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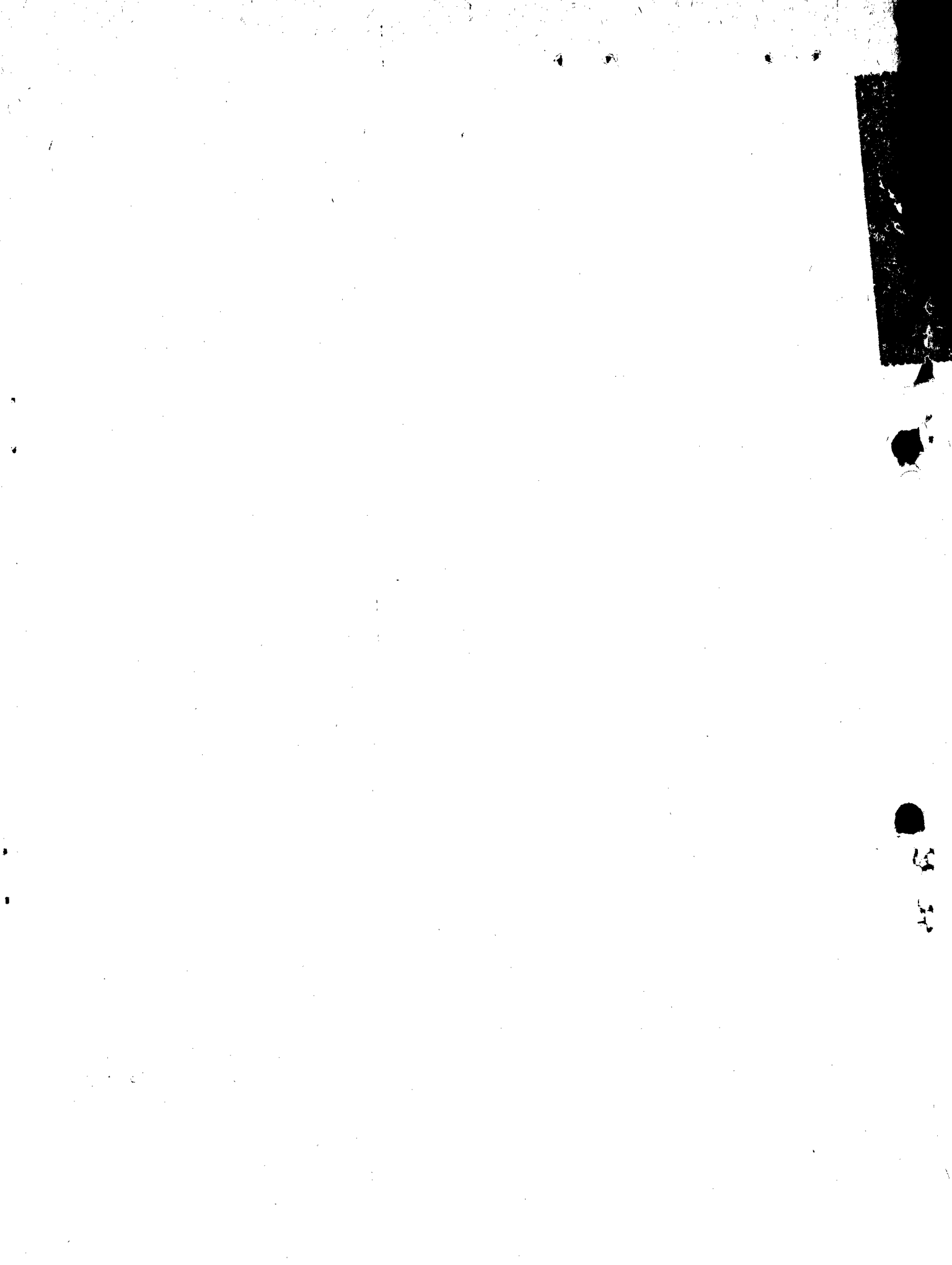
Robert O. Carleton

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THE RELATION OF EDUCATION TO THE
DETERMINANTS OF FERTILITY
(Paper presented to the Workshop on
Evaluation of Family Planning Programmes,
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The principal objectives of this study of the effects of educational aspects upon fertility are twofold: a) to describe as many as possible of the known and assumed relationships, and b) to specify in the measure possible the conditions under which these relationships hold. The procedure adopted for investigating both the significance for fertility of each educational aspect and also the conditions for its validity has been to consider its effect in different countries and under varying historical circumstances. In order to reduce these objectives to manageable proportions, this procedure had to be simplified. In principle, the list of educational aspects affecting fertility could have been extended almost indefinitely by considering all conceivable aspects of education and reviewing the entire range of variation in each and every aspect over time and space throughout the history of mankind. Attention here, however, is focused principally upon those countries and periods of history with which the writer is most familiar - the process of the demographic transition in the countries of Western Europe and their overseas offshoots in the Western Hemisphere and Oceania. Only marginal reference will be made to socialist countries and to important special cases such as Japan, Puerto Rico and those smaller countries of Southeast Asia where fertility has been declining. Africa and the remaining countries of Asia have been excluded except to the extent that the discussion with reference to Latin America is applicable to all countries in process of economic development. In addition, relationships between education and fertility after the period of transitional decline have been excluded altogether, while pre-transitional relationships are examined only in so far as necessary to study the factors responsible for the change from high to low fertility.

2. The investigation proceeds in two distinct steps corresponding to the two sections of which this report is composed. In Section A those countries are considered which were in the First Wave of the Demographic Transition in which the secular decline of fertility was completed prior to World War II. The principal hypotheses that have been advanced to explain the decline of fertility in these countries are reviewed with special reference to the role played by various aspects of education as part of the process of economic and social development. The validity of the conclusions formulated tentatively in this section are subjected to control in the second step in Section B where a comparison is made between the First Wave countries just referred to and the Second Wave countries (especially of Latin America) in which mortality has already been declining, whereas fertility has fallen very little, if at all. It is noted that, although educational development has been promoted in these countries as one means of accelerating economic development and, therefore, in certain respects education is farther advanced than at a corresponding stage of economic development in the First Wave countries, reproductive behavior has proved very resistant to change and motivation towards family limitation programs is apparently either ambivalent or, where positive, very weak and indecisive. Consideration of the reasons for these different attitudes in the First and Second Waves is used to provide further clues as to the conditions under which certain kinds of educational aspects can be expected to affect fertility.

A. The first wave transitional decline in fertility

3. The distinction made here between the First and Second Waves of the transitional decline in fertility is roughly similar to that frequently made in comparing the rapid decline in mortality in the developing countries after World War II with the slower and more extended process of decline previously experienced by the now developed countries. For present purposes, in distinguishing First and Second Wave countries it is useful to establish two criteria according to whether the decline was well under way: a) before new and simple methods of fertility control requiring a minimum of motivation and persistence became available in the 1960's, and b) before the end of the era of individualism and laissez-faire (and of official non-intervention if not outright hostility with respect to family limitation) came to an end with the economic collapse of the 1930's. The First Wave countries, therefore, are those in which fertility declined under conditions where only "difficult" methods of control were available and the individual was left to his own resources in adapting to the drastically changing circumstances of life associated with economic and social development. The Second Wave countries are those for which relatively effortless contraceptive methods are becoming available to the population, and assistance in the form of public and/or private family planning programs is being offered sometimes even before economic and social changes have caused people to call in question the suitability of customary reproductive behavior. The justification for this distinction is that the educational and other determinants of fertility change can be expected to be quite different in these so completely sets of circumstances.]

4. For the countries of the First Wave we propose as reasonably adequate a simple model according to which economic and social development (a composite, ill-defined societal variable of which educational development is an essential component) produces significant modifications in four individual variables.

- i) information about fertility control methods,
- ii) capacitation for efficient use of fertility control methods,
- iii) direction (or orientation) of motivation with respect to family size,
- iv) intensity of motivation with respect to family size.

1/ Although this twofold chronological distinction between First and Second Waves is justified analytically, it has the disadvantage of excluding some very important countries which do not fall clearly into either one or the other category, i.e., Japan, the Soviet Union and other socialist countries. It should be noted that the classification used here places Argentina and Uruguay, generally considered as underdeveloped, among the First Wave countries. This agrees with Germani's characterization of Argentina and Uruguay as countries that are socially modernized (their low fertility being one indication of their modernization), but economically insufficiently developed. (Germani, op. cit., p. 167)

The underlying assumption here is that, given the crudity of existing fertility control methods and the either natalist or non-interventionist attitude of governments and other institutional forces, the decline of fertility can be seen as resulting from the effects of the various factors involved in the process of economic development acting directly upon the individual members of society; these factors change both the orientation and the intensity of their reproductive motivation (individual variables 3 and 4) and at the same time proportion their access to the means for the attainment of their new ends (individual variable 1) and rendering them capable to utilize these means efficiently (individual variable 2). This model permits us to assay the significance of any given educational aspect by assaying its significance for the hypothetical determinant of which it is a component part and also by assaying the significance of the hypothetical factor itself.

5. The model admittedly could be elaborated upon further in several respects. Some at least of the Davis and Blake intermediate variables^{2/} could have been included instead of referring to fertility control methods in general. While the Davis and Blake nuptiality variables were clearly important during the decline of fertility in Ireland and Japan, the historical study of Coale and his associates seems to be establishing that for most of the First Wave countries the significant variations in nuptiality occurred before and after rather than during the transitional decline of fertility.^{3/} These variables have not been included, therefore, on the grounds that the gain in completeness did not justify the sacrifice in simplicity of the model. In principle also, an explicit distinction between induced abortion and contraception, in order to compare the role of educational aspects in each case, would have been desirable. Also explicitly omitted from the model in the interest of simplicity of exposition are the social norms (both with respect to fertility itself and also to the intermediate variables) which Freedman has introduced in his elaboration of the Davis and Blake analytical framework.^{4/} Although the norms have been omitted from the model, they have been included in the discussion wherever it was deemed appropriate.

6. Although historical evidence on the details of the decline of fertility in the First Wave countries is admittedly unsatisfactory, there is probably general agreement among scholars that motivation for having fewer children must have been very strong.^{5/} The nature of the contraceptive methods available until only recently (especially coitus interruptus and the sheath) required great will power and sustained self-control over an extended period of time. Recourse to induced abortion was apparently common also, although the practice was illegal and had to be resorted to under unhygienic conditions at great risk to personal health. The widespread abandonment of new-born babies (the foundlings) already flourishing in the eighteenth century and even earlier in Western Europe,^{6/} and the austere nuptiality customs (a very late age at marriage and a large

2/ Kingsley Davis and Judith Blake, "Social structure and fertility; an analytic framework", Economic Development and Cultural Change, vol. IV, no. 3, April 1956, pp. 211-235.

3/ See paragraph 19 below for documentation of this point.

4/ Freedman, Ronald "The Sociology of Human Fertility", Current Sociology, Vols. X/XI, 1961-1962, pp. 35-121.

5/ See, for example, Alfred Sauvy, Teoría general de la población, Madrid, 1957, pp. 486, 492-97 and Ansley J. Coale, "The Voluntary Control of Human Fertility", Proceedings of the American Philosophical Society, Vol. III, No. 3, June 22, 1967, pp. 166-69, both of which make a comparison of fertility motivation in the First and Second Waves.

6/ Bergues, Hélène, La prévention des naissances dans la famille, INED, Cahier No. 35, 1960, Chapter VI; William Kobson, The child, John Wiley and Sons, Inc. New York, London, Sydney, 1965, pp. 7-10.

proportion of the population never marrying at all) seemingly dating back to the beginning of modern times strongly suggest a change in attitude that was gradually acquiring momentum^{7/} until it finally erupted into an overt change in reproductive behavior. The plausible explanations usually proposed refer to the decline in mortality and the changes in the functions and structure of the family associated with economic and social development and the urban industrial revolution.^{8/}

7. During all the time that mortality was high, the proportion of babies surviving to adulthood was low, as was average life expectation for those surviving childhood. Average family size, therefore, could not have been large and in this sense it can be said that "mortality decline ... produced the large family for the first time",^{9/} and resulted in various strains in the existing equilibrium. The social organization corresponding to the Industrial Revolution marked the culmination of a process in the course of which the family ceased to be the central institution of society. The family lost most of its economic, political, religious, educational and recreational functions, and the significance of its reproductive functions underwent profound alteration in the light of the family's new role as a focus for personal, primary relations, nourishing, sustaining and otherwise capacitating its individual family members for participating in the larger societal institutions whose functions historically had belonged to the kinship group. At the very time when family size was increasing because of declining mortality, children lost much of their former usefulness to parents and economically became a source of great expense to the extent that one economist has characterized them as akin to "consumer durables".^{10/} The expansion of economic and other institutions and the extra-familial activities of parents in these new social relations gave rise to new aspirations (especially with respect to social mobility and consumption) not easily compatible with a large family of many children. Similarly, the notion of parental responsibility took on new meaning with the appreciation of children's rights as individuals and of their needs in order that the potentialities of their personalities might be realized in their adult life. Frequently mentioned also is the emancipation of women and the

7/ Royal Commission on Population, Report, Parliamentary Papers, 1949, p. 38.

