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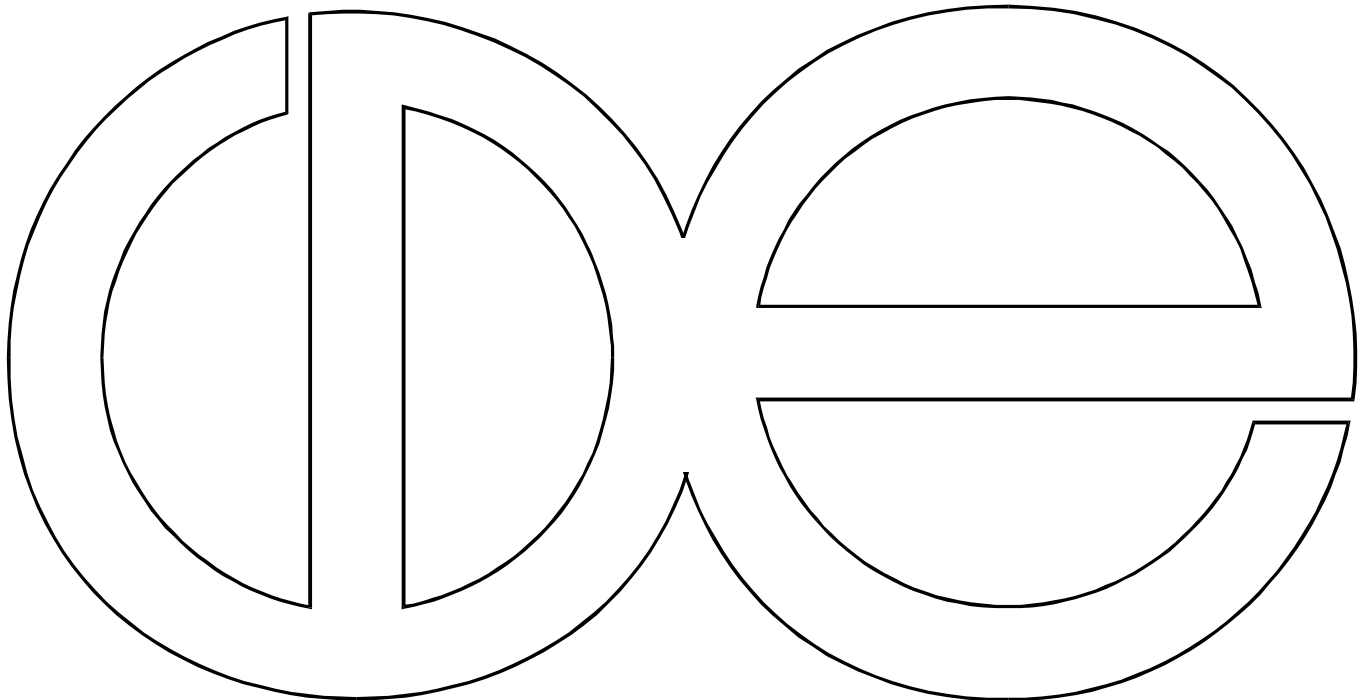
**Birth, Death, and the Survival of the Family**

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**CDE Working Paper No. 97-06**



## BIRTH, DEATH, AND THE SURVIVAL OF THE FAMILY

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### INTRODUCTION

This paper is about the changes in family and gender arrangements that are occurring in most of the developed world. In its least nuanced form, our thesis is that this approaching end of patriarchy is a consequence of the demographic transition. We argue that contemporary changes in a population's family, household, and gender roles result from a change in its renewal regime from high mortality, high fertility, and rapid population turnover to low mortality, low fertility and slow turnover. If our ideas are correct, they forecast further changes in family, gender and sexual arrangements in the developed countries and the initiation of dramatic changes in these areas in less developed countries. In some of the latter, the contention about these changes is likely to be fierce indeed.

This is a theoretical paper. We provide arguments about why our thesis makes sense in terms of the past research and accumulated data. Then we describe what it would mean for forecasting and for policy if our thesis were correct. Finally, we discuss the kind of inquiry that might lend some greater credence to our arguments.

How can one talk about the "cause" of the several changes in family and gender arrangements? There is surely no single and simple proximate cause of these changes in all places and at all times. The changes are probably endogenous with each other and with the other great trends

of this and the last century: the transition from agriculture, industrialization, urbanization, the rise of state power, increasing individual and collective knowledge, increasing productivity, increasing individual and collective wealth, increasing communications and mobility, the integration of a world market, the rise of a post-industrial service/information economy, etc.

Through all of this complex web of effects, the importance of change in sustenance arrangements for change in family/gender matters is stressed in much of our literature. The transition from heavy industry to a post-industrial economy is thought to make available more jobs that are “appropriate” for women. As work outside the home becomes better paid, fertility goes down, divorce goes up, women gain independence, and a power base is built for more far-reaching change in gender roles. Thus is family and gender change thought to depend on change in the dominant type of economic activity.

