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The Demographic Revolution and the Control of the Demographic Processes

The demographic system

In this paper the demographic revolution is interpreted as a historically conditioned fundamental transformation of the control mechanisms in the functioning of the demographic system. The demographic system as such is a sub-system of society. It contains the totality of human beings forming the society and the demographic relations connecting them¹, i.e., the social relations entered into by the people for the production and ensuring of life. The specific function of the demographic system is in maintaining the continuity of the reproduction of human generations, the reproduction of population.

The diversity of demographic processes

The demographic system is based on the probability theory. The reproduction of population is the sum of a mass of individual demographic events or demographic results of the life of individual people. Following the pattern of the sub-

¹ O. V. LARMIN, *Metodologicheskie problemy izucheniya narodonaseliniya*, Moscow 1974, pp. 20–21 and U. I. MERESTE, *Predmet i struktura demograficheskoy nauki i mesti istoricheskoy demografii*, in: *Problemy istoricheskoi demografii*, Tallin 1977, pp. 19–26.

division of the cycle for replacing the mother generation by the daughter generation which is generally recognised in demography, one can observe three kinds of demographic processes and results as far as an individual person is concerned — the procreative result, the vital result and the reproductive result. *The procreative result* is the number of daughters born to a woman in the course of her life. *The vital result* is the number of years which (as given in the schema here) each of the daughters lives from birth to death. *The reproductive result* is the number of daughters who become mothers in the moment of giving birth to daughters.

As a rule, in all individual cases a certain potential diversity of demographic processes and results is possible because of biological reasons. Let us disregard some extreme cases which are not important for consideration and let us take for granted that each woman can give birth from 0 to 12 daughters (the diversity of procreative results) and each of her daughters (diversity of vital results) can live from 0 to 100 years. Different combinations of these results form the diversity of reproductive results. Taking into account additionally that half of all children born are always girls (which is of course improbable in the individual case) the theoretical diversity of demographic results contains 7 possibilities (from 0 to 6 daughters as possible replacement for the mothers). In each individual life only one demographic result of a particular kind can be realised out of the diversity of demographic results. Of course, it is impossible to make any prediction with certainty. Moving, however, from the individual human being or the individual family to the overall population, the total diversity of potential demographic results can be realised, and what is at stake is the probability of the emergence of this or that result out of the total amount. One can imagine that the emergence of each of the possible results is equally possible — the same number of mothers gives birth to zero, 1, 2, ... etc., up to 12 children. The same number of daughters dies at the same age, both at the age of zero, of 20 and 100 years. The truth, however, comes nearer to another situation — the probability of different results does not coincide. There are always women who do not give birth to children and women who give birth to 12 children. The probability of these results, however, is by far smaller than the probability of, let us say, 1 to 2 children in an urban family of today or 5 to 6 children in a traditional rural family.

There are always people who die at the age of 10 or 20 years but the probability to die either at an older age or within the first days after birth is much higher. The probability character of the demographic results would show that their diversity is not properly organised. The difference of probabilities of various results shows that the diversity is organised and limited in a certain way.

Control processes in a demographic system

Every control (steering) implies an organisation of the system by which the qualitative determination and the fulfilment of its specific functions are maintained.² At the same time, the organisation of the diversity of demographic results is also the outcome of control processes which take place in the demographic system and in society as a system of a higher hierarchical order. These processes vary from the aspect of contents, sphere of influence, etc.

The diversity of vital results depends partly on biological facts. The viability of the organism and its capacity to withstand the exogenous influences, in many cases, depend on internal, endogenous processes and because of this they are unequal in different ages. At early infancy they are of minor importance but grow quickly and are reduced gradually by the influence of the natural ageing processes of the organism. The real vital results, however, do not only depend on the endogenous factors, whose effects do not change in the course of history, but also upon the strength and intensity of the external, exogenous harmful influences. From the aspect of the development of the individual organism, the flow of these influences is irregular, spontaneous and the probability of becoming the object of similar influences as well as the probability that their strength may surpass the resistance of the organism and will result in death does not depend so much on the age. That is why the high degree of dependence of mortality on its exogenous factors is identical with the force of a fatal accident on people's lives, the indeterminateness of vital results and with the low limitation of their diversity. If, however, as a result of its historical development, society achieves the capacity to protect the people from, at least, a part of the most dangerous and harmful influences, it limits the role of spontaneity, reduces the diversity of the vital results, shifts mortality to older ages as conditioned biologically. In this way the vital results can be controlled, in principle, by society, its diversity can be limited and the greater the capability of society is to eliminate the harmful external influences (hunger, epidemics, wars, excessive work, etc.), the higher is the efficiency of such a control.

The life pattern of a given population is characterised by the diversity of the realised vital results and can be shown with the help of the function $l(x)$ the well-known number of surviving persons. The average life expectancy of a newly-born child $e(o) = \int_0^{\infty} l(x) dx$ serves as a short and generalised characteristic of the mortality pattern.

