

their lives. The mean age of entry into first marriage was between 23 and 28 years and the proportion remaining single at age 50 was from 10–25 percent. The second, which we shall designate East European, combined moderately early marriage (mean age at first marriage from 19–22 years) and a small fraction (from 2–5 percent) remaining single at age 50. The third pattern, which we shall designate Asian and African, entails early and universal marriage, with a mean age at first marriage of 18 years or less, and with the proportion single at age 50 less than 1 percent. The West European pattern was found throughout Northern and Western Europe. As Hajnal noted, the Western pattern of entry into marriage was typical of parts of Europe that lay to the West of a line drawn from Leningrad to Trieste; the earlier marriage characteristic of Eastern Europe prevailed to the East of this line. The Asian-African pattern has characterized the populations in those two continents (outside of the Soviet Union) until at least the middle of this century (with the exception of Japan, where age at marriage was increasing early in the century). Age at marriage in areas in America and Oceania settled or strongly influenced by Europeans generally show a pattern of marriage consistent with either the East European or the West European pattern. In the subcontinent of India, the traditional pattern of age of entry into marriage included a large proportion of child marriages (age of bride 10 years or less), which complicates the analysis of the relation between age at marriage and fertility, since the child brides did not begin cohabitation until a second marriage ceremony presumably after attaining puberty. The registered age at marriage and the reporting of marital status in censuses which make possible the estimation of mean age at first marriage classify the young girls who had been married in childhood as currently married.

In Western Europe, the characteristic late age at marriage had a major effect on the fertility of the West European populations. Reduced prevalence of the married state in the population was indeed the means of reducing high fertility that was advocated by Malthus. The combination of late marriage and high proportion remaining single in Western Europe meant that only 50 percent or sometimes less of the women of potentially fertile ages, between 15–50, were in a current marriage. The difference in age of entry into marriage between Western Europe and Eastern Europe can be explained by the different characteristic forms of households. In Western Europe, a separate household was typically formed for a newly married couple. Long established households contained only one married couple plus their children, a small proportion of other relatives, and a large proportion of "servants". In Eastern Europe, there were characteristically joint households; a young married couple typically lived with parents or occasionally other relatives. Thus a typical Eastern European household contained a married head, his wife and children, other married couples, and relatively few "servants". The servants were not persons who engaged in domestic service to relieve the housewife, but typically engaged in the

principal economic activity of the household, be it farming or handicrafts. The system of employment of servants meant that a high proportion of young adults spent a period working in some household other than their household of origin before marrying. This custom promoted a later age at marriage. In fact, the prevalent norms favoured some degree of economic independence before marriage could take place, through inheritance of property or attainment of a good occupation. Not only did this system of household formation make possible a much later age at marriage than the joint household system, it also made possible in adverse economic conditions an additional delay of marriage and consequent reduction in fertility. In their history of the English population from the middle of the 16th to the middle of the 19th century, Wrigley and Scofield show that the substantial variations in the crude birth rate and the total fertility rate that occurred over this long interval were almost wholly accounted for by variations in age of entry into marriage and proportions remaining single, and that marital fertility remained almost constant.

THE INITIATION OF THE DELIBERATE CONTROL OF MARITAL FERTILITY DURING THE DEMOGRAPHIC TRANSITION IN POPULATIONS WITH DIFFERENT PATTERNS OF MARRIAGE

Before modernization or modern economic development, the rate of child-bearing within marriage was not often subject to deliberate control. Marital fertility in different pre-modern societies has not been the same despite this absence of voluntary control. Traditional societies did not as some demographers once asserted maintain fertility near the biological maximum. In these pre-modern societies, fertility has been limited by various customs and some biomedical influences. The customs include, first of all, variations in the duration of breastfeeding. Nursing a baby postpones the resumption of ovulation and can greatly extend the interval between births in contrast to early weaning or early substantial supplementation of mothers' milk. Second, some populations follow prohibitions on resumption of intercourse after a birth, commonly during the period of breastfeeding, but sometimes even for longer periods. These customs are not included in the category of deliberate control of fertility, because generally such customs are followed after the first birth just as much as after the fifth or sixth. Third, because of venereal disease, and some forms of tuberculosis, fecundity of some populations is limited. Louis Henry defined the voluntary control of fertility as the modification of behaviour in a way to reduce the probability of conception following the birth of the last child that the couple wishes. Demographers use the word parity to designate the number of births that a woman has had, and Henry's definition of voluntary control requires that such control be "parity-related". Non parity-related customs that reduce fertility are often found in populations with the Asian-African pattern of entry into marriage and are less frequent or less intense in populations with the European patterns of

marriage. This fact means that the greater prevalence of the marital state among women of childbearing age in the Asian and African populations does not always, and frequently does not at all, connote fertility as greatly in excess as that found in the Western populations as would be expected from the greater prevalence of marriage.

