
QUESTIONS AND CONCLUSIONS

from Charles Tilly, ed., Historical Studies of Changing Fertility

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July 1974

CRSO Working Paper #110

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Draft of chapter 9 in Charles Tilly, ed.,
Historical Studies of Changing Fertility
(to be published in Mathematical Social
Science Board/Princeton University Press
Studies in Quantitative History)

What changes a population's fertility? What keeps it constant? We have not arrived at a simple reply, a single explanatory model, or even at a standard list of determinants. Yet the net effect of the explorations in this book is to narrow considerably the range of plausible explanations, as compared with those which are being seriously proposed today. That is true on the side of general explanations: our papers raise significant doubts concerning the whole range of arguments in which the diffusion of new contraceptive aspirations, techniques and information is the major mechanism of fertility change, and provide strong support for arguments balancing the costs of contraception and child care against the changing life chances of children. It is also true on the historical side: the papers weigh against the interpretation of fertility changes in Europe and America as resulting from changing enthusiasm for children and from family life, while calling attention to a variety of social arrangements which maintained some sort of balance between the incentives and opportunities to marry and have children, on the one hand, and the carrying capacity of the environment, on the other. The book's tendency, then, runs against Malthusian and ideological technological theories; it runs toward theories emphasizing the rational pursuit of long-run individual, household, family or community objectives.

Before discussing the general questions and conclusions which emerge from the entire set of papers, let me review the character of each one separately.

Richard Easterlin, "The Economics and Sociology of Fertility". Easterlin integrates an analysis of the determinants of desired number of children with an analysis of the extent and effectiveness of fertility

control. The first follows the main lines of recent economic writing on fertility, to which Easterlin himself has been a significant contributor. The second is more adventurous, for it places a variety of insights and arguments from sociology and other disciplines within a formal economic framework. Easterlin performs the synthesis by postulating a natural fertility level which is more or less known and more or less fixed over the span of a household's fertility decisions, then treating the demand for fertility regulation as a function of its cost and of the discrepancy between desired number of children and the number of children surviving under natural fertility.

A significant part of Easterlin's contribution is conceptual: it places the available arguments concerning fertility decisions in a single framework. Yet it has theoretical and empirical implications. For example, Easterlin shows that a relationship between fertility level and household income is likely to have two components: one affecting the demand for children and the other affecting the supply; economists have neglected the supply side of this relationship. He shows that in a variety of circumstances a maximizing household will end up with more than its desired number of children--not because of bad luck or inefficiency but because fertility regulation costs something. More unexpectedly, he points out the considerable possibility of excess demand for children because of high mortality. That is an important result; it strengthens a weak point of the existing economic literature, ties together a number of historical observations concerning the impact of mortality changes on fertility, and helps explain not only the apparent resistance of many poor populations to reducing fertility, but also the occasional long-run rise in fertility as incomes increase.

In Easterlin's scheme, the major sources of change in fertility are changes in income, in the cost of children relative to goods, in the cost of fertility regulation, and in tastes. The change in tastes, I think, poses the greatest difficulties. It is not clear why the taste for expensive consumer goods should grow faster than, say, the taste for highly-educated children. Easterlin theorizes that over a long period of rising incomes, each generation establishes a subsistence "floor" to its indifference curves below which no substitution of children for goods provides any satisfaction, and that as a consequence of forming its tastes in a period of rising welfare each generation sets that floor higher than the previous one; but why shouldn't it work the other way round: a fertility floor below which people would rather starve than go childless? I suspect that the theory needs a greater emphasis on the direct costs and opportunity costs of children in terms of household labor. It needs more ample allowance for shifts in the labor-intensiveness of child care as a result of changes in the desired characteristics of offspring. It needs recognition that the extent to which having children insures the continuity of the household depends on how much employment is available outside the household.

E.A. Wrigley, "Fertility Strategy for the Individual and for the Group". The continuity of the household commands a major part of Wrigley's attention. His paper pursues two profound questions: How is it possible for a population to be self-regulating? How do varying mortality conditions affect the appropriate fertility strategy for the survival of the household, family, kin group or entire population? With respect to self-regulation, there is the possibility of individual

or small-group rationality compounded by some mediating mechanism into the interest of the group as a whole; there is also the possibility of a large-group rationality which strongly constrains individuals and small groups but does not necessarily produce individual benefits for all of them.