The diversity of the procreative results is mainly limited by the socially deter-

2 V. G. AFANASEV, *Nauchnoe upravlenie obshchestvom*, Moscow 1973, pp. 25—26.

mined types of demographic behaviour, which increases the probability of such events that are objectively necessary under the given demographic conditions of a society. The diversity of the realised procreative results characterises the fertility pattern of a certain population which can be described by the fertility function $f(x)$. Its generalised expression (taking into consideration that only girls are of interest in this case) is the gross reproduction rate of the population $R_0 = \delta \int_0^{\infty} f(x) dx$ where δ stands for the share of the girls in the newly-born children.

The combination of the fertility pattern and the mortality pattern results in the reproductive pattern of the population. As to the overall population this corresponds to the reproductive result which can be expressed by the net reproduction rate of the population $R_0 = \delta \int_0^{\infty} f(x) l(x) dx$ which one can consider as the dynamic characteristic of the situation of the demographic system which functions in a given pattern. It is possible to have an infinite number of combinations of the patterns of fertility and mortality, i.e., also of the reproductive results. If their diversity is somehow restricted, then this can simply be the result of an independent limitation of the diversity of the procreative and vital processes.

At the same time, a different standpoint is also possible here. The demographic system has an internal objective like any other self-regulating system, namely, self-preservation and survival, and permits only the long-term existence of such a situation which does not contradict its objective.³ In this kind of approach, the reproductive results to be realised can not be considered as passive results of independent fertility and mortality processes but as a fundamental criterion to which the adjustment between the vital and procreative results which are to be realised are to be subordinated. Since the prolongation of human life is always considered as good and desirable, as an independent social objective, which lies outside the demographic system, the self-regulation of this system lies in bringing about a conformity between the fertility and the function of this system under the given mortality pattern. This is always the main task of this kind of regulation which takes place within the system of control processes.

The demographic limitation and the area of demographic freedom

Let us consider figure 1: On the x -axis you will find the values of the gross reproduction rate of the population and on the y -axis the rate of the net reproduction.

3 V. TREBICI, Typen der demographischen Transition in den Entwicklungsländern, in: Demökonomische Probleme der Entwicklungsländer, Berlin 1979, pp. 58–63.

The diagonal lines (slanting lines) correspond to the different values of the average life expectancy.

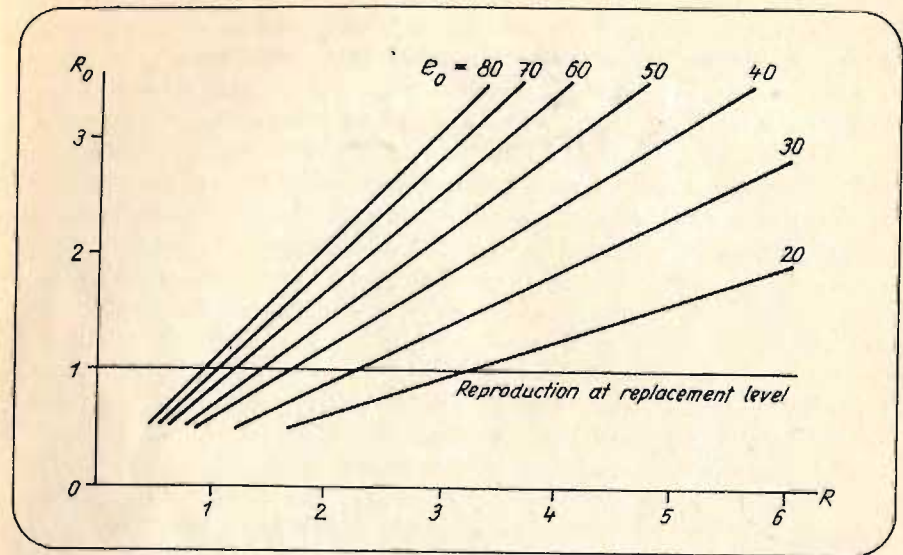


Figure 1 Area of possible patterns of reproduction

The basic construction of the diagram is based on the models of a stable population by A. J. COALE and P. DEMENY (Western type).⁴ Let us call our schema a „field of possible patterns of reproduction of population“, in which a dot represents any reproduction patterns one comes across in human history. If the diversity of the possible reproduction processes was disorderly or unarranged, in considering a sufficiently large number of population, one could expect the probability of the appearance of such dots at any place in the figure. As a result of the control processes, however, which take place in the demographic system, the number of reproductive results are limited and the results to be realised group themselves only in certain zones of the field of the possible patterns.