At the Office of Population Research at Princeton, a study of the decline of marital fertility in the more than 600 provinces of Europe was conducted from 1963 to the late 1970s with the collaboration of a number of European as well as American demographers. Part of the project was to determine the date in each European province at which the fertility of married women declined by more than 10 percent below the pre-modern level on the way to the sustained and large reduction which has occurred in nearly all of the provinces. This research gives an opportunity to see whether there is any relation between the different patterns of age of entry into marriage and the date at which marital fertility begins to decline. There is a general relation: in the provinces to the West of Hajnal's line, characterized by late entry into marriage of the Western European pattern, 81 percent experienced a 10 percent decline in marital fertility before 1910, and to the east of this line, only 30 percent experienced a decline before 1910.

I have examined the mean age at first marriage and the date of the 10 percent decline in marital fertility in the 15 Republics of the Soviet Union. Three of these republics (Estonia, Latvia, and Lithuania) are on the Baltic Sea and have clearly western culture, including the West European pattern of late age of entry into marriage. In all three, the mean age at first marriage around 1900 was more than 25 years and in all three, the 10 percent decline in marital fertility occurred before 1900. In the other republics within European Russia (including Georgia) mean age at marriage in 1900 lay between 19.5 and 22.5 years, in the East European pattern. In these areas, a 10 percent decline in marital fertility below its former plateau occurred between 1908 and 1928. In the non-European Republics, in the Transcaucasia and Central Asia, the female mean age at marriage around 1900 was between 16.2 and 18.2 years, in the range of the non-European pattern of early marriage found in Asia or Africa. In these republics, a 10 percent decline in marital fertility occurred after 1940 and not until the 1980s in Central Asia.

There were also characteristic changes in nuptiality itself during the transitional decline in marital fertility. Populations that exhibited the West European pattern of late marriage all experienced a substantial decline in the mean age at first marriage after 1930 or 1940. This decline was shared by the Baltic Republics of the Soviet Union as well as the populations of Western Europe proper. (In the 1970s and 1980s, there has been an increase in the mean age at first marriage in some Western populations, the effect primarily of the development of cohabitation outside of marriage sometimes followed by entry into marriage itself.) During the decline in

marital fertility in those populations with the Eastern European pattern of entry into marriage, there has typically been little change in the mean age. Finally, in the Asian populations that have experienced a major decline in marital fertility, age at first marriage has risen. Indeed when the traditional mean age at marriage was 18 years or less, an increase in age at marriage to 19, 20, or more, preceded the systematic decline in marital fertility.

These associations between age at first marriage and decline in marital fertility do not necessarily imply that late marriage itself is the cause of an early decline in marital fertility, or that early marriage is a direct cause of the lack of the voluntary control of fertility within marriage. Rather the social and cultural conditions that influence the age of entry into marriage also can be themselves barriers to or facilitators of the initiation of voluntary use of contraception or abortion.

The difference in the formation of households between Western and Eastern Europe exemplifies the differences in tradition that may affect both age of entry into marriage and the possibility of initiating voluntary control of marital fertility. As described earlier, the western pattern of household formation included a high proportion of young persons leaving the parental household and spending a period as working members of other households prior to entry into marriage. These customs lent themselves to greater independence of young persons, especially women, from domination by the parental family and the experience outside of the home including female participation in the non-family labour force was conducive to a stronger female voice in family decisions after marriage, including the initiation of contraceptive practice, which is usually more directly in the woman's interests. In the joint family households more common in Eastern Europe, the development of voluntary limitation of fertility was delayed.

On the other hand, the very early marriage of the Asian and African pattern almost certainly connotes that marriages are wholly arranged by families. The bride moves directly into the groom's household and comes under the dominance of the husband and his family. With the onset of modern economic development, the combination of more female participation in education and often in labour force activities outside of the home erodes the universality of very early marriages arranged by families and sets the stage for the beginning of the deliberate control of marital fertility.