The rationality may be conscious or unconscious. Wrigley suggests that in the transition from preindustrial to industrial social organization, western populations moved from 1) an unconscious group rationality which tended to hold total population between the environment's carrying capacity and the minimum size for survival to 2) a conscious individual rationality which gave no guarantee of an optimum for the population as a whole. In the preindustrial stage, the importance of inheritance committed the individual to the family and the family to the community as a whole. But the advent of industrialism snapped the links.

The bulk of Wrigley's analysis deals with the impact of mortality on preindustrial problems. Via a set of model populations, he shows that under conditions of high mortality (roughly speaking, with a life expectancy at birth of less than forty years) the effort to produce a single surviving heir of a given sex will tend to result in very large completed family sizes, yet will frequently fail. In the hypothetical high-mortality populations under discussion, a significant minority of households will have more than one heir to provide for, but a larger minority will have none at all. The situation provides strong incentives to high fertility. As mortality declines, however, the effect of a high-fertility strategy changes drastically. If the opportunities to be transmitted to the succeeding generation

remain limited, a high-fertility strategy becomes disastrous at levels much above the threshold of forty years' life expectancy. The children have no place to go; the household is stuck with them.

Even in prosperous western countries most populations have only passed the mortality threshold in the last century or so. To the extent that they were, indeed, strongly concerned about heirship, a large minority of western households have probably been in a situation of excess demand for children through most of history. But other households had too many children. The balancing occurred through such institutions as arranged marriage, farming out of excess children and temporary sharing of housing. The essential institutions, Wrigley speculates, formed through an essentially evolutionary process: those groups which adopted them survived, while other groups destroyed themselves through over- or under-population. However they formed, the institutions constituted a group rationality which strongly constrained individual rationality.

Amid these more general hypotheses, Wrigley throws out a series of observations on the specific mechanisms linking individual behavior to collective welfare. He points out that early marriage of sons whose fathers have died has very stringent limits as a survival strategy for a high-mortality population as a whole: the distribution of deaths is such that a large proportion of males will be too young to marry at the deaths of their fathers, while another large proportion will still have to live long years of celibate adulthood while their fathers are alive. The alternative of a standard age of marriage will be costly, however, since it does not permit the matching of family formation to fluctuations in the availability of niches within the group.

For example, as Wrigley observes, the rule that every couple should begin marriage in its own dwelling implies either the tuning of marriage to variations in the housing supply or the maintenance of a housing stock larger than the population's average requirements. Temporary co-residence of households--especially the expectation that newlyweds will lodge with the parents of the bride or the groom--allows an escape from both alternatives. Thus a series of social arrangements which have often seemed traditional, and therefore non-rational, begin to take on meaning as collective adaptations to poverty and high mortality. Among those social arrangements are many which provide incentives to high fertility.

Despite the sureness of his steps, Wrigley's bold march through the past leaves questions strewn along the path. Explanations of social arrangements in terms of their functions or their survival value are notoriously hard to falsify; they turn easily to useless tautology. To take Wrigley's arguments concerning particular institutions as a program for research requires an enormous cost-benefit analysis of historically existing arrangements and their theoretical alternatives or a grand comparison of populations which survived with others which disappeared. Although Wrigley's analysis of the promotion of high fertility by high mortality is illuminating and persuasive for the hypothetical cases considered, it remains to match the models with historical instances and to determine what proportion of the total population was caught up in the grim contest among a relatively fixed set of local niches, deaths of occupants of those niches, and births to other occupants. In the case of Europe, we must ask whether the cities and wage-labor did not long offer an escape for the surplus

population: an escape to misery or death, perhaps, but an escape which increased the play in the local system. Like all really effective theoretical enterprises, Wrigley's analysis increases the need for close observations to match the hypothetical relationships with the world which actually happened.