No doubt this exposition traces an extant path through the web of effects. For this tracing to be important however, we must ask whether manipulating the initial condition might be sufficient to change the outcome in a substantial way. Arguing the affirmative, Furstenberg and Cherlin suggest that if it were possible to prohibit the employment of women with young children, family and gender changes would be reversed (1991, pg. 102).<sup>1</sup> We agree that such a change would make a difference. We suspect, however, that marked reductions in marriage and fertility would be a more likely outcome than would a return to the previous family/gender system.

We think that the fundamental change is not economic but, in a certain sense, biological. We argue that change in the basic renewal regime of a society is a powerful intervention, one strong enough to change household arrangements, family relationships and the place of sex and of gender in the society. We argue that changes in the control of mortality and fertility set the conditions under

which individuals and couples make choices about family, fertility, co-residence and gender issues. We think control over mortality and fertility also constrain collective choices, judgments, understandings and rule-makings about what is best and proper for people to do. We hold that this individual and collective constraint is so strong as to render the manipulation of access to jobs ineffective in changing future family and gender arrangements.

These are not new ideas. For example, Kertzer (1991) summarizes the historical evidence for the place of demography in changing household structure; Watkins, Menken and Bongaarts (1987) conducted simulation experiments to show the effects of change in the reproductive regime on families; Davis and van den Oever (1982) discussed the effects of these changes on sex roles. Our contribution is to take these growing consensus in several areas of demography, to string them together, and to speculate about the consequences of the emerging construction of history.

We proceed as follows. First we briefly review the contemporary changes in family/gender/co-residence arrangements that we want to talk about. Then we review the changes in the renewal process that we think are generative of them. Then we present three arguments for believing that changes in renewal were of primary importance in generating the family/gender/co-residence changes. The first is a formal and neo-functionalist argument, the second an historical argument, and the third an argument about meaning. Next, we will discuss the implications of our understanding for future change in first industrialized and then in less industrialized countries. Finally, we will consider possible “tests” of our theory.

## DESCRIPTION OF THE CHANGES

### Change in Family, Gender, Sexual, and Household Arrangements

The changes in family arrangements that we refer to are those that are fairly common among developed countries and occurring since roughly 1960. They include increasing cohabitation, later age at marriage, later ages at childbearing, fewer children, increasing acceptance of childlessness, and increasing divorce.

Sexual activity and childbearing are decreasingly restricted to marriage, either practically or normatively. Premarital sexual activity, especially among women, has been rising throughout this century (T. Smith, 1994, table 1). Birth rates for unmarried women have been increasing (T. Smith, 1994, table 5). Marriage to legitimate a birth appears to be declining (T. Smith, 1994, table 4).

Cohabitation is a new, perhaps inchoate, institution which involves sharing living quarters with a sexual partner without being married. Such arrangements were quite rare prior to about 1965. At current rates of entering a cohabiting relationship a large fraction of the population will have experience with this institution over their life course (Bumpass 1995). Cohabiting experiences can occur before first marriage, between marriages, and after the last marriage has ended. The institution appears to serve a number of purposes ranging from a convenient and temporary living arrangement, to trial marriage, to a substitute for marriage. Children are likely to spend some time living with a parent who is cohabiting with someone they may or may not subsequently marry. For children to live so intimately with an adult who is not a relative by blood or marriage (and therefore not covered by incest norms) is, we suspect, a relatively new phenomena.

Despite the growth in cohabitation, there is an increase in people living alone. Both young adults and unmarried older women increasingly prefer to maintain their own living quarters. How different from Victorian times when added wealth could indulge a desired extended family co-residence (Ruggles, pg. 127-134).

Gender roles have also changed dramatically. First, roles for men and women are no longer defined primarily in terms of family and reproduction. The increase in female labor force participation and the likely impermanence of the marriage has blurred Parson's separation of intra-family roles into instrumental and expressive. Increased educational attainment for women and increasing occupational equality both serve to diminish the separation of gender roles in the extra-familial context.

The role of providing child care, however, remains markedly segregated. Women are still expected to be responsible for the care of their children even though they are also expected to do market work. Men have not taken over a share of these responsibilities to any very great degree, nor have they been required to do so by any social mechanism.<sup>2</sup> Child care for many is a grab bag of fly-by-night, ad-hoc and transitory arrangements. None of the major institutions of society in the United States have undertaken to ensure the stability and reliability of such services.<sup>3</sup> We shall return to this issue subsequently.

Over all, we think it clear from the foregoing brief review that these changes in family, gender, sexual, and household arrangements evidence a society much less concerned than previously with child bearing and child rearing.

### Changes in the Human Renewal Process

What can one say briefly to this audience? Fertility and mortality were quite high throughout the world. They are now much lower nearly everywhere. Accepted wisdom is that for much of history mortality showed high inter-annual variation with expectation of life at birth averaging between 25 and 35 years. In the long run, natural fertility existed during this period and yielded

modest growth rates. Our secure knowledge about historical mortality levels outside Europe is modest. The little we know about historical China suggests a pattern similar to Europe's (McNeill, 1977, pg. 259-269). European crisis mortality declined after about 1750. Certainly "normal" mortality began to decline after about 1800 (Perrenoud, 1991). There is a debate among scholars about the cause of the pre-Twentieth Century improvement of perhaps 10 life years. There is little argument about the impact of increased medical knowledge and public health efforts on the 30 or so life year improvement in the West that occurred in this Century and the even larger gains made in other parts of the world. Dramatic declines in infant mortality in Europe beginning about 1885 have been an important part of the European demographic story (Morel, 1991).