MEAN AGE AT FIRST MARRIAGE AND CONTROL OF MARITAL FERTILITY IN INDIA

Because of the idiosyncratic custom of child marriage, the mean age at first marriage in India calculated from the proportion single at each age was less than 14 years until 1941, and then increased about one year each decade to reach 18.4 years in 1981. Fertility in India did not begin a general decline until after 1960, but the

estimates of fertility made by the census for 1980 show a substantial reduction from earlier years. In the intercensal period 1971–1981, the calculated mean age at first marriage for women in the states of India ranges from 16.3 years in Rajasthan to 21.8 years in Kerala. The total fertility rate in 1980 based on the fertility survey after adjustment by the so-called P/F method ranges from 3.3 in Kerala to 6.2 in Rajasthan. The correlation between the mean age at first marriage and the total fertility rate is $-.89$. The first inference that comes to mind about this close relationship is that later marriage reduces the length of exposure to the risk of childbearing and is a direct cause of the variation in total fertility rates between the early-marrying and the late-marrying populations. The special report on fertility in the 1981 census lists age-specific marital fertility rates. From such age-specific rates it is possible to calculate an index of the degree of control of fertility among married women. This index is a measure of the rate at which marital fertility declines with increasing age; in particular it calculates how much more rapidly marital fertility declines with increasing age of woman than in a population with no parity-related control fertility. Louis Henry showed that the age pattern of marital fertility in different populations not practicing a consequential amount of contraception or induced abortion is very similar, although populations with early weaning and other factors leading to high fertility have higher marital fertility rates at all ages. The degree to which fertility falls more rapidly with age than in these uncontrolled populations is a measure of the prevalence of controlled fertility. If fertility is “natural” the calculated value of this index of fertility control is zero. In the States of India in 1980, the index ranges from a low of $.54$ in Rajasthan to a high of 1.86 in Kerala. The index of control is even more tightly correlated with the singulate mean age at marriage than is the total fertility rate. The correlation is $.90$. This strong tie between the extent to which marital fertility is voluntarily controlled and the mean age at first marriage means that not only do the populations in late marrying states have lesser exposure to the risk of childbearing because of having married later; they also reduce their fertility below what it would be in the absence of voluntary control to a greater extent than in the early marrying states. The tendency for the initiation of fertility reduction to be related in Europe and within the Soviet Union to traditions of late marriage, and the tendency for early marrying Asian populations such as China, Korea, and Taiwan to increase age at marriage prior to the introduction of extensive voluntary control of fertility is reinforced by this very strong relation between mean age at first marriage and the extent of voluntary control within the states of India in 1980.

A factor to which I would like to call attention to in accounting for the connection between differences in age at marriage and differences in the initiation of voluntary control of fertility among married women is the influence of differences in culture and traditions that influence both age at marriage and the receptivity of a

population to voluntary fertility control. It was noted earlier that the household structure found in Western Europe largely explains the West European pattern of late marriage, and also was favourable to the adoption of birth control within marriage. The prevalence before marriage of service in families other than the family of origin provided a period of independence between leaving home and getting married that both postponed marriage itself and gave a higher degree of autonomy to young people, perhaps facilitating their acceptance of birth limitation when this became perceived as advantageous. In fact this custom of economic activity in homes other than the parental home may have facilitated the early economic modernization of these societies, both by providing savings that the unmarried apprentices could accumulate as a source of capital investment and by producing a more flexible labour force through apprenticeship.