8/ For one among several excellent discussions of the factors underlying the decline of fertility in the First Wave countries, see Norman B. Ryder, "The Character of Modern Fertility", Annals, January 1967, pp. 26-36. Of special interest here is Ryder's "postscript ... on the role played by formal public instruction. In an approximate way, the decline of illiteracy has everywhere accompanied the decline of fertility (although there seems to be no crucial proportion of literates which can be said to trigger that decline). The educational system represents a societal alternative to the family as a source of new normative orientations and an enhancement of vision beyond the limited boundaries of the local community. Education equips children with the means for exploiting new economic opportunities, and in the process increases the expense to the parents. Education reinforces the prospects for continued mortality decline, and improves the access of individuals to the efficient modes of contraception with which to attain new reproductive goals. Children are separated from their parents for most of their preadult life, and girls and boys are treated with approximate equality. Education is the cutting edge of the modern world; the school is the arena within which the new alliance between individual and society is contracted". (p. 34)

9/ Ryder, ibid., p. 32.

10/ Gary S. Becker, "An economic analysis of fertility", Demographic and Economic Change in developed countries, National Bureau of Economic Research, Princeton, 1960, pp. 210 et seq.

implications of the recognition of their rights as individuals: the greater equality and more companionate nature of conjugal roles with the acceptance of sex as having legitimate functions other than procreative; the wife's attainment of a voice in decisions regarding the allocation of the family budget and the number and timing of children; the phenomenon of female economic activity outside the home.

8. These social changes in the wake of economic and social development are viewed as the factors responsible for the change in motivation (i.e., direction of motivation) in the sense of having tipped the scales against various natalist forces, such as the rise in family income enabling parents to provide for more children, long-established religious and other social mores fostering pride in a large progeny and the continuation and ramification of the family lineage, continued prejudice against working mothers, etc. Intensity of motivation is regarded as deriving from two sources: a) the cumulative or combined effect of the above mentioned motivational factors and b) the emergence upon the historical stage of a new attitude towards the conditions of life which may be variously described as reflecting an abandonment of passive fatalism, a dawning consciousness of man's ability, within certain limits, to determine the circumstances of his life, one's position in society as depending to an ever-increasing extent upon individual achievement rather than social ascription, a new type of rationality which stresses the efficient utilization of the most appropriate means available for the attainment of individual goals consciously selected and hierarchically organized according to priorities of preference. //

9. The main thrust of this section, therefore, is directed at reviewing each of those hypothetical explanations of the changes occurring in the four individual variables of our model for which one or more aspects of education can with some justification be supposed to have been a contributing factor. An attempt is made to identify all such educational aspects and to say what can be said within the limits of available time and space about the importance of both the educational aspects themselves and also of the respective hypothetical explanations which they influence. Some attention is also given -although it has not proved possible to explore these aspects as thoroughly as we would have liked- to the role of feedback effects and to variations in the importance of different educational aspects during the course of the decline in fertility. It is argued, for example, that the individual level of analysis is more appropriate for the initial stages of fertility decline when qualities such as individual initiative and leadership are paramount; as the process gathers momentum and participation becomes more massive, a demonstration effect begins to acquire importance with the result that the significance of education upon the individual is more and more through its effect on others (either the population in general or the reference group of the individual) instead of directly upon the individual himself. Here is where the aggregate level of analysis becomes more relevant.

10. Direction of motivation. i. Declining mortality. For a detailed discussion of the role of education during the transitional decline of mortality the reader is referred to another chapter of this volume having this subject as its exclusive concern. It is instructive here to contrast the content of that chapter with the simple model being used in this chapter for the First Wave fertility decline. The importance of specialized education and training for public and private health programs and for the development of new techniques for controlling mortality calls attention to the fact that the transitional decline of mortality

was essentially a balanced effort in which both individuals and institutions participated significantly, whereas, in the case of fertility, social institutions played by and large a negative role with the individual left to his own resources to cope with the problems arising as a consequence of economic and social development. The reasons for this difference need not concern us here. What should be pointed out is that the fertility decline undoubtedly required a much greater motivational transformation, in part because so much depended on the effort of the individual himself and also because methods of controlling fertility about which there was knowledge required unusual and persevering individual effort for their effective utilization. In this section on the First Wave fertility decline much greater emphasis -as compared with the mortality chapter- is given to changing motivation and to the role of educational aspects in this change.^{11/} Indeed, since a prior decline in mortality is held to be one of the important factors responsible for changing motivation towards fertility, the educational aspects contributing to the decline in mortality contribute in this indirect sense to the modification of fertility motivation. The cumulative, snowballing effect of educational aspects may be pointed out in this connection; as illiteracy diminishes and educational qualifications of the population increase, health precautions and advice can be communicated more easily to a larger sector of the population both by informal (written instructions on consumer products, for example) and formal educational channels and more persons become available for research into new methods of mortality control. The aggregate level of analysis becomes more relevant since the individually educated persons gets to be better informed thanks not only to his own education, but also to that of the general population for whose benefit it is now possible to print and distribute more information.

11. The significance of this kind of indirect effect (via the effect on mortality) of educational aspects on fertility depends not only on the contribution that education made to declining mortality, but also on the contribution that declining mortality itself and the resulting population pressure made to the transitional decline in fertility. Although many scholars attach great importance to the prior decline in mortality,^{12/} the exceptions of France (where the fertility and mortality declines ran roughly parallel^{13/}), of the countries of Southern and Eastern Europe (where fertility began to fall "when mortality was still very high"^{14/}) and of the many underdeveloped countries today (where fertility remains at

^{11/} In the section on the Second Wave demographic transition it will be seen that the same clarity and intensity of motivation has not been forthcoming despite greater and more rapid declines in mortality and despite many other modernizing social and economic transformations. As a consequence, with the exception of a handful of small countries (Puerto Rico and some countries of Southeast Asia), fertility has not yet declined even though institutional support and assistance have been extended to many populations in the form of often impressive private or public family planning programs.

^{12/} Davis and Blake, *Op. cit.*

^{13/} See Dov Friedlander ("The Role of Migration in the Process of Demographic Change" presented at the August 1969 London Meeting of the International Union for the Scientific Study of Population) for an ingenious explanation of the French exception.

^{14/} Ansley J. Coale, "Factors associated with the development of low fertility: an historic summary", *World Population Conference, 1965, Vol. II, page 208.*

pre-industrial levels despite extraordinary declines in mortality) make it clear that, however great its importance, it is neither a necessary nor a sufficient condition for declining fertility. Furthermore, for the First Wave countries under consideration in this section, the decline in mortality cannot be taken as having an independent effect apart from the process of economic and social development. In the Second Wave countries the functional interrelationship between economic development and mortality decline has been greatly weakened by the possibility of importing mortality control techniques already developed in the First Wave countries.

12. ii. Changing significance of children for parents. At first glance the contribution of education to the changing position of children—who became in many ways a burden rather than a practical advantage to their parents—is simple. With the spread of education the opportunities for children to work and augment the family income became restricted to part-time economic activities. In addition, other costs fell upon the shoulders of parents (especially those with many children); even where tuition, books and other school supplies were free, new financial obligations such as clothing, transportation and lunch often had to be assumed by parents. At least one writer has ascribed to more than chance the introduction of universal compulsory education in England in 1876 and the beginning of the fertility decline a few years later.^{15/}

13. What seems to have happened in historical fact was a shift from education based on the apprenticeship system (a kind of on-the-job training in a family enterprise) to formal education in specifically educational institutions.^{16/} While it is true that apprentices often received their training in a family not their own, Smelser has described how in the cottage industry and even in the early factory stage of the Lancashire cotton industry in England, the weavers and spinners employed their own children and often took pride and care in giving them adequate training. When this system finally broke down with the expansion of factory production, there arose the immense social scandal of the exploitation of child labor and that of working mothers who practically abandoned their children during their long working day away from home. Many parents and social reformers resisted the institution of formal education and argued for a return to the pre-industrial situation with the restoration to parents of the family's educational function.^{17/}

14. Side by side with this resistance, which continued in diminishing form well into the 20th century so that truant officers were required to enforce compulsory education, were found other parents (no doubt more in the growing middle classes) who recognized the advantages of formal education for their children in the new kind of society that was emerging. Several interesting questions for future research may be suggested in this connection. To what extent do expanding educational differentials with respect to fertility during

^{15/} Rudolph C. Blitz, "The Chilean Educational System and its Relation to Economic Growth", C.A. Anderson and M.J. Bowman, Education and Economic Development, Aldine, Chicago, 1965.

^{16/} Bowman (Mary Jean Bowman, "From Guilds to Infant Training Industries", Anderson and Bowman, op.cit.) has described some of the features of the apprenticeship system in Western Europe and to some extent in the United States in the course of transition to our contemporary educational system.

^{17/} Neil J. Smelser, Social Change in the Industrial Revolution, U. of Chicago Press, Chicago, 1959.

the transitional decline reflect a proportionally heavier educational burden (after allowance is made for ability to pay) for parents with high socio-economic status? At the time when fertility began to decline, what was the prevalence of better quality free government schools in the residential areas of the politically more articulate middle classes? Until questions such as these have been answered, an evaluation of the effect of educational burdens on fertility is extremely difficult.

15.iii. Social mobility aspirations. The role of education in widening the horizon of interests to matters other than sex and the family has frequently been mentioned as a way in which education contributed to lower fertility. This effect would tend to have been accentuated by the process of economic development and the transformation of social relations that accompanied it. Economic growth and expansion created new modalities of economic activity for individuals and provided ample opportunities for vertical social mobility; the increased production of goods and services for a market economy necessarily revolutionized consumption patterns and the role of the individual and the family as consumer units; urbanization and the bureaucratization of many aspects of life and other features of economic and social development resulted in an alteration of the forms of association among human beings including a restructuring of relations within the family both between husband and wife and between parents and children. In the first place, let us consider social mobility.

16. The type of social mobility characteristic of economic development is both cause and effect of the developmental process.^{18/} It is an effect of economic development in the sense that the transformation from predominantly agricultural to predominantly manufacturing and the tremendous economic expansion especially in the secondary and tertiary sectors based upon the rationalization of economic activity (specialization and division of labor, technological improvements, etc.) resulted in an extraordinary expansion and thoroughgoing transformation of the labor market with an ever-increasing proportion of the structure of occupational demand being found in professional, managerial, technical and clerical groups as well as in skilled and semi-skilled manual labor categories. The demand for these employment skills could be fully satisfied only by recruitment from the lower social classes and with a more open social structure than had prevailed in pre-industrial European society. Social mobility, on the other hand, is a cause of economic development because of the inherent logic of the developmental process which required that job selection be made less exclusively on the basis of social class and family (ascribed status) and to a greater extent on the basis of ability and achievement. A feedback effect was operative here. Although social mobility came about as a consequence of economic development, without this kind of social mobility, continued and accelerated economic development would not have been possible.

17. It is convenient to distinguish analytically the influence upon declining fertility of social mobility as effect and as cause of economic development. Social mobility as cause of economic development is one of the factors responsible for the new type of rationality involving the efficient utilization of the means most

^{18/} Gino Germani, "The Strategy of Fostering Social Mobility", UNESCO, Social Aspects of Economic Development in Latin America, op. cit., vol. 1, p. 211 et seq.

adequate for the achievement of logically consistent, consciously-formulated, individual ends which was postulated above as having importance for intensity of motivation. This aspect of social mobility and its relation to various aspects of education is discussed below. Here our concern is with social mobility as an effect of economic development.

18. The justification of the social mobility hypothesis ^{19/} lies not so much in the fact of social mobility as in the effort to achieve mobility as manifested by effective (as distinguished from idle day-dreaming) mobility aspirations, regardless of whether they are realized only in part or not at all. Traditional, unrestricted reproductive behavior conflicts with the effort to achieve social mobility so that mobility aspirations provide a motivation for having fewer children. This conflict is seen most clearly in the case of the entrepreneur or would-be entrepreneur, whether shopkeeper or owner of a factory or workshop, for whom the accumulation of capital, a prerequisite for successful mobility, is difficult to reconcile with the obligation of providing for a large family. It is less clear in the case of aspirations of mobility within an organization (organizational mobility) where industriousness and ability are the chief requirements.^{20/} The entrepreneurial type of social mobility would have been especially significant during the earlier stages of fertility decline when average size of enterprise was still small, proprietors and self-employed were proportionally numerous and the large bureaucracies of governments and anonymous societies had not yet acquired the prominence they later came to have. The aspirations of the socially mobile, it is hypothesized therefore, had their greatest impact on fertility in the first stages of the decline; this impact must have diminished thereafter as social mobility became institutionalized ^{21/} taking more and more the form of organizational mobility with an ever shorter work week that facilitated the integration of career-man and family-man roles. A further reason for attributing little influence to organizational mobility (and to the effect of education on organizational mobility) is that by the time the incidence of organizational mobility reached significant proportions, declining fertility was becoming a mass phenomenon where it was beginning to require more courage and motivation to have a larger family than the fashionable one of two, three or four children.^{22/}

19/ See, for example, Charles F. Westoff, "The Changing Focus of Differential Fertility: the Social Mobility hypothesis", The Milbank Memorial Fund Quarterly, Vol XXXI, No. 1, January 1953, pp. 24-38.

20/ In those days of longer working hours there must also have been some difficulty to evaluate incompatibilities for the career-oriented man who had been socialized in accordance with the ideal type of father as a "family man".

21/ Ronald Freedman, "American Studies of Family Planning and Fertility: a Review of Major Trends and Issues", Research in Family Planning, Clyde V. Kiser, ed., Princeton, 1962, pp. 225-26.

