

THE DEMOGRAPHIC TRANSITION THEORY A TELEOLOGIC RECONCEPTUALIZATION *

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The field of demography is reported to lack a well denned and generalized theory in which factors of population change (determined by the social, econmic and psychological institutions of a given society) are systematically interwoven. One of the persistent criticisms to the discipline of demography relates to theory of demographic transition ; i.e., the western pattern of fertility and mortality change does not occur in developing nations. Many social scientists (Baltzell, 1953 ; Freedman, 1964 ; Leibenstein, 1957 ; Lorimer, 1945 ; Notes-stein, 1945 ; Rostow, 1961) noted that the demographic transition in the western European countries was started with a decline in mortality followed by a decline in fertility. Stages of this transition are reported to be linked to the industrialization process. In many developing countries a decline of mortality rates is observed to take place before any significant achievement in industrial and social development, while fertility levels continue to persist at its high levels ; i.e., high as measured by western standards.

The writings of John Graunt in the seventeenth century demonstrated demography as a «discipline», combining biological and social sciences (Lorimer, 1959 : 124). Demography may then be described as a «double monster» or «Siamese twin.» Such dual identity implies that demographic theory must at the *most* synthesize or at the *least* articulate biological and social determinates of human behavior in

(*) Exact version of a paper presented at the Annual Meeting of the American Sociological Association, New Orleans, Louisiana August 28—31, 1972. I wish to thank Professor Julian Roebuck for his comments on an earlier draft. The conclusions are the sole responsibility of the author.

their environment. The latent identity of demography as a dual discipline is manifest in its scope or domain.

The primary aim of the present paper is two-fold : First, to show that conceptualization of theories involving human beings are different from theories involving physical systems, because «human beings are self-conscious whereas physical systems are not» (Robinson and David, 1968) ; second, to demonstrate that criticisms of the demographic transition theory are rooted in misconceptions held by its critics. These critics define the theory as being mechanistic whereas it is teleologic. Two approaches are used in modifying the prevailing conceptual framework of the demographic transition theory : The first is based on philosophy of the social science of Kaplan (1964) and Winch (1967) ; the second is derived from the symbolic interactionism of Thomas (1969) and Goffman (1959).

DEVELOPED COUNTRIES VERSUS DEVELOPING COUNTRIES

A situation as such makes us think that it is not a matter of industrialization that will slow down human fertility in the developing countries. The «backstage» factors in the developing countries will make the play acted on the stage of the advanced countries entirely different. Just as there been differences in the conception of population question among the Greeks, the Romans, and the medieval Christians there will be differences in conceptualization of the same issue by the different nations of today. By these differences it is meant those which are related to the ideologies of the governments of different nation states in the world. Such ideologies will be reflected in the behavior of the majority of individual subjects of such nations, so long as such ideologies are compatible with their standards of intelligibility. Once these ideologies are not accepted by, or found to be inconsistent with the ideas of, the individual subjects, then each individual will behave and act according to what seems beneficial to him. An example of the difference in the conception of population question is found in Marxism and the free world. In the last half of the eighteenth century Malthus and some French writers rejected the policy of population growth and warned the world of population dilemma (United Nations, 1953). And although Marx and his followers admitted that fertility would decline with the improvement of economic conditions, they did not accept the Malthusian principle of population control and rejected the notion of family limitation. Thus, we find Marx's ideology on population

policy enjoys the acceptance of the communist countries⁽¹⁾, while the pronatalist policy of the governments of Sweden, Germany, Italy, and France failed to produce any significant effect (Eldridge, no date ; Glass, 1946 ; Myrdal, 1941).

