according to a law of relative and not absolute values.

Neverthless the law of falling expenses applies only if the technical level of agricultural production remains the same. In reality this latter does change as is shown by the fact that the part of the population engaged in agriculture is constantly diminishing. In pre-revolutionary Russia, three fourths of the total population was engaged in agricultural production, whereas today only about one fourth is so employed. In the United States agriculture employs only a minor percentage of the economically active population.

Throughout the 19th and 20th centuries, scientific discoveries have permitted the multiplication of agricultural productivity. Chemical fertilizers, improved seeds, farm machinery have all considerably improved agricultural yields, a progress which continues today. In the second half of this century, the "green revolution" has enabled certain countries to increase from three to five times their harvests of wheat, rye and corn.[1]

Since the nature of the dynamic of different indices is in general by virtue of mean tendencies of the dynamic of relative changes, there could be a geometric progression which could be both increasing and decreasing. If the level of a given phenomenon has the tendency to decrease, the best way to make this clear is to express this tendency through a value lesser than the whole because the intensity of the decrease depends on the value of the initial level, which is to say that it is relative.

To be especially emphasized is that this progression is variable, increasing according to determined laws. We can call this super-exponential progression. It is precisely according to this progression that the human race has continued to increase practically without interruption since the appearance of the first man on earth. Of course this does not mean that the increase of the means of production is less than the increase of the population. On the contrary the former systematically exceeds the latter.

Our calculations with regard to Europe have shown that in the feudal era, the increase in population was of 0.09% per

[1] L.A. Kniajinskaia, *Neo-colonialism and the Problem of Nourishment in the Developing Countries*, Moscow, 1977, p. 47.

year while agricultural production increased by 0.12%. At the beginning of the capitalist era, the population increased by 0.22% per year and agricultural production by 0.3%; at the time of industrial capitalism the figures were 0.69% and 0.9%.[2] On a world-wide scale, a study of the past years reveals that from 1970-76 the population has increased by 12% and the production of food products by 17%.[3] Malthus consequently over-estimated the power of nature over man and under-estimated man's force over nature.

The theory of Malthus was born at a time of industrial upheaval and an impetuous rise of labor productivity. Contrary to the misery which he foresaw for the English proletariat, this latter, thanks to its stubborn class struggle, has seen for close to two centuries a considerable increase in its level of consumption.

However, the "demographic explosion" of the last two decades has reinforced the Malthusian theories. Among their followers are especially natural scientists, alarmed by the rapid increase in world population. The works of Vogt (*Road to Survival*) in the Fifties and of P. Ehrlich (*The Population Bomb*) at the end of the Sixties each struck particularly responsive chords.

Among the numerous alarmist books published of diverse tendencies, certain ones went so far as to predict world famine by 1975. But the year 1975 came and went, and the world still goes on. Of course this does not mean that all alarming voices should be silenced; we think for our own part that, even if there is no need to sound the alarm, we should also not fall into a beatific optimism as some have done.

In order to overcome in an objective and scientific manner the demographic problems which today's world faces, we must adopt a position which is realistic, constructive and positive. The model is given by Marxist theory which will enable us to unravel the tangled knot of population questions in their relation to social development.

It would be possible in this way to establish a rational demo-

[2] See my *Demographic Growth in Europe*, Moscow, 1941, p. 400.
[3] Monthly Bulletin of Statistics, 1978, p. XI.

graphic policy for all the countries of the world, guaranteeing of course the sovereignty of the government of each country and allowing no one to tamper with this. Each government should take the necessary measures to decrease mortality, diminish or increase natality, then according to the level attained stimulate certain migratory processes both in directing their flow and in intensifying the urbanization of the country; these different measures constitute the fundamental aspects of a demographic policy.

Moreover, we should begin a serious study of ecological problems which are closely bound to demographic questions. Each new inhabitant of the earth is, in effect, a new polluter of the environment, although it is important to emphasize that there are important differences among different polluters. It is of course quite evident that an inhabitant of the United States who frequently uses an automobile, air plane and air conditioners and who surrounds himself with all kinds of gadgets from the techno-scientific revolution pollutes the atmosphere twenty-five times more than an inhabitant of India, for example.

Everyone is now aware that we cannot continue to pollute infinitely the atmosphere, the water, the land. Marx, who had studied the work of P. Tremeau, quoted this passage: "Human projects which do not consider the laws of nature are doomed to finish in calamity."

The techno-scientific revolution has acquired such an amplitude that the harmful effects due to the violation of the natural ecological balance are almost irreversible. Engels warned us of this problem in his own day "We should not boast too much of our victories over nature. She works her vengeance on us for each of them. Each victory, certainly, has in the first instance consequences which we seek; but in the second and third instances there are unforeseen and completely different effects which too frequently destroy these first consequences." [4]

It is undeniable that the consequences of the techno-scientific revolution provoke a slowing down and even, in some cases, a diminishing of life expectancy. This can take many forms, direct

[4] Marx-Engels, *Selecied Works, The Role of Labor in the Transformation from Ape to Man*, 1975, p. 376.

in the case of mortality due to diseases which result from the deterioration of the atmosphere or the quality of water, or indirect in the increase of the number of accidents, alcohol abuse, drug addiction, obesity.

The future should be as important to us as the present. We should be as concerned for those who are alive at present as for those who will come into the world later.