22/ It would be rewarding to review popular literature (e.g., magazines, newspapers, best seller novels) of the last decades of declining First Wave fertility for an analysis of changing family-size fashions and their influence on fertility as a type of informal environmental education. Around what time among different social classes of each First Wave country, for example, did parents of large families begin to be ridiculed for "breeding like rabbits"?

19. Various ways in which aspects of education could have influenced fertility through an influence on social mobility have been hypothesized. Education can stimulate social mobility aspirations, it can serve as a channel for social mobility,^{23/} and the acquisition of education (for the realization of mobility aspirations) can have a restrictive effect on fertility.

20. Regarding the stimulation of mobility aspirations, it has been noted that formal instruction, by providing literacy, gave access to religious and other literature inculcating the Puritan work ethic and "moral norms stressing individual activity".^{24/} Attitudes of individual achievement are also closely related to the rationality of behavior and are discussed more fully in that context below. Various scholars have also commented on the relation between the structure of wages and the acquisition of specific skills. For example, at the beginning of the Industrial Revolution the "Iron Law of Wages" prevailed with very little differentiation of wages among industrial workers on the ground that subsistence (the avoidance of hunger) was all the motivation required; with increasing division of labor, specialization requirements arose which obliged the introduction of "positive rewards including ample inducements to undertake the costs of training"^{25/}.

21. Although education was undoubtedly of great importance as a channel of social mobility in the First Wave countries, its relevance for fertility must not be overstated. Education seems to have been a much surer channel of the organizational type of social mobility (where the incompatibility of mobility with traditional family building patterns is not so obvious) because of the bureaucratic tendency to set educational requirements for the attainment of status positions; especially to the case of entrepreneurial mobility probably applies Anderson's opinion that upward mobility in western countries should not be credited solely to wider educational opportunities. Except for attaining the highest positions, "a little schooling could suffice for the able and ambitious. For the most capable man, even formal education was not needed in a society possessing so many auxiliary stimuli to ambition and competence as did England."^{26/} Many a successful entrepreneur of the First Wave countries considered himself a self-made man and had little respect for "book-learning" as compared with "education in the world of hard knocks".^{27/} Attitudes of this kind are comprehensible in view of the relatively simple level of technology and organizational procedure compared to the methods of modern industry in the developed countries today.

^{23/} United Nations, Economic Commission for Latin America, Social Change and Social Development Policy in Latin America, Thirteenth session, Lima, 14-23 April 1969, E/CN. 12/ 826, p. 66.

^{24/} C. Arnold Anderson, "The Impact of the Educational System on Technological Change and Modernization", Industrialization and Society, Bert F. Hoselitz and Wilbert E. Moore, eds. UNESCO-Mouton, 1966, p. 266.

^{25/} Wilbert E. Moore, Industrialization and Labor, Cornell University Press, 1951, page 158.

^{26/} C. Arnold Anderson, "Patterns and Variability in the Distribution and Diffusion of Schooling", Education and Economic, op. cit., C. Arnold Anderson and Mary Jean Bowman, eds. Aldine, Chicago, 1965, circa p. 315

^{27/} See Horowitz (Morris A. Horowitz, "High-level Manpower in the Economic Development of Argentina", Manpower and Education, Frederick Harbison and Charles A. Myers, eds. New York, 1965) for an example of the lack of respect received by university-trained professional engineers seeking industrial employment.

22. The process of acquiring an education can also have a negative effect on fertility. The tendency of better-educated persons to marry later and at least in part for this reason to have fewer children has been widely noted during this phase of economic development.^{28/} It was frequently supposed that the need to acquire education was the cause of the deferred age at marriage in industrialized countries; Hajnal's historical research tending to trace the origin of this late age of marriage back to the beginning of modern times^{29/} casts doubt upon the validity of this inference. The work of Coale and others associated with him indicates so far that there was little change in nuptiality from the time fertility began to fall until after the decline had run its course.^{30/}

23. Another way in which social mobility aspirations must have had an effect on fertility refers to the aspirations of parents for the social mobility of their children. One may conjecture that many parents must have saved and sacrificed themselves and had fewer children in order that those children they did have might obtain the best education possible. Banks' study of family planning among the Victorian middle classes in England tends to support this conjecture with regard to different middle class strata. Among the well-to-do classes, children were brought up austere and "the most important item ... in the upbringing of the child was the cost of fitting it for a future career". Among the lower middle classes, motivation developed to educate their children as clerks (in commerce); while this education was not expensive, it lasted until 15 or 16 and meant that children had to be provided for longer "than was necessary under a scheme of artisan apprenticeship".^{31/}

24. iv. Consumer aspirations. Education of an informal kind, mainly through the mass communication media, is recognized as a factor of great importance nowadays in the stimulation of consumer aspirations. This environmental education operates both on the individual and the aggregate levels of analysis. Advertising through the mass media strives to arouse the appetites of the individual; the force of example (among acquaintances, among people seen in public places and also in such mass communication media as the movies and television) has the contagious effect of bringing into line both the hesitant as well as most of the recalcitrant. In addition, advertising techniques aim at convincing the individual consumer that most other people (or most other important people) already have or aspire to have the product or service being merchandized.

25. While the Consumer Revolution did not burst into full flower until after World War II, it appears^{32/} that consumer aspirations had significance for fertility during the First Wave as well. However, a number of important differences between consumer behavior during the First and Second Waves must be pointed out.

^{28/} Swandolyn Z. Johnson, "Differential Fertility in Europe", Demographic Change and Economic Change in Developed Countries, op. cit., pp. 50-55.

^{29/} J. Hajnal, "European marriage patterns in perspective", Population in History, D.V. Glass and D.E.C. Everley, eds., 1965, pp. 101-43.

^{30/} Ansley J. Coale, "Factors associated ...", op. cit.; Etienne Van de Walle, "Marriage and Marital Fertility", Daedalus, Spring 1968, pp. 486-501.

^{31/} J. A. Banks, Prosperity and Parenthood, Routledge and Kegan Paul, Ltd., London, 1954.

^{32/} The writer has not been able to undertake specific research into educational aspects of consumer aspirations in the First Wave countries and is relying here upon information previously acquired in the course of other, only tangentially related, research.

First of all, First Wave consumer aspirations were confined largely to the upper and middle classes with the latter manifesting a secular trend towards increasing participation. Advertising techniques, the mass communication media themselves and consumer credit facilities were at a much earlier stage of their development. It must be remembered also, despite "La Belle Epoque" in France, the "Gilded Nineties" in the United States and Veblen's analysis of "conspicuous consumption" and "pecuniary emulation", that austerity, asceticism and thrift were characteristics of First Wave capitalism which were relaxed only gradually as productivity levels increased and a higher level of living became possible, indeed became necessary if domestic markets were to be expanded so that development could continue. If by the 1920's, at least in the United States, middle class emulation exemplified by the slogan "keeping up with the Joneses" had become an almost irresistible force, many of the middle class still considered it shameful to indulge in installment purchasing, and sternly refused to live beyond their incomes. Banks' previously mentioned study of the Victorian middle classes shows the inception of installment purchasing schemes at the beginning of the second half of the 19th century being directed principally at "... members of the lower-income ranges of the middle class who might not have been able to afford the ready money but who, unlike most members of the working classes, could probably have found the initial 5-7 percent deposit ...^{n33/} Banks also describes the rise in consumption standards and of conspicuous consumption among the professional and commercial classes as various kinds of erstwhile luxuries became necessities.

26. It is for these reasons hypothesized here that the incompatibility between the maintenance of a large family and efforts to realize these consumer aspirations must have been influential primarily in motivating middle class families (among whom fertility fell first and more rapidly) to have fewer children. Furthermore, it is held that this effect would have been greater among the more well-to-do of the middle class who would have been more acutely conscious of this incompatibility because of their reluctance to stoop to installment purchasing in order to make their acquisitions.

27. Other motivational factors. The emancipation of women, the concept of parental responsibility with an emphasis on quality instead of quantity in the bringing-up of children, a more companionate relation between husband and wife with the acceptance of conjugal love as an important element in the structure of the relatively autonomous modern nuclear family have all been hypothesized as factors responsible for the change in motivation towards fertility during its transitional decline. As hypotheses, in addition to being overlapping in many respects and therefore not mutually exclusive, they have a common origin with respect to education, i. e., the increasing need of the industrialization and economic developmental process for ever-better educated manpower. Because children must be educated, parents must be made responsible for providing them with an education; women must be educated, in part because they constitute an ever larger component of the labor force and also because uneducated mothers cannot be depended upon to bring up properly educated children.

28. Needless to say, the actual historical process by which these concepts developed was somewhat less simple. Many of the industrial bourgeoisie were slow to recognize the necessity for educated manpower and bitterly opposed efforts to extend education to the lower classes as potentially subversive of the established order.

Nor apparently, did the emancipation of women unfold in straightforward fashion. According to Myrdal and Klein,^{34/} the scandal of working mothers among the lower classes in the factories of the first stages of the Industrial Revolution and the corresponding neglect of their many children provoked a strong reaction among the middle classes, leading to a sharper differentiation than before between the career roles of each sex and a strong middle class prejudice against women working away from home which often became accepted among those working class families where the mother's work was not absolutely necessary. Male prejudice against women working was reinforced among the laboring classes by their experience with the unfair competition of cheap female labor. The major impetus breaking down this prejudice against female economic activity was provided by the shortage of male manpower during the two world wars.

29. It would scarcely have been sufficient to impose parental responsibility externally by legislation. It was necessary that a consciousness of these responsibilities be internalized in the course of socialization. This must have been a slow process taking at least several generalizations. Parents themselves without education or with very little education could not be expected to appreciate fully how a fine education could help their children realize their potentialities. Nor could they read or understand the literature that began to appear popularizing the teachings of medicine and of the social sciences - psychology and sociology - on the needs of children. While it is well known how in recent times and at least among the middle classes, parents have worried themselves to death trying to keep abreast with the latest "findings" of the child psychologists and the pediatricians - the Dr. Spocks and their precursors, the relevance of paternal responsibility to the First Wave fertility decline depends on the degree of popularization given to the child psychology theories of the latter half of the 19th century. Research on this point is necessary to determine whether the seriousness of parental roles was an influential factor in the decline or mostly reflected a rationalization of an already accomplished fact.^{35/}

30. The relation between the emancipation of women and the secular decline of fertility has been hypothesized to refer to: a) female economic activity outside the home because the desire and/or need to work motivates a desire to have fewer children in order to alleviate the conflict between the economic and parental roles, and b) the more equal, more companionate, more romantic relationship between spouses.

31. Female economic activity could have had little influence on the First Wave fertility decline as far as the middle classes are concerned because of the prejudice against women working (except in very special occupations such as nursing and -in some countries- as school teachers) until the twentieth century and the First World

^{34/} Alva Myrdal and Viola Klein. "Women's Two Roles, Home and Work", Routledge and Kegan Paul, Ltd., London, Second edition (revised and reset), 1968. First published 1956.

^{35/} Kessel (*op. cit.*, p. 115) observes that from the publication of Darwin's The Origin of Species in 1856 " ... to the end of the nineteenth century there was a riot of parallel-drawing ... The developing human being was seen as a natural museum of human phylogeny and history." How much of this excitement among specialists, one would want to know, was reflected in anxiety among parents of which social classes over how much and what kinds of attention children required, over the relative advantage of the large family as compared with the small family or the only-child family, etc.?

War. The more frequent economic activity among working-class women could have had some influence and have compensated in this way for their lower level of education as compared with other social classes.

32. The writer has certain doubts about the influence of female education and of the emancipation of women on the decline of fertility in the First Wave countries. Besides, the fact that this emancipation does not seem to have been very extensive prior to the second decade of this century (long after the initiation of declining fertility), even progress in the education of women suffered limitations which may have been significant. In many cases education was sex-segregated and research into differences in content of education received by boys and girls might prove instructive. How was their future role of mother being interpreted for young girls in the second half of the 19th century? Even after mixed education was introduced, care was taken in at least some cases to have certain domestic subjects, like sewing and cooking, reserved for girls alone. These questions acquire added significance in view of the fact that the shift from high to low fertility in the first countries is usually supposed to have been accomplished under masculine direction with the prevalence of male contraceptive methods.^{36/} Even in the United States, where female methods more readily acquired popularity, the tendency for men to relinquish control appeared only after the fertility decline was already well under way.^{37/}

33. Research is also required into the popularization of the notion of conjugal love and its significance for the transitional decline of fertility. Romantic love, which among the European upper classes had been conceived as an extra-marital relation, was revived by literary romanticism in the nineteenth century and then appropriated and conventionalized by the bourgeoisie. But the significant question is the timing of the penetration of these ideas among broad sectors of the population. Before the end of World War I, i.e., before the popularization of the cinema and the radio and the institutionalization of marriage counselling, to what extent was selection made by the couple involved instead of being arranged by the parents; to what extent were women becoming anxious that love should continue after marriage and were they being advised that to hold on to their husbands they must keep their figure (by dieting and not having too many children) and dress well and have enough free time from caring for children so that their husband would not lose his romantic interest?

34. vi. Factors retarding low fertility motivation. Several factors related to education and which may have had the effect of retarding the decline of fertility deserve to be mentioned. Two such factors that have received especially wide comment are income (which tends to increase with increasing education) and traditional religious education.^{38/}

^{36/} Griselda Rountree and Rachel M. Pierce, "Birth Control in Britain", Part. II, Population Studies, Vol. XV, No. 2, November 1961, p. 128; J. Mayone Stycos, "A critique of the traditional planned parenthood approach in underdeveloped areas", Research in Family Planning, Clyde V. Kiser, ed., Princeton, 1963, pp. 492-93.