The kind of joint households prevalent in Eastern Europe associated with marriage earlier than in Western Europe but substantially later than in Asia or in Africa was associated with later initiation of birth control than in Western Europe but earlier than in Asian and African populations. The importance of culture and traditions in influencing both age at marriage and the adoption of voluntary control of fertility is illustrated by the similarity in the evolution of age at marriage and in changing marital fertility in different republics within the Soviet Union and in neighbouring populations outside of the Soviet Union that showed similar initial patterns of age at marriage and overall fertility. Thus, the Baltic republics of Latvia and Estonia, which had ages at marriage around 1900 very similar to the Scandinavian countries, also shared with the Scandinavian countries an earlier decline (before 1900) in the level of marital fertility. Also the other European republics of the Soviet Union, which shared around 1900 the mean age at first marriage with neighbouring Eastern European countries showed a similar evolution in the mean age at marriage (very little change) and the decline in marital fertility. Finally, the Central Asian republics of the Soviet Union which shared with the western provinces of China a mean age at marriage of less than 18 years in 1900 and around 1930 experienced an increase in the mean age at first marriage up through 1970 comparable to the increase in parts of the Chinese population and also, like China, no sustained decline in marital fertility during that period. The comparability with China after 1970 is contaminated by the powerful effect of a programme introduced by the authoritarian government of China to increase age at marriage and reduce marital fertility. On the other hand, the large social and economic changes that occurred within the Soviet Union after the Revolution did not erase the similarities in nuptiality and fertility between areas in the Soviet Union and neighbouring populations outside of the Union.

Tim Dyson and Mick Moore have analyzed the influence of kinship structure and female autonomy within India on the demographic behaviour of the different

regions of that country. They note that patterns of marriage and inheritance and other traditions that affect the relative autonomy of women are quite different in northern and southern India. In particular, in North India marriage customs include a strong emphasis on exogamy: bride and groom must be unrelated and reside in different villages with a premium placed on young brides because of the value of chastity and the necessity to pay a higher dowry as the prospective bride gets older. The removal of the bride from her parental home and village increases her subordination to the husband's family. In contrast in the South, custom calls for various forms of cross-cousin marriage. The married couples are not only related but also typically come from the same area. The bride retains ties with her parental family and also has a higher degree of autonomy after marriage. In the South, the practice of *purdah* is much less common, the proportion of females literate is higher and also the participation of females in the labour force is higher. The higher literacy, higher rates of enrollment in school and higher rates of labour force participation are factors that generally promote both later marriage and greater practice of contraception. Age at first marriage is higher and the level of fertility is lower respectively in Kerala and Tamil Nadu than in the northern states for different educational categories as well as in the population at large. In short, the culture that has for a long time involved a greater degree of autonomy for women has been associated with more education and employment opportunities for women, but has had in addition an independent effect on postponing marriage and favouring the introduction of contraceptive practice.

THE INFLUENCE OF CULTURE AND TRADITION, GENERAL MODERNIZATION AND FAMILY PLANNING PROGRAMMES

A general theme of this lecture is that traditional patterns of behaviour antedating the period of social and economic change constituting modernization influence the typical age at marriage and the existence of such determinants of nuptiality as the prohibition of widow remarriage and differences in the proportion remaining celibate. These factors, including such elements as the typical steps in the formation of households, methods of arrangement of marriage and rules of inheritance, affect women's autonomy and influence the susceptibility of the society to the acceptance of voluntary family planning as well as affecting the pattern of nuptiality. The general relation between the prevalence of the Western European pattern of late marriage and the tendency for an earlier start in the decline of marital fertility, the similarity in patterns of nuptiality and fertility in the different republics of the Soviet Union and neighbouring populations outside of the territory of the Union and the close association between mean age of entry into marriage and the degree of control of marital fertility in the states of India in 1980 all support the importance of culture

and tradition in patterns of nuptiality and in the adoption of deliberate family planning.

Another example is the strong similarity in the development of mean age at first marriage, the total fertility rate, and the index of control of marital fertility in the People's Republic of China, Taiwan, and Korea from an early date during the traditional demographic regime to the mid 1950s and to around 1980. These populations all share a culture derived in some degree from the traditional culture of ancient China. In all three populations, mean age at marriage had risen from the traditional value of less than 18 to a substantially higher value by the mid 1950s, and rose again to over 23 years by around 1980. In the mid 1950s, however, overall fertility had either risen or declined only slightly from its traditional level; it then declined very extensively by 1980. Each of these populations has features that are not characteristic of most less developed countries. For example, the expectation of life at birth around 1980 was 67 in China and South Korea and 71 in Taiwan. In South Korea and Taiwan there had been an extraordinary spurt of economic development so that by 1982 per capita income was over 1900 dollars in Korea and over 2400 in Taiwan, but only about 310 dollars in China. In the People's Republic, on the other hand, the decline in fertility was concentrated in the years after 1970 as was the steep increase in mean age at marriage. Both of these changes were largely the result of a very strong programme encouraging later marriage and lower fertility instituted by an autocratic government that could influence individual behaviour at the village level. Despite such differences, the very large increase in mean age at first marriage and the very sharp decline in marital fertility in these three populations is partly accounted for by their common cultural background leading to a greater receptivity to postponement of marriage as the society undergoes profound changes and also greater receptivity to the deliberate control of marital fertility. In Taiwan and South Korea, these changes were in a large part the result of general social and economic change, although facilitated by effective government programmes providing encouragement and assistance in the adoption of family planning.