Lutz Berkner and Franklin Mendels, "Legal Variables, Family Structure and Fertility in Western Europe". Berkner and Mendels want to trace the effects of inheritance customs--especially the degree of partibility--on nuptiality, migration and overall fertility level. Their paper complements Wrigley's, since it examines the character, extent and effectiveness of constraints which Wrigley's models take for granted. Since historians often argue that partible inheritance accelerates the fragmentation of holdings, the building up of population pressure and general impoverishment of peasants, the paper also touches an important element in historical interpretations of change in the western countryside.

Like Wrigley, Berkner and Mendels assume that people would generally rather marry locally than emigrate or remain single. More so than Wrigley, they assume that the variations in nuptiality which accompany different inheritance systems significantly affect the associated levels of fertility. Much more than Wrigley, they inquire into the conditions promoting the appearance of diverse forms of compound household. They conclude that the tendency of partibility to promote fragmentation of holdings is genuine but weak, and that inheritance arrangements have relatively strong, direct effects on household composition. Partibility does not have the devastating divisive effects which simple arithmetic leads us to anticipate because

local endogamy tends to reconsolidate fragmented holdings, because much of the land peasants work is leased rather than owned, because under high mortality there are few surviving heirs, and because the principals involved often go to great lengths to avoid subdividing holdings which are already at the minimum required to support a household.

This last observation involves fertility and strategies of heirship most directly. Berkner and Mendels conclude that in western Europe a strong pressure for preferential partibility grew up--regardless of the legal and customary constraints--wherever the maintenance of intact holdings was important to the welfare of succeeding generations. The preference could operate through enforced celibacy of some children remaining on the land (see Bourdieu 1962), through preferential marriage or through out-migration of "surplus" children, but in one way or another it required that some potential heirs modify their rightful claims. Because all of these arrangements were costly, peasant households working within any inheritance system had a strong incentive to restrict births once they had the desired complement of heirs.

Berkner and Mendels check out some of the implied relationships via a straightforward cross-sectional regression analysis of characteristics of French departements in 1856. It reveals the expected association between impartible inheritance and complex households, between impartible inheritance and high marital fertility, between impartibility and out-migration, between partibility and female nuptiality, as well as the negative associations between farm fragmentation and both household complexity and female nuptiality. As Berkner and Mendels say,

relationships estimated at such a high level of aggregation cannot clinch the case; they simply provide the warrant for further investigation of the same hypotheses. The major contribution of their work is its portrayal of inheritance arrangements, marital fertility, migration and household composition as mutually dependent parts of a general effort to assure the continuity of peasant households and families.

Ronald Lee, "Models of Preindustrial Population Dynamics". Lee's major effort goes into formulating, estimating, and testing simple but precise models of preindustrial population control systems. At the request of other members of the seminar, Lee includes a more extensive methodological discussion--especially concerning the logic of cross-spectral analysis--than he would ordinarily address to fellow econometricians. The central models state the alternative relationships among temporary fluctuations in wages, mortality, nuptiality, fertility and total population. They begin with wages and mortality exogenous to the system, then successively incorporate them into the system.

The main arguments Lee considers are fairly straightforward: diminishing returns to labor, mortality change as a determinant both of wages and of population size, fluctuations in marriages as the chief source of fluctuations in births, and so on. To be more exact, Lee consistently examines both such general arguments and the main alternatives to them; his method is frequently to define a parameter whose various possible values correspond to competing arguments, then to estimate the parameter with the best time-series data available. The best data are often not very good, so that Lee leaves up to us

whether to regard the estimates as solid evidence or as proposals for more detailed research. Even with superb data, the estimation and testing of these apparently straightforward hypotheses would be complicated; some of Lee's most valuable observations concern the effects of varying assumptions built into the models. For example, he shows that "an observed positive association of mortality and wages is quite consistent with a negative structural relation between the two, provided that the independent variation of mortality is considerably greater than that of wages."