^{37/} Himes, (Norman E. Himes, Medical History of Contraception, Gamut Press, Inc., New York, 1963) reports that the Mensinga pessary or diaphragm "was hardly known until 1920" in the United States. (Page 321).

^{38/} Another factor, sex-segregated education, which would tend to stress the differentiation of career roles by sex, to emphasize the domesticity of woman's role, and perhaps also to foster pluralistic ignorance between spouses (J. Mayone Stycos, The Family and Fertility in Puerto Rico, New York, 1955, Chapter VI), has already been noted in paragraph 32 above.

35. Various writers have observed that fertility tends to be positively associated with cyclical fluctuations in economic conditions. Kirk and Nortman have shown this for the United States in the period after World War II, ^{39/} and Utterström has noted certain fluctuations in nuptiality and natality often associated with fluctuations in harvests and in social conditions relating to level of living in pre-industrial Sweden. ^{40/} Becker has postulated that the usual negative association between income and fertility in developed countries represents in fact a positive association that is masked by the positive association between contraceptive knowledge and income. ^{41/} Simple logic indeed would suggest that the increased income resulting from more education would offset to some extent at least the growing economic burden of having children mentioned above as an important motivational factor for having fewer children in the industrial society family. This line of reasoning gets complicated, however, by the tendency of increased income to stimulate new aspirations, including better care, attention and education for one's children. ^{42/}

36. The hypothesis suggested here is that fertility is negatively associated with the long-run, secular trend of income in countries that have not yet completed the demographic transition; in the short run, however, and in the case of cyclical fluctuations of income, the association will under many circumstances be positive. The hypothesis is justified on the assumption that increased income in societies that have not stabilized fertility at their post-transition level stimulates new aspirations even more than it does the desire to maintain or increase family size, but that people are often not able realistically to estimate how much they can do with their additional income and in the short run assume that they can both satisfy their new aspirations and have more children. Only when they cannot make ends meet and the inconsistency of their goals becomes apparent do they cut back on their reproductive behavior.

37. The effect on fertility of religious teaching and preaching has also received considerable attention. The Catholic Church and the more conservative Protestant sects reacted negatively at first to the advocacy of birth control; the Protestant churches more readily adapted their position to the altered conditions of life, whereas the Catholic Church intensified its opposition during most of this period. Interest focused, therefore, on differences in fertility between Catholics and Protestants, on the significant differences that existed prior to World War II between the so-called Catholic countries (except France) of Southern Europe and the Protestant countries of Northern Europe and also on differentials within certain countries containing numerous adherents of both faiths.

38. At the present time there is a tendency to attribute less significance to religious influence, in part because the fertility differences between Catholic and Protestant have largely disappeared and also because

^{39/} Dudley Kirk and Dorothy L. Nortman, "Business and babies. The influence of the business cycle on birth rates", Proceedings of the Social Statistics Section, American Statistical Association, December 1958, pp. 151-60.

^{40/} G. Utterström, "An outline of some population changes in Sweden ca. 1660-1750 and a discussion of some current issues", Population in History, D.V. Glass and D.E.C. Eversley, eds. London, 1965, pp. 538-40.

^{41/} Becker, op. cit., p. 213 et seq.

^{42/} e.g., Becker's "higher quality children". (*ibid.*, p. 211).

various studies in Latin American countries have suggested that religious motives are not decisive in accounting for the prevailing high fertility.^{43/} In retrospect, it is difficult to conceive of the effect of Catholicism on the transitional decline of fertility as having been more than a delaying action. In large measure even this delaying effect probably is due less to its specific teaching with respect to fertility than to cultural differences between Catholicism and Protestantism relating to motivation in general. Protestantism is much more individualistic than Catholicism and in this respect was in harmony with the individualism of economic and social development in the First Wave countries. In Catholicism redemption through the mediatorship of Christ means through the Church which is His Mystical Body, whereas in most Protestant sects the mediation of Christ makes each individual directly and personally accountable to God. This sense of individual responsibility in Protestantism is one aspect of the world of social norms stressing individual initiative and achievement referred to in paragraph 41 below as a way in which informal education, made accessible by literacy, contributed to individualistic rationality and intensity of motivation. This would be a reason why Catholic countries lagged behind in economic and social development, of which one of the many manifestations was more slowly declining fertility.

39. A necessary condition for the effectiveness of specific religious teaching against birth control, it may be hypothesized, is its confluence with other social forces. The liberal bourgeois governments of the era were generally natalist in attitude among other reasons because of the advantages of an abundant supply of cheap manpower. Furthermore, among the respectable classes in pre-Freudian 19th century Western civilization, sex was a delicate, explosive subject scarcely brooking even the discussion of change in established modes of behavior.

40. Intensity of motivation. One of the most distinctive features of the economic development process is the emphasis on efficiency in the utilization of available resources. This characteristic, known among economists as rationalization, has been applied by both sociologists and economists to explain the transitional decline of fertility in terms of reproductive rationality or the rationalization of reproductive behavior.^{44/} A definition of rationality commonly accepted by economists is that of Allais, "according to which a man is considered to be rational when:

- a) he pursues internally consistent goals;
- b) he employs means appropriate for the goals pursued."^{45/}

43/ However, Stycos reports consistent differences in attitudes according to degree of religiosity and suggests that "if Catholicism is having little impact on fertility, it may be partly because the average woman is not very 'Catholic' by Church standards, and partly because the attitudes and practices of the less religious woman are not especially effective in the control of fertility." (J. Mayone Stycos, Human Fertility in Latin America: Sociological Perspectives, Ithaca, 1968, p. 183.

44/ For an example of a sociologist, see Norman B. Ryder, "Fertility", The Study of Population, Philip M. Hauser and Otis Dudley Duncan, eds., Chicago, 1959, p. 425. Becker's economic analysis of fertility, referred to in paragraph 35 above, is in this same vein, although he does not explicitly use the term rationality or nationalization.

45/ Maurice Allais, Fondements d'une théorie des choix comportants un risque, 1955, p. 31, as cited by Maurice Godelier, Racionalidad e irracionalidad en la economía, México, 1967, p. 12.

41. The notion of rationality has its origin in the 18th century philosophers of the Age of Enlightenment as man took measure of his capacities and acquired a much greater consciousness than ever before of the extent to which by the use of reason he is able to determine his own destiny: side by side with an almost unlimited faith in human reason was frequently found a conception of pre-industrial man as irrational, guided mostly by custom and tradition, and of primitive man as pre-logical.^{46/}

42. It is more widely recognized today that there are non-rational and irrational elements even in industrialized man; in addition, studies have been made showing that pre-industrial man has been capable of economically rational action where this has been perceived to be feasible.^{47/} The difference is not so much that traditional pre-industrial societies are unchanging,^{48/} but rather that the changes that take place are obviously the result of exogenous factors, whereas in Western Europe beginning with the Renaissance, the Reformation and the Discovery of the New World, and encompassing the accelerating growth of science and the practical applications of its discoveries and inventions, in ever-increasing degree the agent of change has been the achievements of man himself.

43. It is important to note that the efficiency and rationalization of economic development in the First Wave countries in the 19th century was rooted in the achievements of the individual -the economic man of the entrepreneur, the individual enterprise, the individual worker participating in the labor market, and the individual consumer maximizing utilities in his consumption of goods and services.^{49/} The 19th century was the age of dynamic individualism, liberal capitalism and laissez-faire. The harmonious functioning of society was supposed to be based on the efforts and achievements of the largely unaided individual members of society. The rationality associated with it may be seen as just one of many possible kinds of rationality. It was an individual-centered type of rationality (designated as "liberal rationality" by Germani^{50/} and as "formal rationality" by Medina Echevarria^{51/}, requiring a strong degree of motivation on the part of the individual. It is our argument here that this individualistic rationality was an essential ingredient in the decline of fertility in the First Wave countries and that the apparent ambivalence and weakness of motivation towards fertility in the Second Wave countries is attributable not so much to reproductive irrationality as to the prevalence of a different kind of rationality, a non-individualistic rationality. This argument is

46/ For a discussion of this point, see Wilbert E. Moore, Industrialization and Labor, Ithaca, 1951, pp. 166-172.

47/ idem. See also Godelier, op. cit., p. 299 et seq.

48/ Joseph R. Gusfield, "Tradition and modernity: misplaced polarities in the study of social change", American Journal of Sociology, Vol. 72, No 4, January 1967, pp. 351-62.

49/ Godelier, op. cit., pp. 30-46. It is from the vantage point of parents as rational consumers that economist Leibenstein analyzes reproductive behavior (Harvey Leibenstein, Economic Backwardness and Economic Growth, New York, 1957.) According to Levine (A.L. Levine, "Economic science and population theory", Population Studies, Vol. XIX, No 2, November 1965, p. 151), "the human beings in Leibenstein's model ... are admirably rational souls who subject the problem of the desired number of births to a series of rough-hewn calculations of both the satisfaction or utilities derivable from the birth of additional children and the costs involved."

50/ Germani, Política y ..., op. cit., Chapter III, Section 6.

51/ José Medina Echavarría, "A theoretical model of economic development applicable to Latin America", UNESCO, Social Aspects ..., op. cit., Vol. 1, pp. 25-27.

developed in the course of analyzing the effects of educational aspects on rationality in each of the Waves.

44. A fruitful source of information on the acquisition of achievement motivation attitudes is to be found in the extensive literature on education and economic development, in which the experience of the First Wave countries is studied for clues that might assist today's developing countries in stimulating the kind of achievement-based social mobility that is considered so essential for maximizing the efficiency of economic processes and the attainment of economic development.

45. Throughout most of the 19th century the formal content of education itself, the educational curricula, was concerned mainly with teaching reading, writing and arithmetic (the 3 R's) and with imparting factual information. Its direct effect on achievement motivation and individualistic rationality was small. According to Anderson: "The greatest significance of general education may rest in the kind of world it opens to the literate ... In past centuries, literacy often led the individual into the world of Enlightenment, into a world of moral norms stressing individual activity, and into the Puritan philosophy of work. Since the surrounding society was permeated with these values ..., the contribution of the school needed only to be complementary."^{52/}

46. It was not until the beginning of the present century (after the decline in fertility had already started) that the emphasis of formal education shifted from the teaching of subject matters to the development of the child's personality,^{53/} and a conscious effort was made to instill in children those qualities of self-reliance, perseverance, thrift and adaptability to socio-economic reality that were necessary for the individual to be successful in life in a world in which change had become institutionalized. During the latter part of the First Wave decline, formal and informal education joined efforts as the culture of the era was incorporated into the curriculum, for example, with Aesop's fables and their pointed morals extolling the perseverance of the tortoise which enabled it to outrace the hare, the diligence of the ants as against the carefree, irresponsible grasshopper who sang all summer long.^{54/}

47. Some writers attach significance to the apprenticeship tradition out of which evolved the present-day formal educational system. According to Bowman, the apprenticeship system was both a pervasive training agency (including personal habits and morality as well as skills) and a device for rationing access to preferred occupations and to rights of fuller civic participation.^{55/} The protracted period of indenture was an onerous servitude,

^{52/} Anderson, "The impact ...", op. cit., p. 266.

^{53/} J. Roberto Moreira, "Aspectos sociológicos del problema de la formación y el perfeccionamiento del maestro primario", UNESCO, América Latina, Proyecto Principal de Educación, Boletín Trimestral Nº 20, October-December, 1963, p. 17.

^{54/} Research would be useful tracing the secularization and popularization of the Puritan ethic (which really was only for the predestined few) in the years preceding and during the First Wave decline in fertility, and the different forms it took in each country. Although the writer has not been able to undertake this research, he is familiar with certain elements of this popular culture in the United States: the thrift of Benjamin Franklin, the Horatio Alger tradition of the poor boy who "made good", the importance of being a "self-made man" and the praise lavished on those sons of the rich who would accept no assistance from their family because they wanted to make good on their own, and proverbs such as "if at first you don't succeed, try, try again", and "Heaven helps him who helps himself."

^{55/} Bowman, op. cit.

a period of deferred gratifications eventually to be rewarded. Blitz has suggested that, despite "the drag which the old apprenticeship laws had on the industrialization of England ...", it nevertheless provided the industrialization process with a skilled cadre and was undoubtedly largely responsible for a tradition of workmanship." ^{56/}

48. Anderson has noted several other ways in which aspects of education tended to promote achievement motivation in either England or the United States: the fact that the diffusion of schooling down the social pyramid was both gradual (that is, the expansion was in response to demand so that education was a highly-prized good because in short supply) and selective in the sense that access to upward mobility via education was often on the basis of merit. ^{57/} Anderson also points to the example of the policy followed in the United States of leaving the responsibility for financing of schools with the local communities as a result of which there were widely "differential acceptance of educational norms .." and "... the leading position of some groups in accepting higher norms has, indeed, been one means of stimulating the aspirations of laggard groups or areas." ^{58/}

49. One more influence, which refers both to school structure and to characteristics of teachers, is the force of example provided by close association over a period of years with a relatively well-educated and respected teacher in the single teacher school (encompassing all primary school grades) which used to prevail before the days of teacher specialization, first by grade and then by subjects within each grade became introduced. ^{59/}

50. There still remains to be discussed the effect of educational aspects on fertility through their effect on the other two independent variables in our model: information about fertility control methods and the capacitation to use them efficiently. From the point of view of explaining why the First Wave fertility decline occurred, these variables are held to be considerably less fundamental than the motivational variables which have just been reviewed. True enough, changes in these variables are necessary conditions for the transition from high to low fertility; reproductive behavior clearly cannot be brought under control without both knowledge of means for achieving this and without the ability to utilize these means with some degree of effectiveness. Nevertheless, given the kind of motivation towards fertility that came to prevail in the First Wave countries, their population would surely somehow or other, and sooner rather than later, have discovered means for achieving their goals and have mastered their use. In a very legitimate sense, therefore,

^{56/} Blitz, op. cit., p. 310.