In most, if not all, of developing countries, the national policies concerning wages and salaries are in opposition to population control policies. In Egypt, for instance, the government is not employing a single person but his whole family. That is, family allowances, which include items such as wife premium and birth premiums, represent a major portion of one's salary or wage, depending upon his occupational class and civil status. Moreover, maternity leave with pay for the working wives reaches forty-five days. Such policies are found to enhance rather than hinder population growth. On the other hand, these governments advocate the policy of birth control which the masses find it in opposition to their «definitions of the situation.» W. I. Thomas (1969) has noted that «there is ... always a rivalry between the spontaneous definitions of the situation made by the member of an organized society and the definitions which his society has provided for him.» A low-income officer will perceive that a given number of children (3 or 4) may render him eligible for the highest family allowances, and for him birth control is a kind of policy which the officials use to deprive him from such privilege. The farmers, the majority of whom are small land holders who cannot afford the adoption of mechanization, depend on human-and-animal power in tilling the land and in earning their daily bread. More children to this group means more prosperity in the present and prospective security for the future, and late marriage and birth control are nothing but eccentric behavior. To the layman, this sort of population policy is an interference in God's will, and those who adopt it are atheists. In short, the developing countries are seen to be different from their counterpart, the developed countries, in the following respects :

1. Rearing of children. In the developed countries, children are looked upon as extra items on the list of family expenditure, whereas

(1) The author is aware of the fact that there have been active family planning programs since 1956. However, the intensity of such programs, especially in the communist countries, varies from one period to another. This is very clear, for instance, in the population policies of the Peoples Republic of China and North Korea (see Nortman, 1971 ; Mauldin, 1960 ; Aird, 1962).

in developing nations they are believed to be an addition to family assets. Rearing of children in developing countries has not ever been considered by the masses as an item absorbing money, time, and effort of the family. Such uncalculated way of life is, of course, an outcome of persisting traditional values. The fact that males are more valued than females is evident in any culture. However, in western culture the family would stop reproducing more children beyond the number it planned for no matter whether male children were born to the family or not ; whereas this is not the case in developing countries.

2. Religious class and ruling elites. In developing countries the ruling elites are separated from the religious class, a situation which has no counterpart in the developed countries. In most instances, the stand of religious classes is in opposition to fertility limitation and advocacy of such program may bring the two sides to confrontations in which the ruling elites will be definitely the losers.

3. Inheritance system. Primogeniture, a system which entitles the eldest son (or daughter) to inherit wealth, property, land, etc., was one of the factors that caused decline of the birth rates in the western countries. This system hardly exists in developing countries, and if it exists at all it does not function as a check to family formation among the nonheirs.

TELEOLOGY VERSUS MECHANISM

In the wake of the above argument, one may pose the following questions :

1. Is the DTT (demographic transition theory) West oriented and not applicable to developing countries ?

2. Why was Japan the only country in the East in which DTT was fully applied ?

3. Will the gap between birth rates and death rates of the developing countries remain at their constant high level, and hence will the DTT lose its identity as a demographic theory ?

In order to answer these questions, it would be appropriate to get the reader acquainted with the definition and scientific characteristics of a theory as stated by Kaplan (1964 : 295—296).

A theory is a way of making sense of a disturbing situation so as to allow us most effectively to bring to bear our repertoire of habits, and , to modify habits or discard them altogether, The theory may specify conditions which are not fulfilled in the particular case before us ; A theory may even involve conditions which can never be fulfilled, because of the idealizations involved Theory is of practice, and must stand or fall with its practicality, provided only that the mode and context of its application are suitably specified. A theory is a symbolic construction that theories are symbolic means that they do not share the ineluctability of fact Theory is thus contrasted both with practice and with fact ; it also stands over against experience.

Questions raised by the Theory :

What kaplan provides about theory encourages us to make thorough inferences by giving answers to the following questions. Does the DTT «make sense of a disturbing situation” or not ? Does the DTT guide us to discover new and more powerful concepts which enable us to understand the demographic conditions in the developing countries and predict the levels of their birth and death rates in the future ? Does DTT specify conditions which are experienced by the western countries and Japan but not fulfilled in developing nations ? Does the DTT involve any type of idealization which makes it unfit to developing countries . Have the mode and context of the DTT been suitably specified in the developing countries in the same way they were in the developed countries ? The answer to these questions will constitute the answers to the other questions raised above, which if taken together will fulfill the objective of this paper. In any scientific inquiry, the acceptability of a given theory should rest on how closely the theory agrees with the observable facts.