Both the theoretical results and the empirical ones comment effectively on available ideas concerning historical fluctuations in fertility. On the theoretical side, Lee demonstrates that even in principle changing nuptiality can only be a weak, partial determinant of fertility fluctuations. The fact that they frequently covary closely results, in his view, from that they both responded to the changes in opportunity represented in his models by real wages. (Lee does not deny any relationship between nuptiality and fertility; he regards the characteristic marriage pattern as strongly affecting a population's average fertility.)

On the empirical side, he finds evidence that fluctuations in wages and mortality are negatively related in the short run, and positively related in the long run. The finding is consistent with the idea that death rates rise in times of hardship, but that over a longer run the labor shortage induced by high mortality levels tends to push the wages up. His estimates also suggest that the demand for labor in England was relatively constant from the thirteenth to the seventeenth century, but began shifting upward, and significantly

affecting the whole population control system, in the eighteenth. He cautiously proposes that the shift marks the movement from social arrangements which stabilized the return to labor but were vulnerable to exogenous fluctuations in mortality into social arrangements broadly corresponding to the supply-demand interdependence of wages and labor envisaged by the classical economists.

Clearly the work does not end there. Lee's inquiry leads in three important directions: toward the compilation of more and better series suitable for the estimation and testing of the same models; toward the clearing up of uncertainties, ambiguities and conflicts in the findings; toward the deliberate pursuit of the many suggestions Lee throws off along the way. It also stands as a strong injunction to model the relations surrounding fertility very carefully before plunging into statistical analysis for the purpose of estimating those relations.

Maris Vinovskis, "Fertility Differentials among Massachusetts Towns and Regions in 1860". Maris Vinovskis follows a somewhat different philosophy. His large cross-sectional analysis begins with a substantial list of variables each of which has an arguable relationship with fertility differentials, puts a great deal of effort into the measurement of those variables over a set of geographic units, and then employs an extensive statistical procedure to search for strong, persistent relationships. The approach is much less deductive than Lee's, and probably more vulnerable to spurious interpretations of the statistical results. Vinovskis reduces the likelihood of spurious interpretations by being exceedingly careful in attaching meaning to the estimated relationships.

Massachusetts and the United States have been somewhat neglected in general discussions of the demographic transition; they were, after all, major cases of early fertility decline. As Vinovskis shows in his preliminary sketch, Massachusetts was generally the lowest-fertility state of the U.S. during the first half of the nineteenth century; in each of the three Massachusetts regions he distinguishes, a sharp fertility decline was already underway by 1810 and continued unabated to 1850. A large part of the paper goes into portraying the regional trends in the first half of the century, and in providing both backgrounds and justification for the individual variables to be employed in the statistical analysis.

The multivariate analysis itself compares Massachusetts towns and regions in 1860, a year for which exceptionally rich census data are available at the local level. Using a stepwise regression procedure which follows a variance-reduction criterion, it estimates the association of fifteen variables with the white refined fertility ratio. At the statewide level, lower fertility is most strongly associated with a low sex ratio, a low proportion Irish, a large town population, high commercialization, a low proportion in farming and a low level of schooling. Some of these may simply represent regional effects, since the associations greatly weaken within regions; that is notably true of town size and proportion in farming. Nevertheless, the overall pattern is consistent with arguments which associate low fertility with involvement in urban-industrial-commercial life. The obvious next step is to model the relationships more explicitly and tightly, then to estimate and test the models.

Etienne van de Walle, "The French Fertility Decline until 1850". If Lee's paper displays the special strengths of the econometrician who is capable of stating and verifying his arguments precisely, and Vinovskis' paper the virtues of the historian who knows his site, van de Walle's paper exemplifies the comparative advantage of the demographer. His study of France belongs to a massive series of studies of the European fertility decline initiated by Ansley Coale. Van de Walle has reported the general procedures and findings in a recent monograph. Here he takes the massive technical and substantive results of that largely descriptive work for granted, and pushes on to a preliminary survey of explanations for the great demographic changes in a nineteenth-century France.