^{57/} Anderson, "Patterns and variability ..", op. cit., p. 315. "The traditional and much discussed three-tiered school system (in England) - schools for the populace, for clerks and for the élite - was in many ways distinctly functional. ... lower groups were incited to aspire to education and were rewarded when they succeeded." (Idem, p. 318).

^{58/} Anderson, "The impact ...", op. cit., pp. 261-63.

^{59/} Mercedes Fernández Ramos, "La escuela de maestro único", UNESCO/ América Latina, Proyecto Principal de Educación, Boletín trimestral, N° 10, April-June, 1961, pp. 17-29.

these variables are only intermediate variables. Our interest in them and on the effect of education on them centers in their being able to help us understand and describe how (rather than explain why) fertility declined. This distinction, one hastens to add, will not be valid for the analysis of the Second Wave fertility decline in the following section. There these variables will be found to have passed from secondary to primordial importance.

51. There is every reason to suppose that formal education on sexual matters was of practically no importance in the acquisition of knowledge about contraception or abortion. According to Himes and others,^{60/} the diffusion of knowledge of fertility control methods was essentially a process of democratization of knowledge previously existing in one form or another among very limited sectors of the population, often those vinculated with prostitution.

52. The mere fact of literacy was important for this popularization because it gave people access to what was written on the subject. The diffusion of this written material and in particular of the propaganda of the ~~minis-~~ular birth control movement, however, is thought to owe much of its effectiveness to the free publicity provided by its opponents who by their vociferous condemnations called the attention of the reading public to the fact that birth control was possible and was being practiced by some people.^{61/} Later on, but not much before the 1920's, the popularization of Freudianism especially among middle class groups, by permitting sex to be a polite subject of conversation, must undoubtedly have facilitated the exchange of information.

53. Female economic activity in offices and factories has also been mentioned as a force drawing women away from the isolation of the home and putting them in communication with the attitudes and information of their fellow-workers. Since female economic activity is usually confined largely to urban centers, the effectiveness of this source of knowledge must be considered largely supplementary to urbanization itself as a means of intensifying communication and diffusing knowledge.

54. Education is very helpfull if not indispensable for the effective use of fertility control methods available during the First Wave fertility decline for the following reasons: a) it enabled individuals to understand how a method works and therefore how and under what circumstances it has to be used, b) it enables people to defend themselves against superstitions and false rumors which may lead them to suspect the more efficient methods and to place trust in less reliable or in unreliable methods, and c) for methods like the rhythm a certain minimum level of education is absolutely necessary in order to be able, for example, to estimate the "safe period".

60/ Himes, op. cit., Part V; Jean Sutter, "Sur la diffusion des méthodes contraceptives", Bergues, La prévention des naissances ..., op. cit., pp. 341-59.

61/ United Nations, The determinants and consequences of population trends, Population Studies No 17, ST/SOA/Ser. A/17, p. 77.

B. The Second Wave Transitional Decline in Fertility

55. The Second Wave countries, it will be recalled, are defined here as those countries in which fertility declines a) after contraceptive methods requiring relatively little motivation became available in the early 1960's, and b) in a climate where government and other institutional assistance to individuals became more feasible with the collapse of individualism and laissez-faire in the 1930's. Although this Second Wave decline is as yet in a very early stage with definite manifestations of declining fertility being largely limited to a number of small countries which may possibly be special cases not necessarily representative of today's high fertility countries, certain features which strikingly distinguish these countries from the First Wave are already clearly discernible. These differences are essentially inherent in our definition of the Second Wave, which postulates the availability of new birth control methods and the possibility of institutional assistance to the individual. The Second Wave decline, if and when it occurs, cannot be considered in terms of the model used for the First Wave countries, in which the various aspects of economic and social development were conceived as a process of motivational transformation acting directly upon the unaided individual, left to his own resources.

56. It was the Second Wave mortality decline that set the pace for the new situation. It has already been observed how First Wave mortality differed from fertility in the important role played by research and development of new methods of control and by the implementation of these methods through the institution of public health programs. This aspect of organized, institutional effort was enormously stepped up in the Second Wave after World War II, as various international agencies and also national agencies among the developed countries joined efforts in response to the clamor from the so-called Third World of underdeveloped countries that they be permitted to enjoy the advantages of modernization and of economic and social development.

57. The transplantation of different features of modernization has been uneven. Lower mortality has been one of the more successful. The rapid fall in mortality in the Second Wave countries made possible by the sudden importation from the First Wave countries of medical discoveries and public health techniques developed only gradually in the course of economic and social development in the First Wave countries has been well documented.^{62/} Substantial declines were achieved even in countries at a very early stage of economic and social development where low levels of education prevailed and cooperation from the population in terms of personal hygiene was minimal.

58. The result was unprecedented rates of population growth and increasing concern over the implications of this population growth for the efforts of these countries to achieve other, more basic, aspects of their goal of economic and social development. The intensive, controversial, and well-publicized literature on the crisis of the population explosion needs not be commented upon here.

62/ United Nations, 1963 Report on the world social situation, United Nations Sales No 63.IV.4, New York, 1963, p. 15.

59. The solution to this problem that is most widely being adopted in the parallel exportation to the Second Wave countries of advanced birth control methods and public and/or private family planning programs developed at considerable expense in research in the First Wave countries. In this parallel transplantation of mortality and fertility control techniques, a very important difference must be pointed out. The mortality control techniques were developed in the First Wave countries primarily for use among their own populations (sometimes, it is true, for their nationals residing in Second Wave countries) and were readily available for export; however, in the case of fertility, no really significant techniques had been developed in the course of the First Wave decline. The strength of individual motivation towards fertility in these countries had been such that the population was able to solve by themselves the reproductive problems arising out of economic and social development. The new fertility control techniques had to be developed (and still are being developed) specifically for use in the Second Wave countries after and because it became apparent that fertility motivation was completely different and totally inadequate in these countries.

60. Some indication of the "ambivalence" and "lack of intensity" of professed small or moderately-sized family values comes from fertility survey data.^{63/} The principal evidence, however, is based on the experience of the family planning movement itself in these countries. At the beginning some workers in the movement believed it would only be "necessary to bring to the mass of the population the word and the supplies."^{64/} Disillusion, however, soon set in. Despite the fact that population pressures were in many ways greater than in the First Wave countries, not even in the high population density countries of Southeast Asia or in the countries of Latin America where economic development and industrialization had advanced most notably^{65/} did privately-sponsored family planning programs have any discernible impact.^{66/}

^{63/} See Reuben Hill, J. Mayone Stycos and Kurt W. Back, The family and population control, Chapel Hill, 1959, p. 81 with regard to ambivalence in Puerto Rico, and J. Mayone Stycos, "Experiments in social change: the Caribbean Fertility studies", op. cit., Kiser, ed., p. 308-16 with regard to lack of intensity or salience, to use the expression devised by Stycos to denote lack of intensity or low priority motivation.

^{64/} Ronald Freedman, "Next steps in research on problems of motivation and communication in relation to family planning", op. cit., Kiser, ed., p. 598.

^{65/} Argentina and Uruguay achieved their relatively low levels of fertility along with the First Wave countries. In Cuba and Chile, where crude birth rates between 30 and 35 per thousand population prevailed in the post World War II years, the attainment of these not-so-high rates apparently also dated back to the First Wave period.

^{66/} See, for example, Donald J. Bogue, "Some tentative recommendations for a 'sociologically correct' family planning communication and motivation program in India", op. cit., Kiser, ed., p. 503.

61. The history of the family planning movement in the postwar era has, therefore, been largely one of increasing awareness of the insufficiency of fertility motivation in the Second Wave countries and an increasing intensification of institutionalized efforts as a substitute for what had been accomplished by individual effort and motivation in the First Wave countries. In short, the simple model used for the First Wave in which one societal variable, economic and social development, acts directly upon the individual members of society through four individual variables breaks down in the Second Wave through default of the motivational individual variables, motivational direction or orientation and motivational intensity. As their default becomes evident, they are replaced by two societal variables:

1. Family planning research and development
 - a. with regard to effective birth control techniques requiring a minimum of motivation on the part of users,
 - b. with regard to the means of diffusing birth control techniques -for example the most effective use of the mass communication media.
2. Family planning action programs, both public and private, with, for example, family planning program work becoming a professional career taught in Schools of Public Health.

62. It is not our intention here to review all the diverse ways in which aspects of education are utilized by family planning research and action programs. The subject is complex and the literature on the subject is immense.^{67/} The situation is further complicated by the existence within the family planning movement of different groups and differing opinions as to what the objectives of family planning programs should be. One sector, to which The Population Council belongs, advocates that the purpose of family planning programs should be to make it possible for parents to have the number of children they want. Others maintain that the realization of this objective will not solve the population problem since family-size aspirations of parents are too high even in most developed countries; the changing of family-size norms must, therefore, be among the objectives of family planning programs. Many of these people support a goal of zero population growth and favor the adoption of the "hard-sell" tactics of commercial advertising.^{68/} Another dimension of difference

^{67/} See, for example, the various volumes containing papers contributed to conferences devoted to the subject of family planning, especially those edited by Kiser and by Berelson and cited in this chapter; also session B.13 of the United Nations, World Population Conference, 1965, Vol. II. Another valuable source of information is the series Studies in Family Planning, as well as many other publications, of The Population Council.

^{68/} Ridker (Ronald G. Ridker, "Desired family size and the efficacy of current family planning programmes", Population Studies, Vol. XXIII, No 2, July 1969, pp. 279-84), for example, argues from his experience with the United States Agency for International Development Mission in India that efforts to change motivation without the use of devices such as monetary incentives are not likely to prove successful. A more cautious conclusion of the same kind, merely stating that attitudes resistant to the family planning idea "have to be changed, and they may need to be changed in a short time...", was reached by a recent UNESCO seminar (UNESCO, Seminar on mass media and national family planning programmes. Final Report, Paris, 23-28 June 1969, p. 6). On the other hand, Bogue, as a sociologist, has recommended "a low-pressure education campaign" with "a very small 'selling' component and a large 'education' component", and he cautions that "in order to avoid backfires, the limitations, weaknesses and disadvantages of using family planning must be admitted and discussed openly". (Bogue, "Some recommendations...", op. cit., (continue)

is that between those (mainly academically-oriented demographers and other specialists) who stress basic research and the acquisition of knowledge and those (practically-oriented doctors and government administrators) who assign top priority to action and the attainment of results.^{69/}

63. The effectiveness of family planning research and action programs (and, therefore, of the influence of educational aspects through this research and these programs) is at present no more than problematical. Given a few important research breakthroughs (and vast sums of money are being invested with precisely this objective^{70/}), in the opinion of the writer their potential is very great indeed. The possibility must be envisaged that fertility be brought under control in the Second Wave countries independent of economic and social development to an even greater extent than in the case of Second Wave mortality, thereby completing reversing the role of institutional forces that characterized the First Wave declines.

64. At the present moment, however, the most significant relation between education and fertility via family planning programs in the Second Wave countries has been in the reverse direction from that which is being studied here. Instead of education as the independent variable having an effect on the dependent variable, fertility, up to now fertility is found as the independent variable. It has been prevailing fertility levels and prevailing fertility motivation that has been producing tremendous changes in the way in which aspects of education may affect fertility in the future. These changes are manifested not only in the spread of family planning research and action programs with their innumerable facets of educational involvement, but also in the academic interest that has been stimulated in population matters in the form of demographic research and also the more frequent teaching of formal courses in demography and in various aspects of the human reproductive process. The contrast between this influence of fertility on education and the as yet scarcely perceptible effect of education (via family planning) on fertility is striking.

65. It seems appropriate, therefore, in the analysis of Second Wave fertility to focus attention on the factors responsible for the apparently weaker and more ambivalent motivation towards fertility prevailing in these countries as compared with that which characterized the First Wave countries, and to explore especially the differential effect of educational aspects in each of the two situations. Before initiating this comparison, it is worth noting that educational aspects of family planning programs are probably themselves (although, of course, inadvertently) in part responsible for the kind of fertility motivation observed in Second Wave countries.

^{68/} (continuation) Kiser, ed., pp. 507, 509 and 533). Different from any of these approaches is that of Kingsley Davis and Judith Blake Davis who, while identifying themselves with the zero population growth camp, have spoken out strongly against "an exclusive emphasis on 'family planning' ..." and "... medically-engineered gadgeteering". Instead they advocate basic structural reforms in society and a reversal of "policies supporting reproduction as a primary societal end and encouraging social roles that draw most of the population into reproductive unions." (Judith Blake, Testimony presented to the Conservation and Natural Resources Subcommittee of the Committee on Government Operations, September 16, 1969, pp. 6 and 9.)