Answers proposed by the Theory :

In fact the DTT makes sense of a disturbing situation-reluctance of birth rates of the developing nations to assume the declining trends that prevailed in the developed countries. Such situation urges one to re-examine the theoretical frame of reference and its categories as stated by the proponents. Given the re-examination, one will be able to reconceptualize a theoretical frame work with a set of

interrelated categories in terms of which a meaningful explanation to problematic situation is provided ⁽²⁾.

The answer to the second question is also positive. The DTT guides us, of course, to discover other concepts by which one is able to reconsider the demographic problems in the developing countries. It makes us think of the definition of underdeveloped countries, of what is meant by «backward state,» and of the differences between cultures and the effects of these differences on societal values and development. The United Nations (1953) stated four criteria by which the developing countries are defined ⁽³⁾ :

1. Economic criterion. According to this criterion the national per capita income, the accumulation of capital goods, etc., are taken as a basis for comparison and they are considered to be very low.

2. Social criterion. The status of women is found to be inferior and social structure is characterized by traditional habits.

3. Cultural criterion. The percent of illiteracy is high and mass media are semi-absent.

4. Health conditions are inadequate.

In fact, the way in which the developing countries are defined makes us think in typological terms, namely, *gemeinschaft* and *gesellschaft*. What is actually found are not such pure types. There are underdeveloped countries in which the per capita income is higher than other developing countries, while in the latter the per capita

(2) Kingsley Davis has pointed out that «frame of reference, ... does not in itself explain anything. It merely provides the categories in terms of which an explanation will be given. It specifies the kinds of constants and variables, but the specific values or quantities of these is a matter of empirical determination." The function of the frame of reference is to provide «a systematic criterion of relevance ..., (and) by providing a set of interrelated categories in terms of which an empirical system is to be described, it supplies a test of descriptive adequacy» (see Davis, 1955 : 542).

(3) Alfred Sauvy, the French demographer, has proposed ten basic characteristics of the developing countries : «high mortality, high fertility, nutritional deficiency, poor sanitary conditions, inferior status of women, child labor, inadequate education, primitive agriculture, the absence of sizable middle class, and the lack of free universal suffrage» (see United Nations, 1953 : 262).

production of capital goods is higher than that of the former ; however, the birth rates are high for either of the two types. The problem involved seems to evolve partially from the use of a concept such as the «per capita income.» The measurement of per capita income of a given country is obtained by dividing the total national income in a given year by the total population of the same year. A measurement as such is inadequate and arbitrary, especially where a sizeable middle class is absent. Moreover, it is not industrialization alone which causes the birth rate to decline ; it is the education and evolution of social institutions which are the key variables. In elaboration of this point, the answers to the rest of the queries raised above will be given.

The DTT indicates and states what has happened to fertility and mortality rates in the advanced countries more than a century and a half ago. The experience of the advanced countries is very sufficient to let us know what will take place in the developing countries if, and only if, we know and learn what is there in the developing countries. «To engage in theorizing means not just to learn by experience but to take thought about what is there to be learned» (Kaplan, 1964 : 295).

The main problem is that the DTT is viewed as being mechanistic, while it is supposed to be teleologic. Thus, while the mechanistic approach holds that demographic processes are amenable to physical laws, the teleologic approach explains the phenomenon by its final causes. In other words, when the conditions that prevailed in the advanced countries did not exist in the developing countries, then it might be valid to state that the theory would come to work when the specified conditions were satisfied. This does not mean that the theory is defective or wrong ; on the contrary, it indicates that the proper conditions of its application are not fulfilled. The problem involved is how we move from A to B where A and B are, respectively, the higher and lower levels of theoretical abstraction. Moreover, reluctance of the DTT to cope with the current situation of the developing countries does not mean its fall as a theory, since the context of its application is not suitably specified. In regard to its acceptance as a theory, Kaplan (1964 : pp. 296 and 312) has stated that «the acceptability of a theory will in any case be a matter of degree, ..., and it will always have a more or less limited range of justified application.»