Fertility in Europe and in much of the rest of the world has declined also. When and how is well documented; why is still a matter of debate. Coale's trinity of preconditions seem widely accepted, however; that choice be thinkable, that reduction be desirable, and that means be available (Coale, 1972, pg. 65). In discussing the effect that the spread of contraceptive knowledge may have had on the initiation of the fertility decline in Britain in about 1885, Teitelbaum (1984, pg. 200-210) remarks on the importance of a celebrated criminal case against publishers of a tract describing methods of contraception. The publishers won and the tract sold very widely. Teitelbaum wonders if the publicity of the trial may have brought control into the realm of thinkability for many people just as it brought wide sales of the book. Thus, perhaps, knowledge that the knowledge exists changes the "way things are" for people and hence the thinkability of fertility control. We wonder if something of the same sort didn't happen in the 1960's in the course of the introduction of the pill. Media coverage emphasized the efficacy of the method, its "proven in medical trials" status, and described taking the pill as a routine part of every day life, like taking vitamins or brushing your teeth.

We think this changed understanding of the “way things are” made fertility control thinkable in a wide array of new situations. We shall return to a discussion of “the way things are” subsequently.

### THREE ARGUMENTS

#### A Formal and “Neo-functionalism” Argument

The argument we make is that change in the basic renewal regime of a society leads to change in its household arrangements, family relationships and the place of sex and of gender in society. We see these social and cultural changes as an adaption to the changes in the basic population biology of human life. Here is how we think it works.

By the term, basic renewal regime, we mean the rate of population turnover when the population is not growing or declining very dramatically. In much of demography it is the rate of growth of a population rather than its turn-over that is at issue. Growth is extremely important to the structure of a population. Its effects are important to the changes we discuss here but we shall not discuss them in this paper. In the short-run, populations may grow or decline dramatically. In the mid-run, a society’s birth and death rates must be such that growth or decline is modest. And, of course, long-run extremes in either direction are eventually unsustainable.

Within the constraints of modest growth, regimes may vary considerably from ones whose modest change in size is brought about by a near balance between high mortality and high fertility to those achieving the same modest change through the balance of much lower vital rates. The former are rapid-turnover societies; the later are slow-turnover ones. Demographic transition theory was a story about the change from a rapid to a slow turnover regime.

It is clear from the mathematics of renewal that the populations of fast and slow turnover



societies are different in distinctive ways. The population generated by a rapid-turnover regime has a short expectation of life at birth and an age pyramid that is wide at the bottom and quite narrow at the top. Birth intervals for women of reproducing age are short and women surviving to the end of their reproductive years will have had many births. For example, a level 5, West model life table for females has an expectation of life at birth of 30. In such a population, about 45 percent of girl babies don't survive to age 15. Zero growth requires a gross reproduction rate (GRR) of about 2.14. Thus, a cohort must produce about 4.3 children for every girl baby who is born to it. The 55 percent of girls who reach 15 will live about 25 years in the reproductive ages. Such young women must average about 7.7 babies, 4.3 for herself and 3.4 for her sister who has already died. That is about one child every three and a quarter years of her reproductive life. Although many babies die in infancy, there are still a good many living children to be cared for, about one child less than 4 years of age for every 2 women in the reproductive ages. Overall, in a rapid turnover population, even absent growth, a substantial part of women's life is occupied with reproduction and child rearing. A model 4 life table with its expectation of life of 30 may seem a harsh world to consider. Nonetheless, it is probably quite close to the typical human experience over the past seven or eight thousand years. An expectation of 30 is included in the ranges for hunting and gathering societies, proto-agricultural ones, classical societies, the middle ages and even higher mortality eighteenth-century European societies (Livi Bacci, 1990; Hassan, 1981; Acsadi and Nemeskeri, 1970). Indeed, France's expectation of life was between 25 and 30 until about 1790 while Russia's was probably in that range as late as 1910 (Vallin, 1991, pg. 48-9). Many less developed countries were in that range until 1920 (Gobalet, 1989, pg. 56). Slow turnover societies are a very recent phenomenon.

In slow-turnover societies, expectation of life at birth is long. The number and timing of births

for women is a matter of choice but a low-mortality, slow-growing society will average few births per woman. In a level 25 West Model Female Life Table, the expectation of life at birth is about 77 years. That life table is reasonably appropriate for many developed countries today. To maintain zero growth, the GRR will be about 1.007. Every girl baby who is born must produce two children. The probability she will reach the reproductive years is about .995. Then she has some time to accomplish these births because her expected life years in the reproductive ages are fairly long, about 29 years. The burden of reproduction, then, is markedly reduced from a level 5 population - a child every 14 years rather than a child every three and a quarter years. Child care burdens, however, are reduced much less than the reproductive burden due to change in infant and child mortality. In a level 25 population there is about one child less than 4 for each 3 women in the reproductive ages. In a slow turnover population, then, a rather small part of a women's life is occupied with reproduction *per se*. From traditional to modern society, the burden on women in their reproductive years is reduced by a factor of nearly 4. Child care, however, is reduced by only half.