The discussion acknowledges the possible significance of inheritance customs, changing employment opportunities and other variables the papers in this book single out for attention. But it emphasizes the diffusion of contraceptive knowledge, and the decline of moral opposition to contraceptive practice. The diffusion process, in van de Walle's view, probably began with the eighteenth-century elite, and moved steadily down the hierarchy of class. Partly because he is dealing with large aggregates (in the nineteenth century the average French department had close to half a million people) and partly because even at the aggregate level he lacks convincing measures of the relevant communications flows, van de Walle is not able to carry the diffusion explanation to a direct test. Instead, he carries out a simple but extensive correlational analysis of associations of fertility level with

various indicators of social structure over all but the most urban departments at numerous census years from 1801 to 1851. Although each of the statistical analyses is cross-sectional, van de Walle fortifies his interpretations by looking at lagged relationships and examining the changing pattern of relationships over time.

The analysis reveals substantial and persistent relationships between low fertility and lack of out-migration, high levels of wealth, high nuptiality, and low mortality. Van de Walle interprets the findings as showing a lag of mortality on fertility rather than the other way round, and prefers the conclusion that both respond to some third set of variables. That interpretation may hold for the crude birth rates, but the analysis of the standardized fertility ratio appears to produce results consistent with a lag of fertility on mortality. The findings as a whole fall into the sort of pattern predicted by population-pressure arguments such as Dov Friedlander's. It will take both multivariate modeling of the relationships and their examination at a smaller scale than the department to tell us whether the resemblance is more than superficial.

Rudolf Braun, "Early Industrialization and Demographic Changes in the Canton of Zurich". The final essay in our set does not undertake the explicit multivariate modeling, but it does bring down the scale of analysis very effectively. Braun examines the uplands behind Zürich during the time when the city was becoming the center of an important network of rural and small-town industry. Like Vinovskis and van de Walle, Braun emphasizes the complexity of the processes he is portraying. But this time the complexity is historical and cultural: Braun wants us to understand how the specific institutions of landholding,

community membership, deployment of labor and so forth affected the responses of local populations to changing opportunities.

The contrast between peasants and proletarians in the Zurich region is a case study in collective vs. individual controls over fertility. For example, Braun shows that the lowland peasant communities legally imposed a numerus clausus: a fixed number of households permitted to live within their confines. That is an extreme (but not unique) version of the inelastic supply of niches which figures so importantly in Wrigley's arguments. Again, Braun argues explicitly that as industry spread through the uplands inheritance customs shifted significantly and people began taking advantage of the "entirely new possibilities of marriage and founding a household."

In consonance with other studies of rural industry in Europe, Braun shows the great rise in population densities as the previously marginal agricultural areas in the uplands turned to textile production in the eighteenth century. Although the direct demographic evidence is thin, Braun makes a good case for two related developments: the slowing of out-migration and the rise of nuptiality. He emphasizes the role of declining age at marriage in a presumed general rise of fertility. The evidence at hand, however, does not allow him to make a sure distinction between the effects of changes in nuptiality and changes in marital fertility.

In terms of Easterlin's setting of the problem, there are some intriguing indications that the relative cost of children actually declined as industry expanded and the possibilities of remunerative employment for youngsters proliferated inside and outside the household.

Braun hints that at times there was even a positive economic incentive to breed children for the wages they brought in. Although contemporaries regarded the apparent increase of nonmarital sexual activity as evidence of the moral decay brought about by economic change, Braun's observations raise the possibility that the declining relative cost of having children--inside or outside of marriage--played its part.

Braun's analysis brings out the way changes in family structure and fertility behavior can occur through the expansion and adaptation of well-established institutional forms instead of a sharp rejection of the old ways. One example is the widened use of the old institution of bundling--zu Licht gehen--as the context for premarital sexual experience. Another is the expansion of Rastgeben/Rastnehmen, an arrangement which originally set the quota for the child's contribution of labor to the household. By extension, the conventional price of that labor set the return parents expected from another household to which they farmed out a surplus child. Finally it came to be the amount a child owed the parents from wages earned elsewhere. In Braun's analysis, the evolution of Rast led to a situation in which the child's obligations to the household of origin dwindled to that single customary payment, in return for which the child was free to dispose of his time, person and remaining wages. If that is correct, Braun has identified one of the major mechanisms by which the expansion of wage labor promotes nuptiality and the establishment of nuclear family households.