^{69/} For an attempt to reconcile these points of view, see Ronald Freedman, "Next steps ...", op. cit., Kiser, ed.

^{70/} Oscar Harkavy, Lyle Saunders, and Anne L. Southam, "An overview of the Ford Foundation's strategy for population work". Demography, vol. 5, No 2, 1968, pp. 541-52.

66. There are several feedback effects which, it is hypothesized, weaken the already weak motivation towards the adoption of family planning. In the first place, the invention of contraceptive devices requiring very little motivation and the publicity attendant upon their diffusion may quite likely result in a lowering of the already low toleration point for "difficult" contraceptive methods. In this respect, it would be similar to the way in which the toleration of pain has been reduced by the availability of anaesthetics. Analogous also is the attribution of the widespread eighteenth century practice of abandoning new-born babies to the Sisters of St. Vincent de Paul because their solicitous care of foundlings relieved hesitant parents of anxieties and feelings of guilt.^{71/}

67. A second negative feedback effect is the possibility that "hard-sell" family planning program tactics that neglect to mention (or do so only in the "fine print" that nobody reads) the disadvantages of the new contraceptives (such as their side effects) may raise the level of expectation of the consuming public to the point where people are unwilling to use contraceptives that have any such disadvantages. Presumably, something like this is what Bogue had in mind in recommending the admittance of disadvantages and weaknesses of each method in order to avoid "backfires".^{72/}

68. Another possible feedback effect that has received wider recognition^{73/} is the predominantly female orientation of family planning programs that has become accentuated by the fact that the new contraceptives requiring little motivation are all female methods. It has already been noted that it was mainly contraceptive methods to be used by men that were influential during the First Wave decline. It remains to be seen how male motivation towards family planning will be affected by the use of contraceptive methods that make it possible for women to have extra-marital relations with much less risk of pregnancy leading to detection.

69. In comparing Second Wave with First Wave motivation towards fertility, our analysis follows the structure of the preceding section on the First Wave countries. That is to say, first the factors affecting direction or orientation of motivation are considered and then those affecting salience or intensity of motivation. With respect to direction of motivation, it is found that there are many differences between the First and Second Wave countries; that these differences do not all act in the same direction: some tend to provide more and others tend to provide less motivation for having fewer children; that for lack of a satisfactory criterion for establishing the relative importance of these differences (and also because of inability to obtain quantitative measurement of the magnitude of each difference), it is not possible to affirm with any degree of assurance whether all in all the net resultant of motivational factors conducive to lower fertility is more or less compelling today in the Second Wave countries (especially in Latin America) than it was in the First Wave countries in the late nineteenth century when fertility began to fall; finally that, even if it is possible that the sum total effect of these motivational factors may be less forceful, there do exist (at least among certain important sectors of the population at least in Latin America) some very compelling motives for no longer continuing to have a large family of many children.

71/ Cited by Bergues, *La prévention des ...*, op. cit., pp. 170-71.

72/ See footnote 67.

73/ Ronald Freedman, "Family planning programs today", *Family Planning and Population Programs*, Bernard Berelson et al., eds., 1966, p. 819.

70. With respect to intensity of motivation, our findings are much less ambiguous. Although here also there are many, indeed more, differences between the First and Second Wave countries, these differences all act in the same direction, that of placing less responsibility upon the individual and upon individual achievement in the solution of what at the time of the First Wave were considered primarily personal (or family) problems. The prevailing mode of rationality has changed. The type of individualistic rationality characteristic of liberal capitalism has lost most of its vigor even in the already developed countries with capitalistic economies. The kind of reproductive rationality which harmonized so well with the individualistic rationality of parents as consumers during the First Wave decline of fertility is much less operative today among the Second Wave countries that are striving to attain economic and social development within a capitalistic framework. It is our hypothetical conclusion, therefore, that intensity of motivation (individualistic motivation, that is) remains weak primarily not because economic and social development has not yet produced the modifications in social conditions which make the large family no longer suitable (although in many countries of the world, of course, it is true that progress in economic development has been insufficient in this sense), but rather because most people no longer feel to the same degree that it is incumbent upon them to be rational in the sense of making a systematic evaluation of their long and short-run goals in life in order to weed out incompatibilities in the light of the means at their disposal.

71. Motivational orientation. 1. Declining mortality. The more rapid decline of mortality in the Second Wave countries and the effect of resulting population pressures upon parental reproductive motivation has already been noted. The force of this motivational factor -it seems hardly necessary to belabor the point- is stronger in the Second Wave than it was in the First. True enough, some of the greater population pressure in the Second Wave countries must be laid to the account of their higher fertility as compared with the pre-industrial levels characteristic of most First Wave countries. The higher crude rates of natural increase observed in the Second Wave do not, therefore, entirely represent greater increases in family size due to proportionately more surviving children. On the other hand, there is reason to believe that the consequences of population pressures have been greater in the Second Wave countries: a) because economic development, utilizing the modern technology of the developed countries, has been more capital-intensive and less capable of absorbing the expanding supply of manpower^{74/} and b) because the escape valve of international migration no longer exists and in those countries where average population density is still low (of which there are many in Latin America), the expanding frontier has become an expensive capital-consuming proposition and can no longer be entrusted to the initiative of enterprising pioneers without financial resources.^{75/}

^{74/} Fernando H. Cardoso, Cuestiones de sociología del desarrollo de América Latina, Santiago, 1968.

^{75/} United Nations, Economic Commission for Latin America, "The demographic situation in Latin America", Economic Bulletin for Latin America, Vol. VI, No 2, October 1961, p. 22; United Nations, Economic Commission for Latin America, "Rural settlement patterns and social change in Latin America: notes for a strategy of rural development", Economic Bulletin for Latin America, Vol. X, No 1, March 1965, pp. 1-21.

72. 11. Changing significance of children for parents. A precise evaluation of the advantages and disadvantages of children to parents in the Second Wave countries as compared with the First Wave countries in the late nineteenth century when fertility began to fall is not possible. Although the writer is not familiar with the situation of children in Asia or Africa, he has reviewed a fairly considerable body of literature on the subject in contemporary Latin America and in the First Wave countries in the nineteenth century. Because of their concern with modernization in terms of both human rights and economic development, the countries of Latin America are in many respects far ahead of the First Wave countries. A determination to avoid the abuses of child labor associated with industrialization in the first countries has resulted in relatively advanced social legislation;^{76/} at the same time, the conscious effort to foster economic development and the recognition of the importance for development of properly qualified human resources, together with a twentieth century acceptance of the need and the right of the general population to an educational and cultural level that would permit a fuller participation in their country's life, has led to accelerated programs of educational expansion.^{77/} The demonstration effect of what the developed countries had done, and of what they are doing after having achieved development, has undoubtedly been important in producing some of these differences.

73. The mere existence of more advanced social legislation proscribing many forms of child labor does not ipso facto constitute evidence that Latin American parents today are less able to count upon income from the work of their children than were parents in the First Wave countries in the latter part of the nineteenth century. There was widespread non-compliance at the beginning in the First Wave countries^{78/} and the ILO article cited in the previous paragraph comments that the legislation of Latin American countries which "has been in existence a long time ... shows that their objective is to abolish the employment of children..." It also notes that "generally speaking, the two sectors which employ children most of all -agriculture and domestic service- remain outside the scope of the regulations".^{79/} This study states that statistics showing suspiciously low rates of child labor in urban areas probably reflect non-reporting of certain kinds of work by children among the very poor -such as street vendors and those working clandestinely in small workshops. Among the expanding middle classes in Latin America, all available evidence suggests a reluctance of parents to put their children to work even in part-time activities. It is precisely on this group that the burden of educating children falls most heavily because at the secondary level the public sector is not well

^{76/} "Youth and work in Latin America. I. The employment of children", International Labour Review, Vol. XC, No 1, July 1964, p. 4.

^{77/} United Nations, Economic Commission for Latin America, Education, human resources and development in Latin America, New York, 1968, pp. 1-17. A 1968 UNESCO conference (UNESCO, El planeamiento de la educación. Situación, problemas y perspectivas. Conferencia Internacional sobre Planeamiento de la Educación, Paris, 6-14 August 1968, pp. 7 and 27) refers to the spectacular educational explosion throughout the world during the previous ten years and notes that the first attempt at systematic educational planning dates back to 1923, the date of the first Soviet five year plan.

^{78/} Smelser, op. cit.

^{79/} "Youth and ...", op. cit., pp. 4 and 13.

developed in most Latin American countries so that parents feel obliged to send children to private fee-charging schools.^{80/} These parents, therefore, have another powerful motive for not having many children.

74. The incidence of child labor in rural areas appears to vary greatly from country to country and within regions of many countries. The colono system of tenant labor is found with many variations in different parts of Latin America. Depending on the type of arrangement, there may or may not be an advantage in having many children.^{81/} For the cultivation of tiny minifundios the labor of a large number of children is, of course, totally unnecessary. In certain regions, however, there exist large estates cultivating crops such as coffee, where the labor of children is a source of income to parents at certain seasons of the year.^{82/} According to Adams, the normal situation in the case of the minifundio is for the head of the household to be "its economic mainstay" with children and other members of the family working only when "income from this effort is not sufficient".^{83/} The implication would seem to be that these parents do not normally have many children in order to exploit their labor, but rather that the maintenance of a large family under existing socio-economic conditions frequently obliges them to obtain supplementary income from the labor of their children.

75. While the extraordinary expansion in school enrollment and attendance in the postwar years is apparently without parallel in the experience of the First Wave countries, there are other differences in the situation that make an evaluation of the net effect upon parental motivation towards family size largely conjectural. Many observers have noted that governments in their efforts to extend and expand education have done as much as possible to lighten the share of the burden that falls upon parents. Anderson, for example, has argued that efforts to attain uniformly high quality primary schooling for all the regions and social sectors of a developing country "may be a luxury ... not to be insisted upon if rapid development has priority".^{84/} As has been mentioned, the clearest instance of an increased burden upon parents is at the secondary level at the expense especially perhaps of the lower middle classes because "university-preparatory secondary education in the majority of Latin American countries at present is largely in the private sector, while both primary and higher education are mainly public and free of fees (although incidental costs to the pupil can be important)".^{85/}

76. iii. Social mobility aspirations. Because economic development in most Second Wave countries has been concerned with catching-up with the developed countries by the importation of relatively advanced technological productive equipment involving considerable capital investment, opportunities for entrepreneurial mobility are necessarily much more limited^{86/} than they were in the First Wave countries where an ambitious worker

^{80/} United Nations, Education, human ..., op. cit., p. 64.

^{81/} "Youth and ...", op. cit., p. 8; Garland P. Wood, "(title not available)", Industrial relations and social change in Latin America, William H. Form and Albert A. Blum, eds. Gainesville, 1965, p. 19.

^{82/} Moisés Prólogo I., La economía agraria de América Latina y el trabajador campesino, Santiago, 1953, p. 152. Corredor, Berta and Torres, Sergio, Transformación en el mundo rural latino-americano, Centro de Investigaciones Sociales, Serie Socio-Económico 11, Bogotá, 1961, pp. 35-36.

^{83/} Adams, Richard N., "Rural labor", Continuity and social change in Latin America, John J. Johnson, ed., Stanford, 1964, p. 58.

^{84/} Anderson, "The impact...", op. cit., p. 261.

^{85/} United Nations, Education, human ..., op. cit., p. 61.

^{86/} United Nations, Economic Commission for Latin America, Social change and social development in Latin

in a small factory could legitimately aspire by thrift to amass enough capital to initiate his own enterprise.

77. The consensus of most writers who have analyzed the available statistics is that there has been in many countries of Latin America considerable social mobility consisting especially of an expansion of the middle classes.^{87/} Although there has been an important shift among manual laborers in the secondary sector from artisan to factory worker,^{88/} there is generally a very compressed wage structure which offers little incentive for upward mobility. According to Bonilla, "... the minimum salary ... tends to become the prevailing wage for the mass of unskilled urban manpower ..."^{89/} The middle class mobility, which according to Cardoso has been principally "structural mobility", i.e., due to the expansion of occupational opportunities rather than to the replacement of the traditional elites,^{90/} is of the type referred to in the section on the First Wave countries as organizational mobility.^{91/} Most reports suggest that where this kind of mobility aspiration most affects fertility motivation is in terms of parents' aspirations for their children. Educational requirements for attaining desired white-collar positions get raised as the educational qualifications of the population increase. Parents must sacrifice themselves in order that their children obtain the open-sesame certificate, title or degree, while the content itself of the education received tends to be neglected.^{92/} Opportunities for ascension, once one is established in an organization, do not appear to have much bearing on fertility motivation. In the public sector, employment is already excessive and political patronage often is decisive for promotion. Even in the private sector, industries often developed in accordance with the import substitution policy and protected by tariffs from external competition, produce for a small domestic market in which an emphasis on efficiency and achievement is all too frequently not very imperative.^{93/}

78. iv. Consumer aspirations. Among the hypothetical determinants of fertility motivation one of the most striking differences between its manifestations in the First and Second Waves -perhaps even more striking than the more rapid decline of mortality in the Second Wave countries- is found with respect to consumer aspirations. Throughout most of the First Wave fertility decline consumer aspirations were mainly restricted to the middle classes with the great mass of the population remaining largely unaffected. Furthermore, the development of the mass communication media and their use for commercial propaganda to stimulate aspirations was still relatively unsophisticated, as was also the apparatus of credit facilities with their easy payment plans.