The relatively late and lesser decline in fertility in India, and also in Bangladesh, and the failure of fertility to fall even into the mid 1980s in Pakistan are in part the result of the different cultures found in these countries, as well as the different pace of modernization. The decline in the total fertility rate in Bangladesh from about 6 around 1980 to around 5 in 1989 is being attributed to the adaptation by the national family planning movement of a successful experiment in reducing fertility in the villages in the Matlab area. The Matlab area is part of the section of Bangladesh that has been the locus of a long-standing research effort to reduce cholera and diarrheal diseases. In this project there are health visitors who have made contact with all of the households in a village on a frequent basis to determine

the prevalence and causes of diarrheal disease and to promote ameliorative measures. A few years ago, an experiment was started by training local women in a series of experimental villages to introduce education on family planning and to provide contraceptive services. In control villages, the regular health services continued, but there was no addition of this contraceptive experiment. There was a dramatic reduction of fertility in the experimental villages that was not matched in the control villages. In the recent past, the national planning programme in Bangladesh has adapted certain features of this birth control experiment, and a large-scale fertility survey conducted in 1989 shows a reduction from about 6 to about 5 in the total fertility rate from 1980 to 1989 and an increase in the prevalence of contraception among married women of childbearing age from about 13 percent in 1979 to 31 percent in 1989. But Bangladesh represents a partial exception from the general pattern of that an increase in mean age at first marriage from the very early Asian-African pattern antedates the decline in marital fertility. The singulate mean age at marriage in Bangladesh was only slightly above 16 years in 1980.

In summary, culture and tradition help determine both age at marriage and the initiation of birth control, in ways that have generally been related. Effective programmes as in China where the government had a high degree of control over individual daily behaviour, or in Bangladesh where a highly organized health programme provided an unusual environment for education and voluntary modification of behaviour, can speed the change.

Comments on “Some Relations among Cultural Traditions, Nuptiality and Fertility”

As usual, Ansley Coale presented a complex socio-demographic issue with clarity and deceptive simplicity. He interprets the European historical demographic transition in a novel way, linking various household production modes associated with different cultural traditions with patterns of reproductive behaviour. More importantly, Coale provides new hypotheses and speculations about the causes of such different behaviours, and projects his findings to the present context of the developing countries. It is these speculations that are most intriguing and will be the focus of my remarks.

Coale's main points may be stated as follows: The European historical experience could be summarized in terms of three basic models of behaviour: West Europe, East Europe and Asia models. Communities are grouped accordingly. Fertility-related variables differ among communities depending on which model they belong to. Three fertility-related variables were examined: age of entry into marriage; percent of females single by age 50; and percent currently married in age 15 – 50. As Table 1 illustrates, the average value of these variables shows signifi-

Table 1

Models of Marriage and Fertility Behaviour

	Behavioural Models		
	West Europe	East Europe	Asia
I. Fertility-related Variables			
1. Age of Entry into Marriage	23 – 28	19 – 22	≤ 18 Years
2. Percent Females Single by Age 50	10 – 25	2.5	< 1 Percent
3. Percent Currently Married 15 – 50	< 50	≥ 50	> 50 Percent
4. Fertility Control	Deliberate	(Mainly Breastfeeding)	
II. Explanation			
1. Different Forms of Households	Nuclear, Some Relatives, Many Servants	Joint with Few (not Many) Servants	More Limit- ed by Custom

cant variation among the three models. Coale also observes that fertility control was more deliberate in the West Europe than in the other two models.

Coale's main explanation is that different forms of households are responsible for producing different patterns of age at marriage. The main form of households in the West Europe model is nuclear, but it is the presence of many servants, especially female, that provides the explanation for delayed marriage. To Coale, servants are mainly apprentices, engaged in various types of economic production.