In other words, no theory has perfect simplicity, and no theory agrees with all observations. Stated differently, a theory is like religion in the sense that it is either true or false, but its trueness or falseness is relative.

Dual Identity of the Theory :

The conceptualization of the DTT is formulated in terms of netted concepts whose characters are of contradicting duality, namely death control and birth control. Death control is willingly and cheerfully accepted by everybody, for everyone likes to live and hates to die. Birth control is rejected by the majority because of the inherent factors which are rooted deeply into the backward institutions of developing societies. This concept of birth control is, in effect, a social phenomenon. Social phenomena are in most cases meaningful ; they «are organized in institutions, and fully legitimated in the symbolic system of the society» (Berger, 1964 : 213).

THE MYTH OF INDUSTRIALIZATION

It is erroneous to presuppose that industrialization, or increase in per capita income and per capita production of capital goods will bring the mechanism of the DTT into motion. This level of thinking leads to a wholly explicit mechanistic system which is not applicable to the problem at hand. Instead of indulging in such mechanistic pursuit, attention would have to be focused on the endogenous and exogenous factors. By endogenous factors one mainly means education, religion, and cultural base. By exogenous factors is meant the international situation and the acceptability of ideologies of developed nations in the West and the East.

Education

Despite strenuous campaigns against illiteracy in the developing countries, the majority of population is still unable to either read or write. This situation is likely to continue for a long time to come owing to the social structures of these countries and the inadequacies of schooling particularly in rural areas and especially for the female population. Given this situation, it is not difficult to demonstrate that the birth rates will continue at their high levels in some of the developing countries, even with increases in industrialization and per capita production of capital goods, so long as illiteracy will continue its prevailing high level. When the DTT took place in the

advanced countries of today the literacy rates of these countries were higher than those of the developing countries. Education will raise the marriage age and bring social change in societal institutions. It will change the traditional values of the people towards their religion, let them create their «Protestant ethic» and redefine their situations. Education will make the language spoken by the government reach the people in the same meaning the government intends it to be without any fear of showdown with the religious elites. As Winch (1967 : 21) points out « ... men do decide how they shall behave on the basis of their view of what is the case in the world around them.»

Changing Ways of Life :

In most of the developing countries a childless family would be reluctant to pay a visit to a family who gained the gift of having children. The family with children will fear the envious look of the childless family. Married wage or salary earners (in the low income brackets) are encouraged to have more children in order to gain the highest family allowance. Farmers are eager to have more children to help them in the fields. These examples tell us that it is not the DTT which makes us unable to predict the future of such countries, but it is we who fail to specify the suitable conditions and context for its application. We are dealing with the future of one culture on basis of the past experience of another culture. What is permissible in one culture may not be so in another. Tolerated and intolerated acts and behaviors are matters of social norms and customs which are rooted in the traditional values of the society. In a given society, a set of certain acts and behaviors are tolerable because they have meaning to people. Intolerable acts and behaviors are believed to contradict the traditional values, and as such they are meaningless. They are elements or symbols that do not fit the people's «definition of the situation.» Thus, «When the Chinese bound their women's feet this was accepted as normal because it was the culture norm» (Herzberg, 1966 : 55).

Wage Policy :

The «logic of Taylorism,» according to which the wage is paid and which in effect reflects an economy based on the «Protestant ethic,» does not exist in most of the developing countries, Danile (1956 : 7) has claimed that according to the logic of Taylorism «pay could then be paid on the basis of the amount of work done and the time taken to do it. And this is why the protestant industrial economy

cannot adopt the system of family wage, to be found in Italy and other countries where Catholic social doctrine applies, whereby a man with children receives more wages than the one who has none, thought both do the same work.»