87/ Fernando H. Cardoso, Cuestiones de sociología de desarrollo de América Latina, Santiago, 1968, pp. 95-101. Johnson, John J., Political Change in Latin America. The emergence of the middle sectors, Stanford, 1958.

88/ Fernando H. Cardoso, op. cit., pp. 85-90.

89/ Bonilla, Frank, "The urban worker", Continuity and ..., op. cit., Johnson, ed. p. 192.

90/ Fernando H. Cardoso, op. cit., p. 100.

91/ An ECLA report (United Nations, Social change ..., op. cit., pp. 61-62) refers to the "salarization" of the middle classes which "takes place and gathers force in every field of activity ... In Latin America the outstanding aspect of the salarization of the middle classes is the growth of bureaucracy, and of government bureaucracy in particular. In the more developed countries of the region, there is even a strong tendency for the private sector to become bureaucratized".

92/ United Nations, Education, human ..., op. cit., pp. 60-67.

Anderson, "The impact ...", op. cit., p. 265.

93/ United Nations, Economic Commission for Latin America, El proceso de industrialización en América Latina, 1963, pp. 158-66.

79. The spectacular production of attractive consumer goods and the extension of consumer aspirations to the bulk of the population after World War II in the affluent societies of the developed First Wave countries had a tremendous demonstration effect in the underdeveloped regions among which "the Latin American countries, much more than the African and Asian countries, have witnessed a huge expansion of the mass communication media dominated from the world centres".^{94/} Of course, this spread of consumer aspirations has not been entirely via the demonstration effect; these aspirations are also being fostered among the masses "by populist leaders."^{95/} Nor has the effect of the mass communication media been exclusively that of demonstration by force of example (as, for instance, in the standards of living displayed in the cinema imported from developed countries). An important element has been the conscious effort of commercial advertising [often branches or subsidiaries of advertising agencies with operational headquarters in developed countries] to arouse aspirations with the specific objective of selling goods or services. Indeed, some strategists of economic development programming advocate the intensive use of "commercial mass media" as "one of the cheapest ways to impel a country to strive for modernization" and "as effective as anything one can do".^{96/}

80. The relation of this educational aspect of the mass media is, of course, the expectation that the masses of the population, by means of small down payments, will acquire consumption aspirations and habits whose realization and maintenance are objectively in conflict with their traditional uncontrolled reproductive patterns. As modernized, rational consumers, they will soon become obliged to take notice of the inconsistency between their new consumer goals and their traditional family-size goals and will modify the latter.

81. Despite the obvious strength of this argument, certain reservations, which might diminish its effectiveness, must be mentioned. In the first place, the hard-sell advertising techniques with their slick persuasiveness developed to overcome sales resistance among the more sophisticated and better educated public in the advanced countries, introduce a note of irrationality when they strive to convince people they can afford to purchase items they really cannot afford and often do not even need. Is there any assurance that most of the gullible public being overpowered by streamlined propaganda which continues to bombard it from all sides will become educated into rational consumers capable of recognizing that their newly-acquired aspirations, given their limited financial resources, are incompatible with having many children? Secondly, many of those who do realize that with their present income levels they cannot afford both to have children as heretofore and also purchase the things they want, are they not being persuaded by the demagogy of their populist leaders

^{94/} United Nations, Social change ..., op. cit., p. 29.

^{95/} Idem, p. 32.

^{96/} Itzhel De Sola Pol, "The role of communication in the process of modernization and social change", op. cit., Hoselitz and Moore, eds., p. 288. De Sola Pool explains that "the propaganda for modernity contained in commercial media ... is not just a plea that the audience buy a particular brand of soap ... The request... is only a small part of a plea in favor of a whole modernized way of life ... It is the mass media ... which make what would otherwise be wistful dreams of a few modernizers into the dynamic aspirations of a whole people". (p. 289).

that they are entitled by right to their incompatible desires and that the resolution of the incompatibility is the social responsibility of the government?

82. Although, as a motivational factor affecting fertility, the superiority of consumer aspirations in the Second Wave as compared with the First seems incontestable, another way in which its net impact would seem to get reduced somewhat is through a negative feedback effect upon economic development and social mobility. Very demanding consumer aspirations have acted as a powerful political pressure obliging governments to divert part of their scarce capital resources and foreign exchange into the importation either of consumer goods or of capital equipment for the domestic production of consumer goods whose multiplier effect in terms of the creation of new industries and new opportunities for employment is less than would be derived from investment in the building-up of basic industries. This may be a factor explaining the "economic stagnation"^{97/} in those countries that are exhausting the possibilities of import substitution,^{98/} as a consequence of which social mobility opportunities fall far short of the expectations resulting from educational expansion.^{99/}

83. v. Other motivational factors. Evolving notions of parental responsibility for providing their children to the fullest extent possible with opportunities for a full life, the changing relation between husband and wife in which conjugal love grows in importance relative to the motherly reproductive role, and the emancipation of women involving both economic activity away from the home as well as a greater participation in decisions with regard to intended family size were reviewed in the previous section on the First Wave. With respect to parental responsibility, no direct evidence has been uncovered which would permit comparison between present conditions in the Second Wave countries and the situation in the First Wave countries when fertility began to fall. Certain indirect evidence exists, however, which suggests the inference that the sense of parental responsibility is weaker in the Second Wave: a) Efforts of governments to accelerate educational expansion by assisting parents to a greater extent than was done by the laissez-faire governments of the First Wave, and b) the existence in a number of countries of social security programs providing a small dependency allowance for each additional child. Even when the assistance is not great enough to encourage parents to have many children, it does constitute a more explicit recognition (as compared with the First Wave) that the government shares with parents the responsibility of attending to children's needs and that the parental decision as to how many children they should have need not depend exclusively on the family's own economic resources.^{100/}

^{97/} United Nations, Social change op. cit., p. 68.

^{98/} United Nations, El proceso de indus op. cit., pp. 38-41, 231.

^{99/} It should be noted in this connection that the Japanese specialist, Dore, attributes Japan's rapid modernization and economic development in part to the strength of its traditions and its relative isolation from occidental-inspired world-wide currents of ideas which has produced in Latin America "political demands so potent that the state is forced to accept responsibilities towards its citizens which . . . divert into consumption resources needed for economic development. Japanese governments could resist such demands until the Japanese economy could easily afford them". (R.P. Dore, "Latin America and Japan compared", Continuity op. cit., Johnson, ed., pp. 242-43).

^{100/} The point made here bears also on the subsequent discussion on intensity of motivation and its weakness in the Second Wave countries because of a weakening of the type of individualistic rationality predominant in the First Wave.

84. Although much has been written about the importance in Latin America of machismo and the subordination of the female to the male, empirical evidence permitting regional-wide generalizations does not exist to the best of our knowledge. Even if it is true that in most Latin American countries today the status of women is inferior to that found in most developed countries, there are a number of considerations for believing that probably the opposite is the case if the comparison is made between Latin America today and the First Wave countries in the latter part of the nineteenth century. For one thing, the ideal of romantic, conjugal love has been spread to the far corners of the earth^{101/} by the mass communication media -especially the radio soap opera, the cinema and popular magazines- so that the expectations of vast numbers at least of women as to what married life ought to be must have undergone substantial change. Although there is certainly a large gap between ideal and reality, it is this writer's impressionistic opinion based on personal observation mostly among the middle classes that modifications are taking place with an increase of mutual consideration in marital relations.

85. There are other significant differences. Due to post-development changes in attitude in the First Wave countries, the rights of women as individual human beings are recognized to a much greater extent today in the Second Wave countries of Latin America than in the nineteenth century in the First Wave countries where the political enfranchisement of women did not come until the 1920's and female economic activity of most forms was unusual until the First World War. In the large cities of Latin America today it is very common for women to work in the interval between leaving school and getting married.^{102/} The opportunity to discuss marriage aspirations with other women, and the experience of economic independence derived from personally-earned income almost inevitably leads to a breakdown of the old system of parentally-arranged marriages and to a mating procedure where the partners select each other and where the girl often has considerable bargaining power in establishing goals concerning the conditions of their married life. An indication that these changes in the role of women that are taking place in Latin America are due to the demonstration effect of current conditions in the First Wave countries is seen in the fact in many countries of Latin America for which data on female economic activity by level of education are available, higher rates are found among women in the higher educational brackets who would be most aware of the trends toward female labor force participation in the developed countries.

86. The over-all difference between the First and Second Wave countries with respect to factors affecting direction or orientation of motivation towards fertility has turned out to be far from clear. Differences there are many, and almost all of these have been in one way or another a result of the educational process

^{101/} Although undoubtedly less so in many parts of Asia and Africa than in Latin America.

^{102/} Data from CELADE's 1964 urban fertility survey shows between 39 percent and 54 percent of single women working away from home in six large cities. The corresponding figure for Buenos Aires, the capital city of a First Wave country, was 70 percent. Economic activity away from home of currently married women was less, of course, ranging from 10 to 23 percent.

of the demonstration effect as the Second Wave countries have become conscious of their relative "backwardness" and have undertaken to catch-up with the First Wave countries, importing various aspects of technology, know-how, social organization, attitudes, etc., in order to accelerate economic development by skipping over some of the phases of the slow-gradual evolution of economic and social development which characterized the now developed countries. However, these many differences tend, in some difficult-to-determine extent, to mutually offset one another; some clearly have the effect of providing more motivation to have fewer children; others undoubtedly act to produce less motivation than what characterized the First Wave countries. The net effect of these differences is uncertain. In so far as the more advanced of the developing Second Wave countries are concerned, it is a relatively safe hypothesis to postulate that there is probably not much difference between the First and Second Wave countries with respect to direction of fertility motivation. If, therefore, motivation towards fertility is noticeably weaker in the Second Wave, it is reasonable to expect that the factors responsible for the First Wave strength (rather than direction) of motivation have had less effect in the Second Wave countries.

87. Intensity of motivation. Strength of individual motivation, it was noted in the preceding section, was a general cultural characteristic of the era during which the First Wave countries industrialized themselves. Their cultural individualism in many ways provided the motor force underlying the rationalization of economic processes and other aspects of life. The emphasis on efficiency and achievement took for granted as a way of life a type of individualistic rationality in which the individual entrepreneur, the individual consumer, the individual worker were conceived as rational individuals each striving to maximize his utilities or satisfactions by the efficient utilization of the most effective means for attaining his mutually compatible goals consciously organized according to priorities of preference.

88. Implicit in the system, and usually explicit too, was the assumption that it was also socially rationalistic in the sense that it was functional for the common good because it maximized satisfactions for more individuals than was possible under any other system. This assumption had validity only under conditions of perfect competition among free and equal individuals living in a free society with equal access to information, opportunities, etc. Although such conditions of perfect competition were never found in practice, there was some measure of correspondence in the early stages of economic development, especially communities where entrepreneurs were small and numerous and most of the population was literate.

89. With the exception of the universalization of education and the political enfranchisement of the masses, the subsequent course of events was marked by a growing deviation from the ideal of perfect competition. Business enterprise grew in size and cartels and trusts were formed. Small entrepreneurs and consumers organized various kinds of cooperative movements to protect themselves, and workers banded together in labor unions. With the extension of political democracy to the masses, the political parties became the means whereby the various organized sectors of the population could put pressure on the state to abandon its laissez-faire role

in order to correct the abuses, the social or functional irrationality resulting from the unfair conditions of imperfect competition. Various important forms of individualism and laissez-faire -such as the relatively free international movement of population, capital and goods- persisted down to the end of the 1920's when economic collapse brought about the organization of labor and the inauguration of the welfare state even in the United States, the last stronghold of economic liberalism and of the proponents of rugged individualism. In the postwar world of today in the developed countries, this kind of individualistic rationality has largely spent itself.^{103/} The "organization man" occupies the center of the stage. Leisure, the long week-end and self-indulgence in the acquisition of consumer perishables and durables are acceptable activities, having at last overcome the scruples of the Puritan work ethic.

90. The Second Wave countries now in process of development have not been able to remain aloof from the demonstration effect of the new kind of rationality and attitudes so conspicuous in the developed countries.^{104/} As one piece of evidence in support of this affirmation, it can be pointed out that in the preceding section on different ways in which each aspect of education contributed to achievement motivation of the individualistic rationality type most of the citations were abstracted from contexts in which the authors were contrasting the situations characterizing the First Wave and Second Wave countries. Anderson, for example, immediately after his description of the importance during the past of informal education "into a world of social norms stressing individual activity ..." adds: "Increasingly, the world into which literate men move has become one of collectivistic values, marked by scepticism about the values that accompanied earlier economic changes. Perhaps it would be unduly sanguine to expect schooling to have the same impact on productive life today that it had in earlier centuries".^{105/}

91. The content of formal education has also changed and the individualistic approach has been modified. The UNESCO article by Moreira noting the shift at the beginning of the present century from the teaching of subject matters to the development of the child's personality, immediately adds that the second half of the century has witnessed a new shift giving as much emphasis to the socio-economic-cultural development of human groups as to the development of the child's personality because a) personality is formed in society as a

^{103/} In the words of Medina Echavarría, the conditions of "formal" rationality under which the first countries developed no longer fully depict "the present situation of the more mature industrial societies ... Everything that has taken place in the real evolution of the Western economies ... implies ... at least the partial invalidation" of these conditions and their "replacement, wholly or in part, by principles of material or functional rationality" (Medina Echavarría, *op. cit.*, Vol. I, pp. 26-27).