These differences between high and low turnover populations are necessary outcomes of the turnover rate. They set conditions for the social and economic arrangements of the two types of societies. The arrangements most likely to be affected are those closest to the reproductive process; family, household, sexual behavior, and gender roles. In a high turnover society these arrangements must support, encourage, and even force women to accomplish the reproductive work of the society. We suspect that the social forces focusing women's lives on reproduction would have to be not only strong but quite robust; *i.e.*, able to reassert their strength following massive social upheaval. Recall that crisis mortality with its attendant social disruption was common in the world until early modern times.

In a low turnover society the social arrangements of the high turnover world would, in the long run, be disastrous, leading to a high growth rate with all of the attendant problems. Rather, these arrangements in a slow turnover society must suppress rather than encourage “natural” fertility. But not too much, lest fertility fall below replacement on a permanent basis. The child-care burden, however, hasn’t reduced a great deal from high turnover times because the babies that are born survive. The child bearing division of labor is rather fixed biologically, but child care is not and, hence, is more rearrangeable. Low turnover societies are generally more economically developed than high turnover ones and so provide more ways that women can spend their lives.

There is another important demographic difference between the two kinds of societies that affect both their productivity and the options for both men’s and women’s activities. In high turnover societies, with their rather short life expectancies, the human capital that can be generated through experience is modest. Investments in training have a brief period in which to pay off. The average age at death for those reaching age five in a level 5 life table is about 48. The historical experience of the group as captured in stories, rules of behavior and cultural practices combined with the social capital of connection to others through kinship, obligation and tradition is, perhaps, of greater value to the community than the sum of its human capital. In this situation, individualism doesn’t make much sense.

In low turnover societies with their long life expectancies, experiential human capital is lost more through depreciation and obsolescence than through mortality. Training has a long payoff, even at older ages. The average age at death for those reaching age 5 in a model 25 life table is about 80. The value of social capital available to an individual is probably modest in comparison to that of human capital. Others are a less important resource and individualism becomes a viable way of life.

To summarize this argument, we say that the reproductive regime in existence between the Neolith and the industrial revolution - perhaps especially the high level of infant and child mortality - required a set of social arrangements that permitted/forced women to spend most of their adult lives carrying, delivering, and caring for babies. With the contemporary change in the reproductive regime, women are increasingly free to do other things. Indeed, due to their increasingly valuable human capital, they run the risk of being forced to enter the work force.

### An Historical Argument

Here is the outline of this argument: Concomitant with the Neolithic revolution the renewal regime of humans changed as the ecological niche of the species was transformed. Both infant mortality and fertility increased as settlements became larger and more permanent. Concomitant with this reproductive change were changes in the social arrangements of human life, ones that can be characterized as the beginning of the patriarchy. As arrangements about household, family, gender, and sex changed in response to renewal change in the Neolith, so are they changing again in response to even more dramatic changes in the renewal regime of recent times.

The stylized fact is that at least two demographic transitions occurred in human history (Handwerker).<sup>4</sup> The first transition happened along with the change from hunting and collecting as the primary way of making a living to the establishment of settled agriculture. It began about ten thousand years ago and took several thousand years to complete. Around 1800 we began another transition. It lasted into the middle of this century in the West, but is still underway in much of the world.

The hunting and collecting way of life occupied the largest part of human existence,

continuing for perhaps 250,000 years. As the glaciers receded about 12 thousand years ago, between eight and 10 million humans lived on earth.<sup>5</sup> If we say that humankind had existed for about 250,000 years by that time, the growth rate would have been about .00003 percent a year.<sup>6</sup> Such a low growth rate implies that fertility and mortality were nearly in balance in preneolithic times. Both were probably lower than under settled agricultural conditions but high by modern standards (Hassan 1981, Cohen and Armelagos, 1984).<sup>7</sup> Under this regime, the population grew very slowly but spread over much of the globe.

Although adult mortality in hunting and gathering bands was high due to accidents, quarrels, and the rigors of the lifestyle, death rates from other causes were more moderate because the population was divided into individual bands that were quite small, between 11 and 33 individuals (Hassan, 1981 p. 92).<sup>8</sup> The infectious diseases that kill the young have a hard time taking up residence in a small population, often needing several hundred hosts to persist. Mortality due to infection was probably moderate for adults as well. Traveling bands leave their waste behind as they move and so are less likely to spread disease through contamination.<sup>9</sup> Polluted water is unlikely to be consumed for very long. Malaria, which has probably killed more people than any other disease, depends on infected mosquitos. The mosquito population remains infected only if human hosts are continually available. Finally, sick band members must have often been lost or left behind as the band moved. That served as a kind of automatic quarantine.