The Papers as a Whole

My summaries of these rich, varied essays are no substitutes for the papers themselves. Nevertheless they suffice to show that

multiple analytic styles are competing for attention in historical studies of fertility and to identify some of the gaps and inconsistencies in the literature. Two kinds of analysis which are prominent in the literature are not directly represented in our collection: the broad, discursive treatment of major population trends and the preparation of demographic estimates for small populations via some type of collective biography. (That is not because this group rejects those ways of dealing with demographic problems; Easterlin, for example, has written a number of broad interpretations of American population history, Wrigley is one of the pioneers of family reconstitutions, and each of the other contributors has several styles of analysis at his command.)

In retrospect, it is especially disappointing that none of the essays directly reports work in collective biography. Family reconstitution and related procedures are absorbing a great deal of energy, producing important results and posing urgent technical and logical questions for the field. At the center of the difficulty is the effort to arrive at estimates of vital characteristics of large, whole populations through the tracing of those individuals or families within smaller populations--such as single villages--who remain in place and visible. At the present stage, any of three outcomes seems possible: 1) the development of record-linkage procedures which are sufficiently capacious and accurate to permit the tracing of large, mobile populations, 2) the development of means for detecting, estimating and correcting the biases and uncertainties introduced by reliance on different kinds of subpopulations, 3) a shift away from the effort to

estimate general demographic parameters to the analysis of differentials within well-enumerated populations. Our papers do not explicitly address these choices.

With that important exception, the essays raise all the major current issues in the historical study of vital processes. Some questions recur over and over: how much preindustrial populations were self-regulating, and how; what determines the alternative responses to population pressure; to what extent the forms of urbanization, industrialization and commercialization which prevailed before the growth of large-scale industry had reliable effects on nuptiality and fertility; the loci and mechanisms of the long-run fertility decline in western countries; the demographic processes involved in the transformation of populations from agrarian to urban-industrial.

Despite great variation in the relative weights attributed to tastes, costs and income, the papers as a whole substantiate the utility of Easterlin's categories for the analysis of the western fertility decline. The major difficulties, I think, are two: first, that Easterlin's formulation seems to assume that a couple are making decisions with a view to their own present resources and future satisfactions, whereas we have encountered a number of cases where a household or a kin group appears to make collective decisions with respect to its own continuity or the welfare of its senior members; second, that children are a potential source of income as well as a good to be consumed. The difficulties are not insuperable. Yet how they are met will significantly affect our ability to connect contemporary analyses of fertility decisions with historical studies of changing fertility.

Taken together, the papers offer an interesting commentary on the economic theory of fertility. The hesitations concerning Easterlin's formulation just mentioned apply to the economic treatment as a whole. While the decisions of couples in the light of the costs and benefits of children to them are a reasonable starting point, with respect to the problems which show up in our papers the existing literature gives too little place to returns from children other than the satisfactions to be gained from direct interaction with them and from vicarious participation in their accomplishments, and to the participation of compound households, kin groups and communities in the crucial decisions. We may admire the humanity of economists who emphasize the pleasure children provide; in addition to pleasure we need room for the incentives of pensions, patrimony and pecuniary return.

Our authors are uncertain of the value of "natural fertility" as a foil for the analysis of actual fertility. Yet they implicitly provide strong support for Easterlin's proposal to integrate the supply side into models of household fertility decisions. There is some division of opinion about how to do it. Easterlin proposes to sum up the essential processes through the relationship between natural and desired fertility in combination with the cost of fertility regulation. Wrigley, Braun, Berkner and Mendels, on the other hand, call attention to the collective controls over opportunities to marry and to engage in intercourse; the collective controls are awkward to handle either as constraints on natural fertility or as costs of fertility regulation; they may well have to be modeled separately. Lee, for his part, raises doubts that varying access to marriage is a significant regulator of

fertility. On conceptual, theoretical and empirical grounds, the papers lead to conflicting conclusions concerning the significance and character of collective controls.