Ideologies and Religion :

There is no dispute among social scientists on the fact that the developing countries suffer from political instability, which results from within, from without or a combination of both. Birth control is opposed by totalitarian countries because it is a conception of western societies, which are described by totalitarian leaders as «reactionaries.» According to their paradigmatic ideology : we will not except birth control because it is advocated by the capitalist nations ⁽⁴⁾.

The paradigmatic cases indicate that societies perform actions for reasons which may or may not be the real reasons for their behaviors. That is, what is profitable to the society is not prospected in terms of money but in terms of what it can visualize from its own point of view ; and neither men nor nations do willingly act except from self-interest.

Lorimer indicates two general qualities that have close association with the economic-cultural developments and the birth control. The first type is termed «negative». It includes «frustration», «defeatism», and «demoralization». This type exists in the backward communities and nations that are occupied by others. What contradicts these three terms is the positive picture, which Lorimer (1945 : 60) believes to be « ... the sense of ability to cope with situations as they arise, confidence, initiative, morale.» The second type is associated with complex societies. It includes «adaptability to new types of economic activity, new forms of political action, and new pattern of behavior» (Lorimer, 1945 : 61).

Where «frustration» prevails progress or development may be achieved through radical and institutional changes. In certain cases

(4) In 1965, the author was associated with a professor who was conducting a research on fertility and family change in three Latin American countries (Brazil, Colombia, and Peru). The professor heard the priests telling the people «the Americans have taken your money and now they want to deprive you of your children.»

such changes may be achieved by revolutions, such as the French Revolution, the Russian Revolution, the Chinese Revolution, the Egyptian Revolution, and the Cuban Revolution. Such developments may motivate radical changes to take place, induce the acceptance of new behaviors by making them meaningful, and impose the rejection of existing ones by making them meaningless. The people's values and attitudes may be mobilized towards higher levels of living. Primogeniture and family allowance may be changed in a way that makes large families have no meaning to the individual and by rendering the norm of having more children meaningless (through the adoption of mechanization and introduction of social security programs). Victorian era may vanish and another «window wooing»⁽⁵⁾ norm (different from that prevailing in the West, that is, one which does not lead to promiscuity) may take place and raise the marriage age.

CONCLUSION

In this paper the demographic transition theory is treated from the view point of the philosophy of the social sciences. The major aim of such philosophy is to establish a theory of change which in fact is the target of the DTT. Thus we have used the correct tool to the exact problem. We tried to answer three queries. The first is whether or not the DTT is West oriented and not applicable to the developing countries. The second, why was Japan the only country in the East to which the DTT was fully applied ? The third is concerned with the stand or fall of the DTT. The explicit and implicit answers to these questions and other queries have proven that the DTT is valid and applicable to developing nations. The theory was applicable to Japan because the social context was suitably specified for the theory. Defeat of the Japanese army and its surrender to the American forces in World War II ; reduction of the emperor, from his supreme status as descendant from God, to the rank of individual subjects ; and exposure of the Japanese people to the norms and behaviors of occupation forces accelerated the application of the theory. The Japanese population understood its meaning and had reasons to accept it. Another important point is that the Japanese

(5) «Window wooing» is the literal English translation which Petersen gave to the Dutch two terms «venster urijen». According to this norm, premarital intercourse is common in western Europe and pregnancy is the decisive determinant for marriage (see Petersen, 1960 : 345).

women practice abortion on a large scale, a situation which is dissimilar to what prevailed in the western societies and is abhorred by developing nations. Abortion and infanticide were dominant among the factors that led to the decline of fertility in Japan. Such actions may be intolerable in developing nations, a reason which accounts for reluctance of the theory to come to work in these countries. The present approach implies that human behavior is a key variable in the application of demographic theories, and when one tries to interpret human behavior he would have to do this within the context of the social structure of the society to which the actors belong. Abolition of family allowance leads to birth control, and fostering education means the breaking of traditional values long adopted by the masses. All in all the theory is valid if it is conceived in terms of the teleologic rather than the mechanistic ideology. That way, and no other, lies the ultimate validation of the theory.