Observations from contemporary hunting and collecting societies suggest that the necessities of continual movement, a consequent dependency on late weaning, the resulting slow renewal of ovulation after birth, and perhaps the simple physical exertion required by the lifestyle, meant that fertile women had new babies only about every four or five years.<sup>10</sup> No doubt infanticide contributed

to this spacing as it does among contemporary hunting and collecting societies (Harris and Ross, 1987, Howell, 1979).

We have little direct information about the social arrangements extant in these pre-Neolithic bands. Family and kinship patterns, sexual mores, gender roles and child care arrangements can be assessed only by inference from funereal remains and by analogy to still-existing hunting and gathering groups. Evidence from the archeological investigation of sites in which remains span the transition to agriculture suggests some communalities (O. Bar-Yosef and A. Belfer-Cohen, 1993, B. Gebauer and T.D. Price, 1993, T. Molleson, K. Jones and S. Jones, 1993, T. Molleson, 1994). Preneolithic bands appear to be more egalitarian than do agricultural communities. Evidence is the shift from similar graves in the Preneolithic to ones showing clear status differences in the treatment of the deceased and the material included with the body during agricultural times. Although bones in Preneolithic times often show evidence of periodic malnutrition, there is little variation among people in a given site. In settled agricultural sites, however, evidence of chronic malnutrition appears in some skeletons but not at all in others (Cohen, 1989).<sup>11</sup> Further, the patterns of growth and wear begin to show clear differences by sex with the development of agriculture (Molleson, 1995). Evidence from remaining art objects also suggests a growing interest in gender difference that is concomitant with settled agriculture (Cauvin, 1985).

Anthropological investigations of still-existing hunting and gathering societies suggest that these pre-Neolithic bands were loosely organized. Making a living in subarctic groups is usually not too difficult and does not take much time (Sahlins, 1972; Kelly, 1992). Migration of individuals among bands in the same language group is usually easy and common. The group is usually not divided into separate “households,” there being few permanent houses. Although there is

considerable variation among bands, gender roles are not as important in contemporary hunting and collecting bands as among agricultural populations. Decision-making is often informal. The influence of individuals varies with the topic under discussion and the person's abilities in that area.<sup>12</sup> However, the frequency of resource stress and the development of inter-band warfare appear to lower women's status among hunting and gathering groups (Hayden, *et al.* 1986). It is as though war, hard times, and perhaps the resulting difficulty of migration, was required for the beginning of the patriarchy.

Two changes preceded the development of agriculture. First, hunting and collecting bands began to exploit a more heterogeneous diet of food from both flora and fauna. Second, more of the hunting and collection was for storage rather than for immediate usage. These two circumstances appear to have lead to, or covaried with, a more settled existence. Storage locations were regularly revisited. Heavier tools for food preparation were developed and left at the storage site. More permanent housing was constructed. Thus, settlement seems to have preceded agriculture.

Along with settlement came demographic change. First, the cessation of travel lessened the constraints on fertility. The intervals between births seem to have shortened a good deal as the physical burden of travel, perhaps carrying a child, lessened. The rise in fertility seems to have continued with the development of more agriculture. Nursing time probably shortened as gruel was available as an alternative baby food (Cohen, Ammerman & Cavalli-Sforza). With postpartum infecundability reduced, birth intervals probably shortened further. It seems reasonable to suppose that the demand for children grew since children can be useful in agricultural pursuits at an earlier age than possible in hunting and collecting societies.

Although fertility expanded considerably during the transition to agriculture, the rate of population growth increased only modestly because an increase in mortality absorbed much of the

addition. The development of agricultural villages provides a different ecology for humans and their micro predators than that affecting hunting and collecting communities. In settled communities, human waste can collect and cause trouble. Village communities were larger than hunting and collecting bands. The average human group became several hundred rather than twenty or thirty. Many diseases can become endemic in a population of that size.<sup>13</sup>

Settled agriculture, then, increased infant and child mortality as well as fertility. Adult mortality, however, declined somewhat, due probably to the less dangerous life and the greater stability of the food supply. The demographic change was to typically higher levels of overall fertility and mortality, somewhat increased growth, and somewhat longer life expectancies after about age 15 (Hassan).<sup>14</sup>

With village life came increasing complexity of social organization. Over considerable time, it would appear that gender roles separated more dramatically. Due to increasing infant mortality, women spent much of their time producing and caring for the many children necessary for the village to survive. Hierarchical arrangements grew and decision making was increasingly by the head man and his councilors rather than by consensus. Thus, according to our argument, did the Patriarchy begin.

What are the weak points of this argument? First is the central assertion that infant mortality increased with settlement, thus requiring higher fertility for survival. Paleological evidence for increased infant deaths in the Neolith is uncertain at best. Indeed, an important fact is that many fewer bones of infants survive to be examined than would be expected on the most generous estimates of infant death rates.<sup>15</sup> So that central part of the argument is theoretical; based on presumed effects of the changed ecology on morbidity.



A second weakness in this argument is that it talks little about causes that compete with changing reproductive regimen in effecting the origin of patriarchy. After all, the neolith saw the origin of many things; the back-breaking work of farming, the storage of food stuffs against lean years, the consequent need to protect those stores, the resultant concentration of the capacity to exercise force, the development of hierarchical organizations, and, as Engels knew, the development of social classes. No doubt the ways origins of power, patriarchy, and class are intertwined are complex indeed. Nonetheless, the capacity of renewal change to set the conditions under which these other changes must occur seems strong to us.