This is an interesting hypothesis that needs elaboration. Servants (*Gesinde*) played an important role in the economic development of the German empire during the 19th century. Actually, the institution of "servants" was a continuation of serfdom. Thus, although serfdom was abolished in Germany in the early 19th century, its abolition was accompanied, in 1810, by "servant's ordinance" which applied to ordinary servants as well as other labourers permanently employed and living on the employer's estate. According to Dawson,¹ 1914, pp. 280-300 "labourers are bound to render obedience to a degree which differs little from unrestricted compulsion,...., so that, in effect, though the name of serfage is no longer used, this condition exists in spirit and almost in fact". These social conditions, especially with the introduction of the Law of 1854 that virtually institutionalized the system of servants as serfdom, could explain the dynamic force underlying the industrial development of Germany, its fast urban growth and the virtual de-population of its rural east (Prussia). For example, Russell² (1934) in his historical review notes that "... men at the end of their military service refused to return to such semi-servile conditions, and sought employment in industry ... (the result was a) ... labour shortage ... was only met by a large seasonal immigration of Russian and Austrian Poles ... while the urban population was quadrupled.

Hence, to interpret fertility and nuptiality transitions in terms of a system of servants, independent of the complex socio-economic and technological structure and its dynamic inter-regional consequences, could be an over-simplification at best.

Coals's explanation based on the presence of servants implies that regardless of its social form and the distribution of rewards, the development of "human capital" presents opportunity costs to reproductive behaviour. For the various behavioural models, however, there must be a large variance within each model. Some communities may be engaged in the early introduction of industrialization with different patterns of urbanization and apprenticeships. Do such communities exhibit similar reproductive behavioural patterns? Indeed, the West Europe model as described by Coale exhibits severe social inequalities, especially with regard to the status of women. It is also the model that exhibited a "favourable" reproductive

¹Dawson, J. H. (1914) *The Evolution of Modern Germany*. London: T. F. Unwin.

²Russell, Bertrand (1934) *Freedom versus Organization*. New York: W. W. Norton & Company.

pattern, i.e., delayed marriage and deliberate contraceptive behaviour. It is the pattern that current development efforts try to evade.

But as Coale observes, diversity exists among the present developing countries. He illustrates with the examples of Taiwan, South Korea and the People's Republic of China, where fertility declined and age at marriage increased. Coale indicates that in the case of the first two, postponement of marriage and receptivity to the deliberate control of marital fertility were mainly a result of general social and economic change combined with an effective public family planning programme. In the case of the People's Republic of China the change was mainly a result of a strong programme. This is true, although it probably ignores the potential impact of years of social transformation in the People's Republic of China. It is not evident, however, what lesson, if any, could be projected from the historical experience of Western Europe to the experiences of these three cases. We may only agree with Ron Freedman's conclusion that there are various paths for fertility decline. It is here, however, that Coale provided us with a challenge.

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Comments on
"Some Relations among Cultural Traditions,
Nuptiality and Fertility"

Among the many honours, titles and achievements of Professor Coale listed by Zeba Sathar in her introduction there is one omission: he was my thesis supervisor.

There is a more serious introductory remark: all the factual items in the Coale paper, except for the most recent news from the 1989 all country fertility survey in Bangladesh, have been in the public domain; some for quite a time. Yet, it is the putting of all these diverse facts into a coherent theoretical framework, that makes an important intellectual event out of the presentation of the Coale paper to this conference.

There are a few minor points to be cleared before I offer my main comments. Professor Coale makes much out of the high correlation (negative .89) between the mean age at first marriage and the total fertility rate. One should be suspicious of such high correlations in the social sciences. They are often spurious as outcomes of multicollinearity. I tell my students to be cautious in the social sciences above .60 or so. In this case, one has the intuitive feeling that the two variables share the same underlying concept: extended exposure to intercourse with low contraceptive use. Somewhat inconsistently, I am ready to accept the high correlation (positive .90) between the singulate mean age at marriage and the index of fertility control based on the age pattern of marital fertility due to Louis Henry. Here, the two variables appear on common sense grounds to be different (though ultimately both may depend on the level of development in the participating societies) and the high .90 becomes acceptable.