There are two types of objective limitations which determine, from the beginning, the contours of the zones. We need to point out especially the *demographic* limitations on which the limits of the areas of *demographic freedom* depend. The physiological fertility of women (which varies among the different populations as a consequence of hygienic, cultural and ecological differences) determines the limit of this area to the right. The maximum average life expectancy attainable in the given society forms the upper limit. Finally, the lower limit is dictated by

4 A. J. COALE/P. DEMENY, Regional model life tables and stable population, Princeton 1966.

the efforts of the demographic system to maintain itself and conforms to the „line of reproduction at replacement level“. All three limitations are not firmly fixed but are flexible and this flexibility varies.

Along the upper limit is characterised by a historical tendency to irreversible shifting which influences intensively the entire demographic system. Although the right limitation is not completely inflexible, it changes very little and these changes do not play any great role in demographic history. With regard to the lower limit, it does not change in principle since it does not permit a long-term existence of patterns which do not ensure a reproduction at replacement level (in the case of the contrary, the population dies out). But it is less rigid than the other two limits which implies that its periodical transgression is more likely.

All three border lines cross each other and form a triangle in which the area of demographic freedom is to be found, i.e., the area of the reproductive processes which are permissible under the demographic limitations. Outside this triangle, there is an area of the possible results which, however, are inadmissible from the aspect of self-preservation of the system and of the results which are impossible under the given demographic limitations. (cf., figure 2).

Non-demographic limitations. None of the reproductive phenomena which are in the area of the demographic freedom and consequently in the respective reproductive pattern threaten the longterm-existence of the demographic system. If this kind of system were completely isolated, there would be no necessity for a limitation of the diversity of the reproductive results in the area of freedom. But in reality, the demographic system is only one of many sub-systems of society and that is why its functioning has to take into account the economic, social and other *non-demographic limitations*.

These limitations include the historically and socially determined requirements on the maximum level of mortality. Although a reduction in mortality below a certain limiting level is unattainable for a society which is at a certain economic, technical etc. stage of development, a great increase is possible in this regard. However, as opposed to this, there are fixed standards and norms which do not stem only from the functioning of the demographic system but also from the entire social system. That is why there are zones in the area of demographic freedom which are socially prohibited.

Another kind of demographic limitations is connected with the competition for resources between the various spheres of life. The extent of the resources is always limited and they have to be employed for the objectives which are dictated by necessity. Although in the course of historical development the pressure of the external necessity, which is due to the dependence of man on the natural forces not controlled by him, cases a great deal, the realm of natural necessity increases with the development of man since his needs increase⁵. The resources