### An Argument About Meaning

We have made two arguments holding that dramatic change in the reproductive regime is likely to lead to a change in the family, gender, and sexual arrangements of a society. Neither of these arguments is “causal” or “structural” in its nature. The formal, neo-functionalist argument is an argument about necessity. Change in the renewal regime is necessary for there to be room in women’s lives for other activities. The historical argument is one of analogy - renewal change (along with lots of other changes) changed family, gender, household, and sexual arrangements before and hence could do it again. Our last argument is about meaning. It may be the strongest logically since it is an argument about both necessity and sufficiency but is perhaps rhetorically the weakest for this audience. The argument gains both its logical power and its rhetorical weakness by shifting focus from the facts of the arrangements to their meanings; from the *explicandum* to the *explicans*, as it were. The family, gender and sexual arrangements of the old regime were, by this argument, imbedded in a web of meaning that included an understanding of the current renewal regime as “the

way things are.” As high mortality and high fertility are no longer understood as “the way things are,” the meanings of the social arrangements changes. As sexual intercourse no longer carries a high risk of yielding a child, the act is understood differently. Sex can be engaged in for pleasure and comfort rather than procreation. It is now appropriate in circumstances and with people that aren’t “right” for child raising. Since it is no longer necessary “to marry or to burn” of lust, we ascribe a different set of motives to ourselves and others for marrying. Indeed, with mortality reduced, the production of too many children is seen as more dangerous than the production of too few. Thus, non-procreative sex is no longer seen as a waste of a society-preserving resource.

The power of this argument is that it speaks to the issue of whether or not the changes in family, sexual, and gender arrangements could, in any real sense, be reversed. Let us grant that a sufficiently totalitarian government might force a return to former family, gender and sexual rules.<sup>16</sup> This argument claims that, even under such an extreme circumstance, it is not the old regime that would have returned, but rather a caricature, a masque, a pretense of patriarchy. That is simply because the forms and behaviors would not mean the same things to the participants as they did in the old regime. In the old regime, children were the nearly certain sequelae of sexual activity. The passion between the sexes remained unabated. Children needed care if they were to survive. All of this was widely regarded as God’s way of ensuring that his people be fruitful and multiply. A forced return to patriarchy would be something entirely different because the rules would not be thus rationalized in terms of “the way things are.”

## IMPLICATIONS

### In More Industrialized Countries

There are few reasons to believe that the pace of change in family, gender, sexual, and household arrangements will slow very much over the next half century. We expect change under way to continue and for change in new areas to develop. It is likely to take some time to sort out the viable accommodations to the new “way things are” from ones that don’t work out.

We suspect that the definition of family in society will continue to be contentious. Change in the renewal regime has diminished society’s interest in the family as a high-volume baby factory. If the production of lots of children is not the touchstone for being a family, what is? Is it the fact that the principal adults have sexual relations? That certainly is a central part of the traditional idea of marriage but we don’t think that will serve under the new “way things are.” Because sex is no longer a life or death matter, it is not that important to the collectivity any more.<sup>17</sup>

Whatever becomes of the family, we suspect that marriage is in trouble.<sup>18</sup> Why should society provide special rights to married couples as apposed to other pairs or groups? Why privilege a contraceptively sterilized married couple over cohabitators without children or a lesbian couple who have children?

If society doesn’t need baby factories to the same degree that it did, does it have any remaining interest in families at all? Perhaps it needs them to provide child care services. Recall that, although the reproductive burden on women reduced considerably in the renewal transition, the child rearing burden on society reduced only modestly. Women’s investments in education and career have persisted during the past 25 years. Thus the opportunity cost of one-on-one child rearing by the mother will continue to be high. Goldin (1990) has noted that given the convergence in men’s and women’s college graduation rates, college major and postgraduate education, the gender gap in earnings will likely narrow in the future. Thus, we expect to see continued innovation in the settings

accepted as appropriate for child bearing and child rearing.

Lesbian couples' rights to raise children are currently in the news. Certainly there is a lot of law to be worked out in this sector. What are the rights and responsibilities of a non-parent gay partner with respect to the child? What are they with regard to a male sperm donor in such a situation? Could/should he take on parent-like rights and responsibilities? How are his rights and responsibilities different from those of a father now divorced from his wife?

Such issues and ones associated with gay men's interest in raising children catch media attention but less gaudy possibilities may be at least as troublesome and are likely to be more frequent. What of older couples or singles who wish to raise a child? Should there be an upper limit to the age at which one can undertake an adoption? How about the use of in vitro fertilization to permit older women to conceive? Should some kind of trust requirements be necessary? If a trust can be the ultimate parent, why not a corporation? Will fathers ever become the custodial parent in a divorce in any numbers? Will single men ever want to adopt a child in any numbers? Questions and possibilities for how child care will work out abound.