A similar division of opinion arises in the discussion of pre-industrial population control systems. Most of the authors assume or confirm that many western populations, especially peasant populations, were self-regulating in the sense that their arrangements for marriage, sexual relations and childbirth kept their total numbers near some equilibrium above the minimum required for group survival but well below the maximum the environment could support. Lee offers the greatest dissent; he finds the entire preindustrial population strongly influenced by the exogenous component of mortality fluctuations--that is, the portion of changes in mortality which cannot be attributed to shifts in the real wage. He challenges the role of marriage in any such control system. And he assembles evidence against a long-run equilibrium wage set by social convention. It may be that one side or the other is wrong. It may also be that Lee's analysis applies to long, large swings in mortality and the self-regulation hypothesis applies in a shorter run. It will take close analysis of substantial time series to resolve the question.

Our authors make telling observations on the grand question of the demographic transition. A pervasive theme of the papers is the change in fertility which occurs as a consequence of pursuing the same family objectives under shifting conditions of mortality and employment: the fertility strategy appropriate for assuring an heir differs greatly from one level of mortality to another, the availability of employment for children affects the number of children desired without necessarily

changing general attitudes toward children, and so on. The papers (even Braun's, which makes the most of the changes in life style associated with industrial activity) stress continuities in the fundamental behavior patterns behind varying levels of fertility.

In that regard, they minimize the importance of ideological and attitudinal changes as prerequisites of the fertility decline. To take one small instance, Easterlin suggests in passing that the concomitance of changes in marital and non-marital fertility need not count as evidence against household-economic arguments: it is likely that fertility-control innovations originate and become widely available in response to demand from married couples, but once available help the unmarried to restrict births as well. The demand for fertility control among the unmarried is already high but ineffective; when it becomes high and effective among the married, the unmarried also benefit.

More generally, the papers lead to the conclusion that the "demographic transition" is simply one of several competing theories about the usual demographic effects of large increases in per capita income. In Easterlin's neat summary, the fundamental variables are:

1. demand for children, as outcome of
    a. tastes
    b. income
    c. prices
2. potential supply of children, as outcome of
    a. natural fertility
    b. survival prospects

3. costs of fertility regulation

   a. subjective

   b. market

In his argument, the three sets co-determine actual fertility. All three clusters of variables surely shift as large changes in per capita income occur. If important alterations in health conditions occur, either exogenously or as an indirect consequence of income changes, both components of the potential supply of children should alter as well.

The regularities within such a system may be very great. Yet there is no reason to think that the changes have to be highly synchronized. There is no reason to expect an invariant sequence running from high, varibale mortality and fertility to low, invariable mortality and fertility via a transition in which mortality decline leads the way. One of Easterlin's competitors to the demographic-transition model has fertility responding strongly and early to economic growth, thereby producing a substantial rise in actual fertility. Lee's analysis of eighteenth-century England contains the nucleus of a theory featuring mortality changes and shifting demand for labor. Instead of seeking general explanations for "the" demographic transition, the papers suggest, we should consider the demographic-transition idea one of the several available theories concerning the dynamics of large-scale demographic transformations.

One of the possibilities which arises from the discussion in this book is a sequence running from peasant society to proletarianization to <u>embourgeoisement</u>; in such a hypothetical sequence, peasant social arrangements effectively tune fertility to mortality, but restrict it

nonetheless. Proletarianization tends to raise fertility. But the acquisition of property and the investment in children's futures among all classes of the population, in this argument, checks fertility more decisively than ever before. To the extent that proletarianization is the dominant process we should not be surprised to find fertility remaining high as "modernization" proceeds. In this version, the fertility side of the demographic transition traces the expansion of capitalism from western Europe to the rest of the world.

I do not say that my co-authors make such an argument. I simply say that their own analyses make such an argument plausible. Their general teaching is this: the search for recurrent sequences may make some historical sense and may be of some heuristic use, but is an unprofitable way to go about building general explanations of fertility change. From this point of view, the most valuable historical analyses isolate the relationships among the variables involved in well-documented instances of shifts in fertility. The essays in this book show that available historical evidence can, indeed, help us to assess the validity of general explanations of demographic change.