5 K. MARX/F. ENGELS, Works, vol. 25, part II, p. 386–387 (Russian edition).

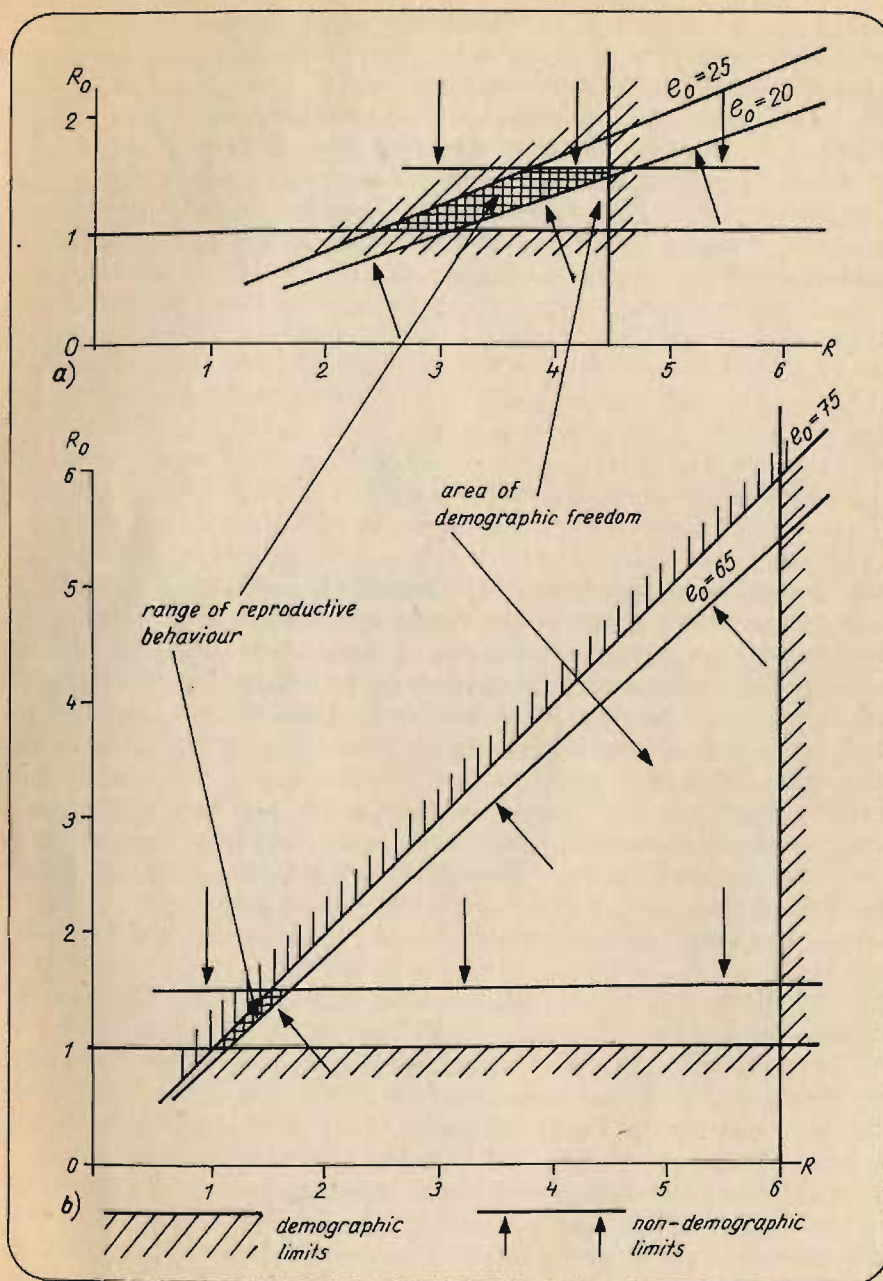


Figure 2 Area of demographic freedom; typical patterns before (a) and after (b) the demographic revolution

wrung from nature can be used with the same success for raising consumption (productive and non-productive) as well as for increasing the size of the population with an unchanged level of consumption. The first is dictated by necessity but the latter is not as a rule. The objective primacy of the first aim on whose realisation the forward development of human society depends is obvious. The priority of this aim also causes the non-demographic limitations which exert a great deal of influence over the functioning of the demographic system, regulate the diversity of the reproductive processes in the area of demographic freedom and restrict the permissible reproductive results.

The demographic revolution and the growth of demographic freedom

In the course of nearly the entire human history, the area of demographic freedom has been very small and its borders were unstable. The medium life expectancy was between 20 to 30 years, as a rule, and, as a result of a catastrophic rise in mortality, decreased frequently below this level and fenced in the area of demographic freedom still further. It was only in the course of the modern demographic revolution that mankind succeeded in controlling the exogenous factors of mortality and reduced the probability of the accidental vital results conditioned by them and thereby brought about a steep rise in the average life expectancy. At the same time, the real fertility of women obviously increased to a small extent. As a result there was an expansion of the area of demographic freedom to a level unknown hitherto. The situations typical of the periods up to the beginning of the demographic revolution and after its end are found in figures 2a and 2b.

The smaller the area of demographic freedom, the less is the role of non-demographic limitations the purpose of which is to limit within this area a still smaller area of figures of the reproduction processes and results which are compatible with the socio-economic and other ideas. Although this task makes sense almost always, in traditional societies the dictates of the demographic necessity are far more important and the main difficulties are in avoiding reproductive results which are found in the figure below the limit of the reproduction at replacement level or to neutralise their inevitable periodic appearance. In a situation, for example, as shown in Figure 2a, every woman has to give birth to more than five children on an average in order to ensure a reproduction at replacement

level. With due consideration to the fact that this „normal“ situation is unstable and frequent catastrophic increases in mortality are possible thus greatly restricting the area of demographic freedom, certain „reserves“ are necessary so that the minimum number of births required increases to 6. But this is an average number of births and not every woman, even if she lives between 45—50 years and wants to have six children can realise it. Widowhood, infertility among couples, separation for a long time, hard living conditions which lead to miscarriage etc. are the obstacles which appear frequently in the traditional society and make such a high number of births per woman unattainable. Many of them give birth to less children and some to none at all. As a rule, it is impossible to predict what the result would be in each concrete case. In order to maintain the average number of births at this high level, all families have to be oriented towards arranging such procreative results which are characterised by a possibly greater number of children to reach as near as possible the limits of physiological fertility. The small area of demographic freedom does not provide an alternative for this kind of behaviour. By nature and from the aspect of the necessary procreative behaviour, the area of freedom is even smaller than the one shown in the diagram. There is therefore no place for the effects of nondemographic limitations.

The demographic revolution changes the situation fundamentally. The vast extension of the area of demographic freedom and the stability of its limits provide an infinite number of alternatives and create the problem of collective and individual choice. Since within the limits of the area of freedom all the reproductive processes and results are the same, from the aspect of the demographic limitations, the choice can only take place on the basis of the consideration of non-demographic limitations whose role then increases greatly. Accordingly, the demands on the control of the procreative behaviour change. The main advantage in this kind of control with very little demographic freedom is that the procreative behaviour is less sensitive to the effects of non-demographic factors. It is as though it is subjected to external barriers and strict norms without admitting deviations; it is maintained by severe sanctions by directly abusing the human personality especially the woman and, as a rule, provides no individual scope of decision.