^{104/} As was noted above, Japan, a late starter in the development race, did remain aloof from these trends until it had modernized its economy. In a quite different fashion, the Soviet Union and other socialist countries, by the instillation of a "socialist mystique" (Germani, *Política y ...*, *op. cit.*, Chapter III, Section 10) reinforced by cultural isolation from the risks of demonstration effect, have also remained aloof. For this reason, our definition of Second Wave countries has been carefully framed to exclude both the Japanese and socialist cases.

^{105/} Anderson, "The impact ...", *op. cit.*, p. 266.

process of collective conduct, and b) educational ideals of human perfecting can only be obtained "if they are converted into concrete objectives for the social group."^{106/}

92. Blitz' comments upon the contributions to industrialization of the old apprenticeship system were taken from an article on the relation of the educational system to economic growth in Chile in the course of which he noted "the complete lack of a guild and apprenticeship tradition."^{107/} As far as can be determined, this lack in the Chilean tradition represents a condition common to Latin America in general.^{108/}

93. With regard to Anderson's opinion that the gradual and selective diffusion of education down the social pyramid was functional for achievement motivation, it is to be noted that in another work he has commented on the absence of these features in developing countries today because of their concern to use stepped-up educational expansion as a means of accelerating economic and social development. He declares, referring to education at the secondary and university level, that "free stipends are, in many respects, dysfunctional in early stages of development"^{109/} because the education thus received is less appreciated. He also comments, perhaps referring more to Africa than to Latin America, on the need and the difficulty of establishing some clear-cut impersonal rating system in the rapidly expanding new bureaucracies.^{110/}

94. The single teacher school which may have been very influential in villages and rural areas in the First Wave countries, it is noted by Fernandez Ramos, included all grades of primary education and owed much of its success to the excellence of preparation and the sense of dedication of the teacher. Although schools with only one teacher are frequently found in rural areas of Latin America, it is not uncommon that they include only the first few grades of primary education, while the scarcity of financial resources and the rapidity of the expansion of the educational system make it difficult to staff these schools with adequately qualified teachers.

95. Because of the eagerness of the countries in process of development today to progress with maximum rapidity the "effective model which such countries have before them today and on which their attention is primarily concentrated ... is not the one ..." according to which the first countries achieved development, "... but the one which is the living product of its transformation."^{111/} For this reason, achievement

^{106/} Moreira, Op. cit., p. 17.

^{107/} Blitz, Op. cit.

^{108/} Storr, (Richard J. Storr, "The growth of American education", Education and ..., Op. cit., Anderson and Bowman) observes a weaker apprenticeship tradition in the United States also. "Entry into apprenticeship was less expensive than in England, terms of service were harder to enforce, and the privileges to be acquired only through completion of apprenticeship were not always so valuable or so grand". (p. 312).

^{109/} Anderson, "The impact ...", op. cit., p. 262.

^{110/} Ibid., p. 265. "Familistic criteria often dictate who gets the training or the certificate as well as who gets the job. An ostensibly impersonal merit system frequently is only a facade superimposed on the traditional modes of education that really dominate the schools. Meanwhile, the system becomes cramped by the adulation of certificates".

^{111/} Medina Echavarrfa, op. cit., p. 27.

motivation based on individualistic rationality, one of the crucial elements of the economic development process in the first countries, is being skipped over.^{112/}

96. It is not altogether clear, however, what kind of rationality is coming to characterize the developmental atmosphere of the Second Wave countries. There is undoubtedly a considerable measure of truth in the opinion of those observers who say it is pre-industrial rationality (some might say irrationality). The significance of this pre-industrial aspect can be grasped better, however, if it is studied in the context of Germani's penetrating analysis of the asynchronous character of economic and social development, especially in the comparison of the First and Second Wave countries, and how the demonstration effects often get converted into "fusion effects" in the process of transplantation from a more advanced to a less advanced country.^{113/}

97. First of all, however, it is necessary to remember that almost none of the developing countries, at the time when they began to be preoccupied with economic development, were "pre-industrial" in the sense that one can use this term with respect to eighteenth century Europe. Especially beginning in the second half of the nineteenth century, when the development of the steamship and the railroad permitted the integration of the different national economies into a world market, today's underdeveloped countries all experienced what has been called an "unbalanced development", specializing in the export of primary, agro-extractive products in exchange for the manufactured products of the First Wave countries. Economic and social transformation was considerable in some cases with the development of a substantial infrastructure in terms of railroads, public utilities, financial institutions, etc., and the growth of, in many respects, very modern, large capital cities.^{114/}

98. Partly as cause and partly as effect of the unbalanced nature of this development, the initiative of its most significant aspects lay largely (with the exception of a small elite) in the hands of the entrepreneurs, financiers, technicians and administrators of the manufacturing countries. It was they principally who

^{112/} Various analysts have raised the question whether economic development within a free enterprise capitalistic framework is possible without passing through the phase of individualistic achievement motivation. One answer to this question is that of those who propose the use of the commercial mass media to catapult the population of these countries into modernity by stimulating consumer aspirations that will motivate them to rationalize their work attitudes in order to achieve the income level that will enable them to satisfy their aspirations. This is what De Soja Pool, cited above (De Soja Pool, op. cit., p. 289), had in mind; he was not thinking specifically of fertility motivation, although he might reasonably have argued that new attitudes towards work and the benefits of higher income would lead to less interest in the family and many children as a center of social gravity. A serious doubt about the validity of this line of reasoning stems from the fact that the consumer aspirations being stimulated by the commercial mass media in the Second Wave countries are the present-day consumer aspirations of the First Wave countries and have a preoccupation with leisure activities which the productivity levels of the developing countries do not yet permit. One must ask whether consumer aspirations of this kind may not backfire and have the fusion effect mentioned by Germani of reinforcing traditional pre-industrial attitudes towards leisure.

^{113/} Germani, Política y ..., op. cit., Chapter III, Section 10.

^{114/} See, for example, Johnson, Political change ..., op. cit., for a description of this process in five of the most affected countries of Latin America.

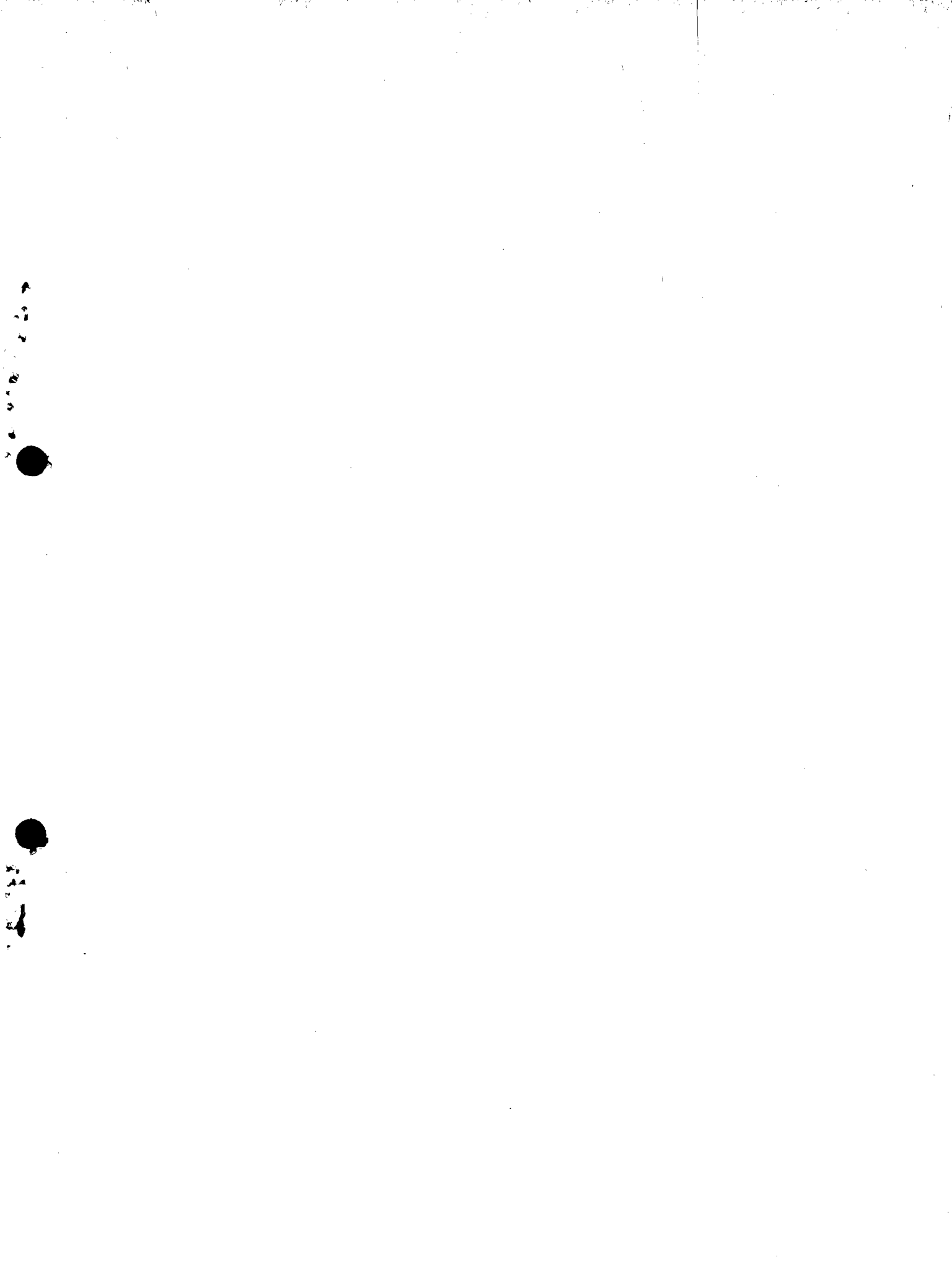
organized the expansion of primary goods production for export in such a way as to upset as little as possible the traditional social structure of rural society and the hacienda way of life. The middle class that emerged in this process was very different from the industrial bourgeoisie of the developed countries; it was a merchant class engaged as export and import brokers between the large landowners of their own countries and the business interests from the countries of Europe and the United States. The substantial measure of development often attained, therefore, in many ways did not profoundly alter pre-industrial attitudes towards work and individualistic achievement motivation.

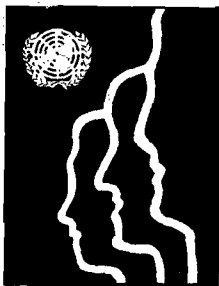
99. Germani's analysis of the asynchronous character of economic development in the Second Wave countries shows that advanced attitudes and practices acquired through the demonstration effect sometimes get interpreted in a different way in less advanced countries because they partially coincide with traditional pre-industrial features still prevalent. The educational consequences of the demonstration effect can produce a "fusion effect" which may serve to strengthen these traditional characteristics. Germani gives a number of interesting examples of fusion effects^{115/} and suggests possibilities of how further instances could readily be found. For example, if new educational approaches stressing the development of the child's personality through his active participation in social groups are imported from abroad and applied mechanically without imaginative adaptation to the concrete circumstances of life in the developing countries (that is, without recognizing the need to stress the activeness of the individual's participation in countries which lack a tradition of individualistic achievement motivation), the unanticipated consequence may be to reinforce traditional attitudes of passiveness and dependence on the group's leader,

100. It should not be overlooked however that Germani's fusion effect may be a double-edged sword which has potentialities for cutting the other way. That is to say, under certain circumstances the fusion of pre-industrial traits with aspects of contemporary life in the advanced countries might act to strengthen the demonstration effect and thus be of assistance in the modernization process. Second Wave rationality is in this sense

^{115/} e.g., the new consumer attitudes of the more advanced countries may merge with traditional upper class attitudes towards consumption and as a consequence the middle and upper classes of the developing countries often show very little inclination to adopt the ascetic, capital-saving attitudes of the nineteenth century entrepreneurs in the First Wave countries; similarly, the traditional non-economic attitudes of the ruling classes tend to fuse with the recent evolution of ideas in advanced countries regarding the social rights of workers and of the consuming public and deprive them of the possibility of acquiring the dynamic ruthlessness of the nineteenth century capitalist entrepreneur (Germani, Política y Economía, Chapter III, Section 10). Medina Echavarría, for his part, has noted a tendency among the urban masses of recent rural origin to transfer their traditional rural dependence on the paternalism of the large landowner to a dependence on the paternalism of the Welfare State or of the trade union structure imported asynchronously from the advanced countries. (José Medina Echavarría and Benjamin Higgins, Social Aspects of Economic Development in Latin America, Vol II, Belgium, UNESCO, 1963, pp. 36-7, 41).

a curious amalgam of the ultra-modern with the traditional and pro-industrial. Its most distinctive feature is its polar opposition to the type of individualistic rationality that prevailed during the First Wave decline in fertility. This is the reason, we hypothesize here, for the weakness of fertility motivation in the Second Wave countries. But it need not be an obstacle, we would say, to the attainment of modernization, whether economic, social or demographic, by other methods that are more institutional and less individualistic.





**CENTRO LATINOAMERICANO DE DEMOGRAFIA
CELADE**

Sede: J.M. Infante 9. Casilla 91. Teléfono 257806
Santiago (Chile)

Subsede: Ciudad Universitaria Rodrigo Facio
Apartado Postal 5249
San José (Costa Rica)