REFERENCES

- AIRD, JOHN S. (1962) : «Population Policy in Mainland China.» *Population Studies* XVI (July) : 38—57.
- BALTZELL, E. DIGBY (1953) : «Social Mobility and Fertility Within An Elite Group.» *The Milbank Memorial Fund Quarterly*, XXXI (October) : 411—420.
- BERGER, PETER L. (ed.) (1964) : «Some General Observations on the Problem of Work.» pp. 211—241 in Peter L. Berger (ed.), *The Human Shape of Work*. New York : The Macmillan Company.
- DANIEL, BELL (1956) : *Work and Its Discontents*. Boston, Mass. : Beacon Press.
- DAVIS, KINGSLEY (1955) : «Malthus and the Theory of Population.» P. 542 in Paul F. Lazarsfeld and Morris Rosenberg (eds.), *The Language of Social Research*. New York : The Free Press.
- ELDRIDGE, HOPE T. n.d. : «Population Policy.» Mimeographed for the International Encyclopedia of the Social Sciences. Philadelphia, Pennsylvania : Population Studies Center.
- FREEDMAN, RONALD ; J. Y. TAHESHITA ; and T. H. SUN (1964) : «Fertility and Family Planning in Taiwan : A Case Study of the Demographic Transition.» *The American Journal of Sociology*, LXX (July) : 16—27.
- GLASS, DAVID (1946) : *Population Policies and Movements*. Oxford : At the Clarendon Press.

- GOFFMAN, ERVING (1959) : *The Presentation of Self in Everyday Life*. New York : Doubleday and Company.
- HERZBERG, FREDERICK (1966) : *Work and the Nature of Man*. New York : The World Publishing Company.
- KAPLAN, ABRAHAM (1964) : *The Conduct of Inquiry : Methodology for Behavioral Sciences*. San Francisco, California : Chandler Publishing Company.
- LEIBENSTEIN, HARVEY (1957) : *Economic Backwardness and Economic Growth*, New York : John Wiley and Sons.
- LORIMER, FRANK (1959) : «The Development of Demography.» pp. 124—179 in Philip M. Hauser (ed.), *The Study of Population*. Chicago, Illinois : The University of Chicago Press.
- (1945) : «Population as a Problem in Quality.» In Theodore W. Schultz (ed.), *Food for the World*. Chicago, Illinois : The University of Chicago Press.
- MAULDIN, W. PARKER (1960) : «Fertility Control in Communist Countries : Policy and Practice.» pp. 179—215 in *Population Trends in Eastern Europe, the USSR and Mainland China*. New York : Milbank Memorial Fund.
- MYRDAL, ALVA (1941) : *Nation and Family : The Swedish Experiment in Democratic Family and Population Policy*. New York : Harper and Brothers.
- NORTMAN, DOROTHY (1971) : «Population and Family Planning Programs : A Factbook.» *Reports on Population/Family Planning*. New York : The Population Council.
- NOTESTEIN, FRANK W. (1945) : «Population-The Long View.» In Theodore W. Schultz (ed.), *Food for the World*. Chicago, Illinois : The University of Chicago Press.
- PETERSEN, WILLIAM (1960) : «The Demographic Transition in the Netherlands.» *American Sociological Review* XXV (June) : 334—347.
- ROBINSON, IRA E. and FOSTER DAVID (1968) : «The Simulation of Human Systems.» *The Digest of the 2nd Conference of the Application of Simulation* (December).
- ROSTOW, W. W. (1961) : *The Stages of Economic Growth*. Cambridge.
- THOMAS, WILLIAM I. (1969) : *The Unadjusted Girl : With Cases and Standpoint for Behavioral Analysis*. New Jersey : Patterson Smith.
- UNITED NATIONS (1953) : *The Determinants and Consequences of Population Trends*, New York : Department of Social Affairs.
- WINCH, PETER (1967) : *The Idea of A Social Science and Its Relation to Philosophy*. London : Humanities Press, Routledge and Kegan Paul.