An extension of the area of demographic freedom and the appearance of demographic alternatives make it superfluous to have a similar type of control. Now, the high degree of sensitivity to the effects of non-demographic factors becomes the most important advantage of procreative behaviour because only a comparison of the economic, social, political, ecological and other non-demographic effects makes possible the acceptance of various demographic variants of the same kind and the substantiated collective or individual choice of them. If the earlier non-sensitivity to the operation of non-demographic factors is maintained the strong growth of diversity of the reproductive results cannot be restricted within

the area of demographic freedom. As a result the system cannot be regulated and impossibly high magnitudes of R_0 spread widely. If, however, the barriers which protect the procreative behaviour from the influence of non-demographic factors are removed, then these factors assume the importance of limitations which influence a great number of reproductive, and consequently, procreative results and thus the control of the system is restored. All those freed from the pressure of demographic necessity are now under the pressure of necessity which is linked to the growth of human needs. It is the pressure of this new necessity that proves to be a regulating and controlling influence on the diverse procreative processes in which most of them approach the probability of zero.

The demographic revolution and the consideration of non-demographic limitations

The non-demographic limitations which have to be considered after the demographic revolution, emerge in the course of interlocked processes both within and outside the demographic system. The decrease in mortality is not a consequence of self-generation of this system but of economic and social progress. Consequently, also the demands on a maximum permissible level of mortality emerge outside the limits of the system and can be interpreted as non-demographic limitations which influence its functioning. When, up to the beginning of the demographic revolution, an average life expectancy of 30 years was looked upon as normal, by the end of the revolution an average life expectancy of 65 years for both sexes was considered as low and socially unacceptable even if the self-preservation of the demographic system is not threatened.

The development of non-demographic needs is also the result of socio-economic development which with regard to the demographic system is an external factor although it is not completely independent of it. If there were no vast expansion of the area of demographic freedom — and this is an internal change of the demographic system, although it is linked to the external causes — the pressure of demographic necessity would block the growth of many needs. But with the extension of this kind of freedom, additionally very important prerequisites of socio-economic progress were created. An infinite number of needs, interests, spheres of power of modern mankind were caused by this process. But since mankind has only limited resources and possibilities, the infinite number of needs,

etc., contradict the diversity of the procreative results and „destroys“ it (as implied by W. АСНБЫ when he states that only diversity can destroy diversity).⁶

Unlike the previous pressure reflecting mainly demographic limitations, which works outside the individual and requires the individual's subordination under a norm without being hindering and which operates under cover to a certain extent, the pressure of the new non-demographic limitations on the procreative behaviour comes from „within“. It is the pressure of the own needs of man and that is why everyone is conscious of the concealed necessity only when it works tenaciously and increases with the development of demands. But their degree of development is a product of history. The diversity of non-demographic needs whose satisfaction is unknown in traditional society does not develop immediately with the extension of the area of demographic freedom. This, like the other, will be possible only with the attainment of a certain level of development of the productive forces, commodity relations, prosperity, etc. So long as this is not the case, then there would be no adequate demographic alternatives with various possibilities of the reproductive behaviour and consequently no substantiation for giving preference to one of them, for a rational choice of objectives in the sphere of procreation.

This kind of situation at present is characteristic of developing countries. The farmers and craftsmen who live in traditional poverty, as before, have no perspective for improving their economic and social situation, no access to education and that is why there is no stimulus for giving up the traditional reproductive behaviour, for limiting the number of children, regardless, that a greater number of children survive than previously. The inadequate level of development of economic, cultural and other needs weakens their controlling influence on many procreative results and stops the limitation of their diversity upwards. Finally, it hinders the utilisation of the possibilities for economic and social development stemming from the growth of the demographic freedom. As these needs and the possibilities of their satisfaction develop, there will be a more reliable basis for a more rational objective in the sphere of procreation and consequently also for decreasing the fertility as was the case in the economically developed countries.

The demographic revolution and the consideration of demographic limitations

The diversity of the non-demographic limitations and their satisfaction is a necessary but an inadequate condition for an effective functioning of the new con-

⁶ W. R. АСНБЫ, *Vvedenie v kibernetiku*, Moscow 1959, p. 294.

trolling mechanism of the procreative behaviour. It makes it possible to solve only a part of the problems, namely, the limitation of the diversity of the reproductive results in the area of the demographic freedom. But it does not prevent the transgression to reach the non-permissible magnitude $R_0 < 1$. This is all the more so since the growth alone of non-demographic needs favours this transgression and because the interest of parents in giving birth to children is weakened. They are compelled to „save in children“ for the sake of the satisfaction of various material, intellectual and other needs and this leads to a decrease in fertility below the objectively necessary level. In other words, this kind of diversity of needs ensures the consideration of non-demographic limitations, but nothing is left for the consideration of other limitations even in the broadest area of freedom of demographic limitations.