In the *Blue Bird*, a play by the Belgian playwright Maurice Maeterlinck, the heroes go off one day to follow the bird into the "kingdom of people not yet born." There people do not yet know what tears are; they will learn this on earth. Our task is precisely to establish a demographic policy which, in Maeterlinck's image, will not only decrease the tears of our contemporaries, but also those of their descendants. It is interesting to note that at present unions in India are struggling for the guarantee of the principle of "progress without tears" according to which all technical improvement is forbidden unless measures are taken to insure that workers who would otherwise lose their jobs because of this improvement are immediately given another job.[5] To ally harmoniously the interests of the present with those of the future should be the objective of our generation, an objective which a rational demographic policy will allow us to realize in large measure.

Demographic policies should be adapted to the concrete situation of each country. It must also be admitted that in many countries the optimal population figure has obviously already been overtaken. We can suppose that the threshhold will be crossed at the moment when new generations, during their active lives, will create less goods than they will consume. The passing from "paying" to "non-paying" generations shows that the optimum population level has already been exceeded. In this case the demographic policy of the country concerned consists generally in depressing the rate of population increase. This can be achieved by limiting births when all necessary socio-economic measures possible have been exhausted.

Throughout the last decades, governments of certain over-

[5] M. Volkov, "Developing Countries and the Problems of Employment," *Voprossy ekonomiki*, 1978, n. 4, p. 91.

populated coutries have tried to provoke a decrease of natality by applying appropriate measures: authorization of abortion, contraceptives, etc. Nevertheless, in the majority of cases this policy has not been a success. The demographic behavior of a given population is in effect a function of its cultural level and its social and economic context. The only effective policy is one which foresees the needs of the population but which contains no element of force.

The plan of world action adopted in Bucharest in 1974 by the World Population Conference is based on the right of every man to decide freely and with full awareness the number of children he wishes and the interval between their births. It is only a raising of the cultural level, the participation of women in social work and the urbanization of a country along with an active demographic policy which will allow concrete results.

A demographic policy based on determined socio-economic contexts has led to a general decline in natality in a series of small countries of ten to fifteen million residents such as Japan. The same phenomenon was registered in China; during the last twenty years the coefficient of natality of this country has gone from about 42% to 25% which means that natality has decreased by about half.[6] The same success of a demographic policy is to be seen in Mexico where the birth rate has gone from 45.8% in 1973 to 34.6% in 1976.

The decline in natality is the result of the progress of the idea of conscious maternity which translates into a limitation of the number of children per family. Conscious maternity appeared in 18th century France and then spread to many other countries. At the beginning of the 19th century 1% of couples practiced birth control; at the beginning of the 20th century the figure was 8%, and by mid-century about 25%. At present it is estimated that about 45% of couples practice birth control.

Under the influence of determined socio-economic factors combined with an efficient demographic policy, this figure should continue to grow to around 100% by the end of the century. Everything depends also on the level at which the limits will be fixed, for the results will be different if families decide to limit

[6] *Population and Development Review*, 1977, XII, p. 485.

themselves to two children or to four or five. Probably cultural pressures will be such that the birth rate will fix itself at around 2.6 children per couple which will ensure the simple replacement of the population.

Just as medical science sets permitted levels of harmful substances, perhaps it would be good to examine the eventuality of population limitation, and more precisely its degree or rate. For this we must fix the maximal density beyond which we arrive at a deterioration and a general lowering of the standard of living. It is obvious that in this instance population control would be of a supreme importance.

We know that the man of the future will hardly profess the principles of Diogenes who believed that, "Wealth can be determined by the number of things which one can do without." Our descendants will have greater needs than our own. Consequently if it is correct to maintain that quantity increases at the expense of quality, the number of human beings risks at a certain point to compromise the quality of life itself. Such would be the case, for example, if the total volume of vital goods was of a constant value. It should not be so, however, since under favorable socio-economic conditions the volume should increase.

Today world population increases at a rate of 2% per year. The apex of the curve has been reached, and we can already detect the beginnings of world-wide decrease. Nevertheless the rhythm of growth is still quite high and requires a long "braking distance" to slow down.

The anarchy of the economic and social life of capitalist society risks creating difficult obstacles before the goal can be achieved. Let us recall here the words of Marx in an article published in 1853 by an American newspaper: "It is only after a great social revolution will have assimilated the goods of the bourgeois era, of the world market and of contemporary productive forces, and will have placed them under the common control of the most advanced peoples, that human progress will cease to resemble the hateful pagan idol who refused to drink the nectar offered it unless it was served in the skull of its victims."

No one will deny that world population has no limits; its numeric size should be stabilized at a certain level in the interest of human progress. Nevertheless this will not happen for at

least a hundred years, and apparently the level will not be less than eleven or twelve billion people. Supplying such a number of people with everything necessary to life will call for new successes from science and technology, including the control of thermonuclear reaction and a wide-spread use of solar energy. This is the path humanity should take, refusing to accumulate new victims whose number in the 20th century is close to 100 million because of imperialism and wars.

At the time when the earth has only about four billion inhabitants and when already hundreds of millions of people do not have enough to eat, the liquidation of famine and poverty demands a world order which would place all available resources at the disposition of the vital needs of all peoples.

The demographic problems facing humanity are serious and should not be under-estimated. However, we should not consider them a labyrinth with no exits. A planned, global scientific approach to these problems on a world-wide scale can give us the thread of Ariadne which will lead humanity away from the Apocalypse and toward the path to a future which nothing can darken.

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