In the foregoing we explored the ways a developed society might deal with its relatively unrelieved child care burden by modifying the nature of the family. Other institutions could serve also. Public schools, public and private sector organizations, and employers are all used to one degree or another.

In summary, despite distraction about such new social elements as cohabitation, gay marriage, and the death of the family in general, we believe that the major task facing developed societies is that of finding arrangements for child care that provide safe, healthy, human capital-increasing places to grow up for all of the children.

### In Less Industrialized Countries

A number of Asian countries provide an interesting transition between the previous, quite U.S.-based discussion and those countries whose renewal transition is not complete. They are aggressively industrialized and their renewal transition is complete but is comparatively recent. These countries - Japan, Korea, Taiwan, Hong Kong, Singapore - each has had a relatively strong patriarchy. In each, female labor force participation has increased and the beginnings of the dissolution of an old regime are visible. The patriarchy of Confucianism that influences a number of these countries is often cited as a serious cultural constraint on the rapid spread of new family, gender and sexual patterns. It will be important to see how rapidly change progresses in these areas as a leading indicator of the strength of cultural persistence in general. If change appears to be limited to labor force participation and little else, then perhaps the more extensive change occurring in the West happens only in the context of the historical European family regime. If the Asian gender transition is more extensive, then the forecast for change - perhaps quite disruptive change - in other countries is more certain. We expect that change in the Islamic countries will be the most vigorously resisted. We would expect fairly rapid change in Latin American countries. Sub-Saharan Africa, whose renewal transition is barely begun and whose ancient family system is, if Goody (1983) is to be believed, quite different from that of all other areas of the world, is the place with the most uncertainty.

The one thing that is certain about future family and gender change in the less developed world is that it will take place in the context of knowledge about what has happened in the West. The model of western women's new lives may inspire women in the developing world. It may also strengthen the resolve of keepers of the local patriarchy.

## SUMMARY, CONCLUSION, AND HOW TO TELL IF WE ARE WRONG

It is not clear how one would tell if we are right. It never is in this sort of work. Our theory is falsifiable, however, by prediction failure in historical time. It will have many chances to be wrong before the historical range of its predictions is exhausted. For example, if the Christian Right in this country manages to put the family/gender revolution to rest by political action, then we are surely wrong. If the tigers of the East maintain Confucian families while taking advantage of women's human capital in the labor force, then we are wrong. If some strong patriarchy is able to reject the contraceptive revolution and family/gender change occurs anyway, then we are also wrong.

Of course we could also be proved wrong by historical data that we have overlooked or is beyond the scope of our knowledge. Certainly an investigation of contemporary data is also necessary. For example, if we are to argue that changes in family and gender roles are occurring in all nations and in all cultures, then we must show that women's labor force behavior is changing, for that is a good marker of the beginning. Not surprisingly, the sexual division of labor throughout the world roughly parallels other national characteristics, such as fertility rates, and a nation's "stage" in the demographic transition.<sup>19</sup> Women's labor force participation is lowest in Muslim societies that strictly segregate the sexes (such as Saudi Arabia [9%] and Algeria [8%]). In developing countries that are not Muslim (e.g. Brazil [30%]), men also greatly outnumber women in the labor force. In fully developed capitalist societies (such as the United States [49%], South Africa [40%] and Japan [45%]), women's rates of labor force participation are somewhat closer to men's. They are even closer in Scandinavian countries (such as Sweden [55%] and Iceland [59%]) which provide paid leave for new parents and child care for those who are employed. Finally, the gap between men's and women's labor force participation rates are smallest in communist, formerly communist and socialist

societies (China [70%], former Soviet Union [60%], Mozambique [78%], Poland [60%]), reflecting the Marxist ideology that all adults have a right and obligation to work (United Nations 1991:85, chart 6.7). Clearly an investigation of what is going on in these Marxist and formerly Marxist countries is necessary.

To summarize, we hold that the changes in family, gender, household and sexual arrangements that are so prevalent in the West and so imminent in many other countries are the consequence of the renewal transition that has occurred primarily in this century. For the traditionalists who mourn the old, often comfortable, family ways, we say their loss is the consequence of lower mortality, especially infant and child mortality. We note that the reproductive burden on women is reduced markedly by the renewal transition but the child care burden on society is only modestly reduced. Societal fitness in the new era will require a solution to this problem. If we are right, fundamentalist countries with strongly established patriarchies are likely to see themselves as deeply threatened and react in a fashion consistent with that view.

In the Garden of Eden story of Genesis and many other ancient, near-eastern sources, Adam and Eve were expelled from the (perhaps paleolithic) garden for their sins. Woman was cursed with the recurrent pain of childbirth and became the servant of the man. Man was cursed to earn a living by the sweat of his brow from the reluctant soil, more prone to yield thorn than grain. Our story would have you believe that Woman has outlived her curse. It only remains for her to live with Man's, which she has taken on in exchange.