In order that the new controlling mechanism of the procreative behaviour can really perform its functions, the diversity of human needs must be freed from the non-demographic one-sidedness. Also, demographic needs must be involved to a greater extent, whereby these needs are non-exchangeable and non-replaceable. Apart from the needs for material goods, education, services, etc., a specific procreative need must also exist which previously was either not there or under-developed. If this need assumes the force of a motivation which is sufficient enough to form the procreative behaviour as dictated by demographic necessity, i.e., stable and able to withstand competition from other needs, then the transgression of the limits of the area of demographic freedom by the reproduction results is less probable.

Unlike the non-demographic needs which with regard to the demographic system are of an external nature, the procreative need is brought about by the functioning of the demographic system under the changing historical conditions and by the new demographic relationships. Its formation is one of the most important and complicated tasks of the demographic revolution. Genetically, it involves the development of a system of unchangeable and finite values at the highest level of society which reflect the functional independence of its individual sub-systems and has especially finite demographic values.

Of course, the finite demographic values do not appear for the first time in the demographic revolution. They always exist because the demographic sub-system of society exists. This system of values is a product of history like the whole society. In its development, there is an expression of the progressive complication of social life in the course of which it becomes more complicated, differentiated and full. So long as the demographic side of the viability of mankind was fused with its other aspects and the respective values existed only in an under-developed form, they could not be expressed in specific individual needs. As, however, the existence on its own and the internal division of the demographic behaviour began to develop, there was also a relative independence of the demo-

graphic values along with their development and internal enrichment. In the course of this development they gained an immediate force of motivation and appeared or reflected in social and individual awareness as a need for the birth of children.

We are of the opinion that the development of specifically demographic finite values (i.e., those which are necessary from the aspect of the survival of the demographic system) especially involves the formation of new relationships with children and childhood and the formation of a childfocussed orientation of society and family.⁷ The idea of a „child-focussed“ family is stated by PH. ARIES as follows, „The old type of family centred itself on the authority of the father and the conduct of the household. The organisation of the life of a modern family is dependent on the child and its future.“⁸ At a time when the external conditions on which the family was based in the past, whether it be the economic necessity, the demand of the law or the religion, become weaker or disappear, children increasingly assume the significance of a cohesive force of the family, the immediate sense of its existence which is connected with the internal structure of the personality of modern man.

The historically conditioned „social elevation“ of children leads to the development of parental feelings, parental duties and to a great elevation of the values of children in the eyes of all people and to the desire to have children as well as to classifying the procreative need as an inner, profound and intimate need. The development of this need enriches and consolidates the procreative motivation, leads to curbing its external determinants which now become superfluous and are replaced by internal determinants. It creates the basis for a rational objective in the sphere of procreation which is consistent with the requirements of self-preservation of the demographic system.

The demographic revolution and the demographic policy

The social controlling of demographic processes is an objective thing. It has always existed in the history of mankind and does not necessarily presuppose

7 A. G. VISHNEVSKY, *Socialnoe upravlenie roshdaemostyu*, in: *Voprosy filosofii*, No. 6/1978, pp. 85–100.

8 PH. ARIES, *Histoire des populations françaises et de leurs attitudes devant la vie depuis le XVIII siècle*, Paris 1971, p. 331.

subjective or conscious efforts with which the ideas of a demographic policy are linked. Of course, in the past too, the management activities of the state and its institutions had elements that influenced the demographic behaviour of mankind but they were closely interlocked with other management influences, became very weak and, as a rule, reflected scarcely recognisable and spontaneous demands on the demographic behaviour which were based on thousands of years of traditions.

The demographic revolution did not change the objective character of the social control of demographic processes but raised the role of the subjective factor. On the one hand, the emergence of a modern type of reproduction is linked with a greater measure of independence of the demographic sphere as compared with other social spheres; the demographic aspects of the life of society and man are increasingly becoming independent and hence there is more awareness. All these create prerequisites for the emergence of a demographic self-cognition of society and the individual families and for purposeful objectives, i.e., a subjective choice of demographic objectives in connection with the growth of demographic freedom. On the other hand, the transition to a new type of reproduction of population cannot be separated from the internal differentiation, the growing complexity of the demographic system and the diversity of the controlling influences on the demographic behaviour of the people which can be regulated. This is so because all these influences have diverse and sometimes contradictory and even incompatible controlling informations; so that the individual demographic choice is dependent on a stream of controlling information which has emerged spontaneously (spontaneous from the aspect of the demographic system). It is difficult to imagine a purposeful control over this stream of controlling information but it is obviously possible to exercise a certain influence. If one could at least partially regulate the diverse controlling influences according to some criteria, it would then be possible to minimize the element of spontaneity in the process of the choice of demographic decisions. The very wide range of recognisable demographic alternatives, the possible demographic objectives and the means of achieving them also increase greatly the significance of the subjective factors in controlling the reproduction of population which is reflected according to laws in the heightened role and importance of demographic policy.