I am less certain about my disbelief, but have to state it for your attention, in the role of so-called 'servants' in families, which John Haynal and Ansley Coale ask them to perform. Could the number of 'servants' and the difference in their role really be enough to explain the age at marriage in Western Europe being later than in Eastern Europe?

The paper is an important contribution to the traditional use of demographic transition, but note that the presentation is not described as the demographic transition theory. No claims are made for the theory of demographic transition as theory with predictive power and other paraphernalia typically associated with theories.

Among many, the snipers that were taking liberties with the theory, there is one memorable occasion by Kingsley Davis at the IUSSP conference in Liege 1973 (never published?). Theory or no theory, it is still a useful framework for the presentation of the process of transition.

Now, for some of the important matters. Age at marriage is made to be the *deus ex machina* determining the fertility level of a society. The importance of other influences is admitted with some frequency: literacy of females, female labour force participation, rates of school enrollment, prevalence of contraception and the like, but the age at marriage is paramount. In fact, it could be demoted a notch or two to the level of an intermediate variable or proximate variable, while these other variables could be treated with greater respect as the ultimate variables.

However, these comments are still minor quibbles in comparison with the main power of the all-embracing theory emanating from the Coale paper. The early age at marriage in Eastern Europe and in Northern India have in common the tighter family circumstances, less open to influences from outside the family, while the higher age at marriage in Western Europe and in Southern India, particularly Kerala, arises accompanied by practices opposite to the high domesticity observed in Eastern Europe and Northern India.

My last point is probably quite controversial. The extensive declines in fertility, experienced by the People's Republic of China, Taiwan and Korea are put in the paper firmly against the traditional culture of ancient China and such features of the three societies, that are not characteristic of most less developed countries. These were high life expectations at birth, extraordinary spurts of economic development in two of the three, and very strong interference by an autocratic government in one of the three. Contrary to Frank Notestein's expectation cited by Caldwell (1990) coercive family planning did not bring down the government, while bringing down the birth rate, though we know at least one other Asian country where family planning coercion contributed to the bringing down of the government. In the demographic transition of the three countries, the role of traditional family planning was no more than a facilitator.

In Bangladesh the reported contraceptive use increased from 13 percent in 1979 to 31 percent in 1989 (and the TFR moved from 6 to 5). This appears to have been due to an innovative programme linking traditional family planning with persuasive health measures. Note that this message went out from Matlab surrounded by an area with 60 percent contraceptive use. The Matlab success is a condemnation of traditional family planning.

The conclusion which I would draw from the experiences of the three countries and that of Bangladesh is that they support the scepticism of those who doubt the effectiveness of the mechanistic introduction or imposition on a society whether from outside or inside. When I wrote to that effect in 1964, my then chief and

senior colleague insisted on a formal disassociation from my stand.

Back home, where did traditional family planning bring Pakistan? The litany of promising endeavours is long and the ways to measure their successes were many: NIS, PGS I, PGS II, PFS, PLM, PDS I, PDS II. Yet, after 30 years the annual population growth continues to hover around 3 percent and the percentage of children under age 15 increased from 42 (or 41) to 46 (or even 47). Notestein (1964) in a review of family planning programmes presented in Colombo in 1964 estimated that in Pakistan it would 'take a few more years before the national birth rate is affected'. Well, several lots of a few years passed and the birth rate stayed unaffected, did it not?

On the world stage the confusion is no less. More than \$ 200 million in programme funds are mobilised annually and such fertility declines as are taking place occur largely somewhat independently of the enormous, prestigious and picturesque international activities. There are other misunderstandings in these activities: a recent family planning prize was shared between Alfred Sauvy (since deceased) and the island of Mauritius. Sauvy was against traditional family planning and suspected in it an Anglo-Saxon conspiracy to preserve Anglo-Saxon hegemony. Mauritius controlled its fertility since 1950, when the birth rate of 50 came down to 41 by 1958 [Meade *et al* (1961), p. 41] and continued its steady decline. Consequently, its population size never reached the projected 3 million [Meade (1961) and Titmus (1961)]; nor will it ever reach the 50 million envisaged for 2100 (*The Times* of London, 4 December 1961). Its population size is hardly more than one million and its proportion under 15 is hardly more than that of Canada (20 percent). Mauritius continues to be a successful society [Lutz (1990)] and economy [World Bank (1990)] and is probably embarrassed by the belated recognition of its early success.

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