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### Endnotes

1. Furstenberg and Cherlin use this as an example of an unacceptable policy for strengthening the family. They certainly do not approve or recommend it nor do they think it could be effected. They do, however, appear to believe that, were it effected, it would work.
2. Perhaps state and federal efforts to ensure the payment of child support is a counter example.
3. Other countries, notably Scandinavian ones, have done a better job.
4. For genetic evidence and speculation about an even earlier demographic transition or crisis, see Gibbons, 1995 and Takahata, Satta and Klein, 1995. The speculation is based on the unusually high genetic homogeneity of **homo sapiens** as compared to chimpanzees. Perhaps genetic variability was reduced through a mortality crisis that left very few survivors and hence a reduced gene pool.
5. Here we have used the estimate of Coale, 1972. For a review of the several ways of making such estimates, see Hassan, 1981, pp. 193-208. He estimates eight or nine million. Birdsell, 1972, estimates 2.2 million for the upper paleolithic period. Durand's (1977) "indifference range" for this period is five to 10 million.
6. Recent evidence from genetics suggests that homo sapiens separated from its most recent ancestor in the past 250,000 years. Several investigation of the diversity of human genes suggests this more recent speciation as well as an initial breeding population of about 10,000. (Paabo, 1995; Dorit, Akashi & Gilbert, 1995; Gibbons, 1995, Takahata, Satta, & Klein, 1995.) I have, therefore, calculated the annual growth rate as  $1,000^{**}(1/250,000)$
7. Much of the demographic data for this earlier period has been developed by demographic archaeologists working with the bones of the dead (Acsadi and Nemeskeri, 1970; Hassan, 1981; Welinder, 1979; Cohen, 1977,1989; Cohen and Armelagos, 1984). That work is difficult and fraught with the possibility for error. Finds are few for any given period and area. Deciding how old the person was when he/she died is hard. Standard demographic models are used to turn the distribution of persons by age at death into estimates of mortality rates. These models depend on fertility having been about equal to mortality during the period covered by the deaths or, more complexly, on growth being constant (Horowitz, Armelagos, and Wachter). These estimates also depend on the religious practices of the deceased group. The culture is assumed to require burial of all persons regardless of age, sex, status, etc. That seems a particularly doubtful assumption in the case of infants. Estimates from these shaky assumptions, however, can be compared with estimates made from much better data for still-existing hunting and collecting cultures. The ancient and the modern estimates are fairly similar (Hassan, tables 7:18,7:19, p118; Cohen 1989, pg. 75-129). The outcome is some reasonably secure knowledge and many areas of disagreement
8. The energy economy generated by the density of game and usable vegetation and the distance one must travel hunting for it yields the upper limit. The lower limit insures enough adults for efficient



cooperative hunting

9. Howell(1979, pg. 48) cites !Kung informants' observations that it is time to move ones house when the insects become well established or the old one begins to smell.

10. There has, of course, been considerable debate over preneolithic birth rates. Perhaps the classic assertions from archeological evidence is Hassen (1981), Handwerker (1983). Recent discussion of contemporary hunting and gathering groups focuses on their heterogeneity. Campbell and Wood (1988) find no difference in birth rates between hunting and collecting groups and village agriculturalists. Bentley, Goldberg and Jasienska (1993) return to original sources for the societies in the sample, correct the data, and find greater fertility among agriculturalists. They believe that Cambell and Wood erroneously included a number of transitional societies among the agriculturalists.

11. But see J. W. Wood et al. (1992) on problems of inferring prehistoric health from skeletal samples. See also P. Smith (1995) for a balanced assessment of the data from one important transition site.

12. The direction of a causal arrow between increasing social inequality and the transition to agriculture is currently under considerable debate. Some scholars hold that agriculture is a response to the demand for surplus foodstuff for self-aggrandizement by a developing group of "big men" (see Gebauer and Price, 1995). Others hold that the causal arrow is in the reverse direction (see Keeley, 1995, Cohen, 1989, pg. 17-20).

13. For a contrary view see Pennington and Harpending (1988). They hold that "traveler's diarrhea" took a considerable toll.

14. See Pennington (1996) for a differing view.

15. See P. Smith (1995) for how this bias affects estimates for the Natufian period.

16. The possibility of such an enforced return to "respectability" must be taken seriously in the light of Mosse's discussion of the Nazi era and Milgram's (1974) work on the obedience of everyday people to authority. Perhaps Foucault (1990, pg. 25-26, 149-150) suggests the contrary, however, as do Altemeyer's (pg. 167-190) findings that students having high scores on an authoritarian scale are as "modern" in their sexual behavior and attitudes (except towards homosexuality) as are students having low scores.

17. Indeed, we would expect to see a decline over time in society's concern with controlling things sexual. Remaining issues about sex among "adults" will center around public health and the use of physical and social force. What "adult" means for these purposes is likely to be a matter of considerable contention.

18. For more details on how this decline is underway, see Bumpass, 1995.

19. The proportion of women who are “economically active” in 1990 are shown in brackets for each country. Note that the United Nations defines the “economically active” as employed persons, and excludes those engaged in unpaid family work, such as gathering fuel or water, laboring in a cottage industry, etc. The large sex differences in labor force participation figures in some countries undoubtedly stems from the undercounting of women’s economic activities and a sexual division of labor that limits women’s access to paid work and confines them to unpaid domestic work (Reskin and Padavic 1994:26-27).

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