Z. PAVLIK states that one has to assess the motive of the demographic policy in any country especially from the aspect whether the given society is on the eve of the demographic revolution, after it or in the process of its development.⁹

9 Z. PAVLIK, *Einige theoretische Fragen der Bevölkerungspolitik und die Situation in der Tschechoslowakei*, in: *Zu Problemen der Demographie. Materialien des Internationalen Demographischen Symposiums*, Berlin 16. bis 18. Dezember 1974, Berlin 1975, pp. 46—58.

In the period of the demographic revolution, the role of such a policy is particularly important. Apart from the old mechanism of the social control of demographic processes whose efficient functioning decreases, there is a new mechanism which increases in strength and competes with the old, i.e., a struggle between the old and the new, in other words between the social forces working for it or against it. The general outcome of such a struggle is predetermined historically in favour of the new. But for generations of people, it is important how rapidly and in what forms this conflict between the old and the new will be solved. It is not possible to avoid this stage of development just as one cannot describe it without mentioning existing conflicts.

It is well-known that a society, even when it has come to know the laws of its development can neither abolish by decree its phases of development nor skip them. But it can shorten the throes of childbirth and alleviate them.¹⁰ The shortening and alleviating of the throes of childbirth of new demographic relations and the new controlling mechanism of the reproduction processes of the population are also a main task of the demographic policy in the epoch of the demographic revolution.

This task suggests that it is particularly difficult with regard to the fertility control. Here, it can be divided into two subtasks. On the one hand, one has to facilitate and accelerate the elimination of the old controlling mechanism of the reproductive behaviour, the surmounting of the old demographic relations and the creation of people who are capable of taking into account the non-demographic limitations in their behaviour. We have seen that the existence of various non-demographic needs brought about by the socio-economic development is necessary. This existence of non-demographic needs also plays the most important role in the destruction of the traditional barriers which make the reproductive behaviour insensitive to the effects of nondemographic factors. But the process of overcoming the old demographic relations can proceed more rapidly if it does not develop spontaneously, but is facilitated by organised and purposeful activities which are based on the perception of the historical tendency. One has to cease idealising the patriarchal family relationships, propagate new family ideas, facilitate the fight for the equality of women and their new place in society, eliminate religious and other laws which hinder fertility control by the family, provide education on general hygiene as well as to promote the production and free sale of contraceptives. All these activities are in the sphere of the competence of the demographic policy of the government which facilitates and accelerates the development of the demographic revolution. Further, this demographic policy must and can contribute to replacing the old by the new controlling mechanism of the reproductive behaviour which ensures a sufficiently effective consi-

10 K. MARX/F. ENGELS, *Works*, vol. 23, p. 10 (Russian edition).

deration of demographic limitations. This kind of policy must be directed to confirming and maintaining the new finite demographic values especially the development and support for the „child-focussed“ orientation.

Although the first sub-task of the demographic policy (the destruction of the old) may be difficult, the second is much more difficult (i.e., the creation of the new).

Figure 3 shows the distribution of the reproductive patterns of the population in 100 countries of the world in the area of the possible patterns as observed in the mid-seventies.¹¹ The dots for developing countries fill the upper part on the right of the diagram; their distribution is irregular and spontaneous. The previous demographic limitations have lost their force to a significant extent

¹¹ UN Demographic Yearbook, 1975, Table 22.

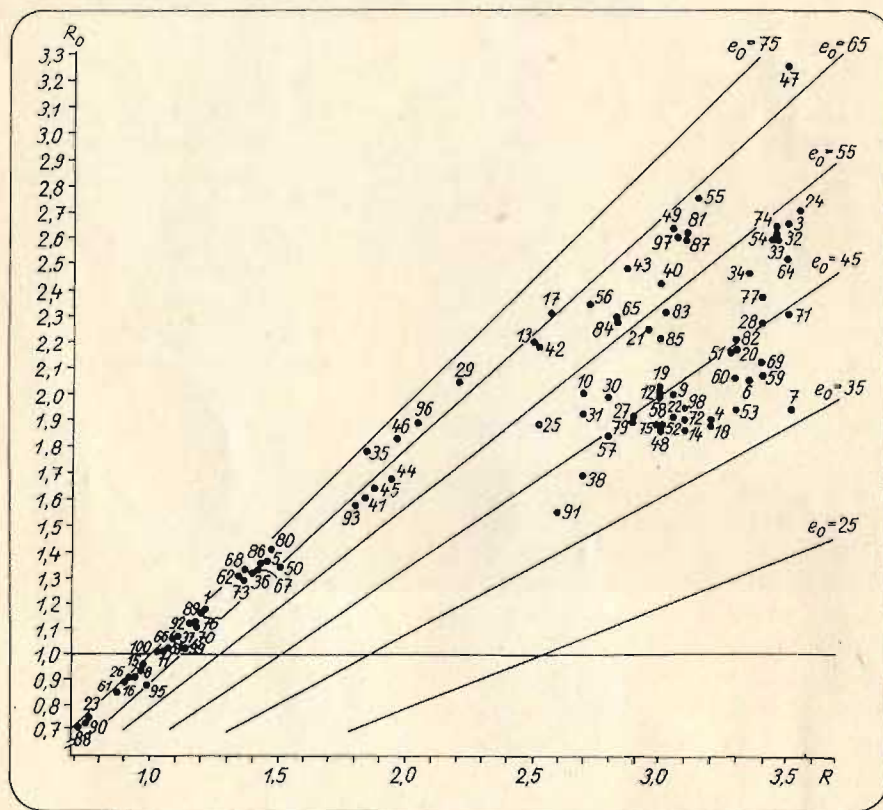


Figure 3 Reproductive pattern of the populations of some countries at the beginning of the seventies

- | | |
|--|---------------------------------|
| 1. Australia | 50. Mauritius |
| 2. Austria | 51. Madagascar |
| 3. Algeria | 52. Malawi |
| 4. Angola | 53. Mali |
| 5. Argentina | 54. Morocco |
| 6. Afghanistan | 55. Mexico |
| 7. Bangladesh | 56. Mongolia |
| 8. Belgium | 57. Mozambique |
| 9. Ivory Coast | 58. Nepal |
| 10. Burma | 59. Niger |
| 11. Bulgaria | 60. Nigeria |
| 12. Bolivia | 61. Netherlands |
| 13. Brazil | 62. New Zealand |
| 14. Burundi | 63. Norway |
| 15. Great Britain
(England and Wales) | 64. Pakistan |
| 16. Hungary | 65. Peru |
| 17. Venezuela | 66. Poland |
| 18. Upper Volta | 67. Portugal |
| 19. Vietnam | 68. Puerto Rico |
| 20. Ghana | 69. Rwanda |
| 21. Guatemala | 70. Romania |
| 22. Guinea | 71. Saudi Arabia |
| 23. GDR | 72. Senegal |
| 24. Honduras | 73. Singapore |
| 25. Egypt | 74. Syria |
| 26. Denmark | 75. Somali |
| 27. Zaire | 76. USSR |
| 28. Zambia | 77. Sudan |
| 29. Western Malaysia | 78. USA |
| 30. India | 79. Sierra Leone |
| 31. Indonesia | 80. Hong Kong |
| 32. Jordan | 81. Thailand |
| 33. Irak | 82. Tanzania |
| 34. Iran | 83. Tunisia |
| 35. Ireland | 84. Turkey |
| 36. Spain | 85. Uganda |
| 37. Italy | 86. Uruguay |
| 38. Camerouns | 87. Philippines |
| 39. Canada | 88. Finland |
| 40. Kenia | 89. France |
| 41. China | 90. Federal Republic of Germany |
| 42. Korean People's Democratic Republic | 91. Chad |
| 43. Columbia | 92. Czechoslovakia |
| 44. South Korea | 93. Chile |
| 45. Costa Rica | 94. Switzerland |
| 46. Cuba | 95. Sweden |
| 47. Kuwait | 96. Sri Lanka |
| 48. Laos | 97. Ecuador |
| 49. Lebanon | 98. Ethiopia |
| | 99. Yugoslavia |
| | 100. Japan |

but the new non-demographic limitations still do not predominate. Here, the demographic revolution is by far not over and the present significance of demographic policy involves, in the first place, the necessity of accelerating the creation of a mechanism that takes into consideration non-demographic limitations. The situation is different with respect to the economically developed countries. The dots in their case are placed more compactly concentrated on the lower part of the diagram to the left. Here, one can speak of a meaningful order of the reproductive results under the influence of non-demographic limitations. One needs to note, however, quite a number of dots outside the area of demographic freedom which lie below the line of reproduction at replacement level which is impermissible from the demographic limitations. One is usually of the view that the demographic revolution is completed in these countries and that the decrease of fertility under the level which ensures a reproduction of the population at replacement level is connected with the functioning of the new controlling mechanisms of the reproductive behaviour under relatively unfavourable economic and social conditions. But does not this kind of decrease of fertility point to a certain immaturity of this mechanism itself and consequently also to a certain incompleteness of the demographic revolution? If the finite demographic values had developed sufficiently, then the reproductive behaviour could not have been tied so closely with the various non-demographic influences and the limits of reproduction at replacement level would not be so weakly protected. If the view of the incompleteness of the demographic revolution also in economically developed countries is correct then the demographic policy in these countries must be directed to its conclusion and to fostering the growth of such a system of values, that guarantees a harmonious reproductive behaviour and ensures its weak dependence on various external influences as required by demographic necessity. Accordingly, all the measures of demographic policy, both the realised and those proposed, have to be judged from the aspect of the consistency with this task. This is all the more important because it is not difficult to imagine also such measures (for example, the not infrequently recommended unlimited expansion of the system of the education of children outside the family) which not only have not the desired effect, i.e., do not achieve the increase in fertility but also decrease fertility further by weakening the „childfocussed“ orientation of the families.