THE END OF DEMOGRAPHIC TRANSITION IN AUSTRALIA

LADO T. RUZICKA
JOHN C. CALDWELL

AUSTRALIAN FAMILY FORMATION PROJECT
Monograph No.5

THE END OF DEMOGRAPHIC TRANSITION IN AUSTRALIA

Lado T. Ruzicka

John C. Caldwell

Australian Family Formation Project Monograph number 5

Department of Demography
Institute of Advanced Studies
1977

THE AUSTRALIAN NATIONAL UNIVERSITY
CANBERRA

LIST OF TABLES

LIST OF FIGURES

PREFATORY NOTE

THE AUSTRALIAN FAMILY FORMATION PROJECT

MONOGRAPH SERIES

Since 1970 the Department of Demography at the Australian National University, Canberra, has devoted a considerable proportion of its time and resources to a major study of family and fertility characteristics and change, the Australian Family Formation Project. One aspect of this work has been the publication of a series of monographs of which this is the fifth.

This monograph differs from the others, which had specific focuses, in that it attempts to put the history of fertility change into perspective by drawing on new analyses as well as on the body of information which has been accumulated in the last seven years. The analysis is essentially historical and longtitudinal. In a paper available separately, its findings have been employed in an attempt to provide a theoretical framework derived from the Australian experience but pertinent to explaining the mechanics of demographic transition more generally (J.C. Caldwell and L.T. Ruzicka, "The Australian Fertility Transition: Destabilizing a Quasi-Stable Situation").

The monograph has a slightly unusual structure which we found satisfactory for our purposes. The first and last chapters are more theoretical and are concerned with the long-term changes and the contemporary situation respectively. The five intervening chapters provide more detailed statistical demonstrations to fill out the frameworks of the other two chapters. This method of work was devised partly because of the collaborative effort between the two authors, and does mean some retracing of the period covered. However, it allowed a comprehensive framework to be erected and then tested, and we found this to be the most satisfactory method of approach for our purpose - that of outlining and explaining the nature and

sequence of fertility changes.

We wish to acknowledge the help of Pat Quiggin and Pat Caldwell in finding the evidence, and with Wendy Cosford in preparing the manuscript for publication, Nancy Kuskie for some of the calculations, Pat Mooney, Barbara Addison and Daphne Tadd for typing, and the latter for seeing the book through the stages of publication.

L.T.Ruzicka and J.C.Caldwell
Canberra, 1977

CHAPTER 1

THE FORCES OF CHANGE

History and an historical analysis

The fertility of married women, and subsequently as a result the average size of completed families, began to decline in most Western and Northern European countries and in English-speaking countries of overseas European settlement about three-quarters of the way through the nineteenth century.[1] Now, a hundred years later, fertility has fallen to replacement level; apparently, either the transition is complete or stable fertility levels will be achieved again only in conditions of declining population.

That is the essential picture of the first major segments of the world's population to begin the movement which subsequently led to families most commonly formed by only two births. It can be filled out in further detail. Marital fertility had been slowly falling in France from at least the late eighteenth century and the experience gained there may have helped to trigger the subsequent North-west European decline (Sauvy: 1966, p.362). Fertility had been falling since before the middle of the nineteenth century in Ireland and the United States, but this had been solely the product of marital changes. After the middle of the twentieth century other countries in Eastern and Southern Europe, as well as Japan, experienced sufficiently rapid fertility declines to achieve fertility levels just as low as those populations which had begun the demographic transition sooner, as had Central Europe earlier in the century. In the 1930s the fertility decline in many Western countries seemed to be complete, while within another two decades apparent fertility behaviour suggested that fertility levels might stabilize well above replacement levels.

This fertility decline may well have been the most momentous event of our times. It was itself evidence of profound changes in society, while, through the mechanism of reduced

family size, it catalysed much more change. The nature of that change will be investigated in this book by focusing attention on a single country which has experienced the century-long fertility decline, namely Australia.

The central argument of the study is that the Australian and other fertility transitions can be understood only in historical terms - in terms of the destabilization of a quasi-stable system which would eventually regain at least quasi-stability and of changes during the period of transition which were themselves inevitably the precursors of further changes. We will attempt to examine here the conditions and parameters of change, the interplay of the adjustments under way, and the evidence now available on the likely nature of the new quasi-stable system. Much of the demographic and other data employed are from official sources, but will be supplemented to enable an examination of the restoration of quasi-stability by evidence from specially conducted surveys in 1971 and 1975-6.[2]

Such an approach makes one particularly sceptical of cross-sectional explanations of fertility transition - of those attempts to catch the complex process at a single point in time and to explain even transient fertility differentials in terms of other socio-economic differentials in such a way as to imply that these explanations also offer an understanding of the mechanics of the fertility transition itself. Explanations of this type have been attempted by a number of economists, especially during the 1960s and 1970s (Becker: 1960; a number of writers in Schultz: 1973; Leibenstein: 1974; Easterlin: 1969). Becker employed income and fertility information to argue that the rich have fewer children because even their extra income or wealth is insufficient to compensate for the additional expenditure they feel compelled to make in creating the "higher quality children" who alone will provide the utility - "the source of psychic income" - that their parents demand. Leibenstein emphasized more the taste patterns of social sub-classes which he called <u>social influence groups</u> and the marginal utility of additional children in competition with other satisfactions that the tastes of such groups dictate from time to

time. Easterlin attempted to join the work of economists and sociologists, arguing that "attitudinal research needs expansion to permit assessment of the relative strength of the desire for children", that atrength obviously being influenced by financial considerations for, "with regard to prices, fuller information is needed to establish the relevant prices of childbearing and rearing". The economic theory has little predictive use, for reasons that will become clearer as the history of demographic change is examined. It does have a certain value, however, in drawing attention to the nature and implications of the child-centred aspect of the modern family, no matter how small it is.

The demographers and sociologists have more to offer to an historical interpretation. Cultural diffusion of family planning ideas and practices has been implied by numerous attempts to demonstrate that societies characterized by declining fertility exhibited fertility differentials by socio-economic class and education as well as by urban-rural residence and other geographical criteria. This emphasis has recently been revived by the demonstration that the spread of increased fertility control in Europe found difficulty in crossing cultural boundaries, especially linguistic ones (Coale: 1973). Ryder and Westoff have moved ever closer to a position where they regard the history of fertility change as largely a battle between the risk of childbirth on one hand (determined largely by the proportion of the reproductive span spent in marriage and by the efficiency of available contraception and the access to abortion) and the economic constraints imposed by desired living standards and the ability of the labour market to cater to those desires held by young adults of marriageable age (Ryder and West: 1972; Ryder: 1973). They have supported this argument by stressing the role of "unwanted" children ("unwanted" in the sense of fertility and not of subsequent presence in the household) in determining fertility levels and of the reduction in their number. They have increasingly moved from attributing much signifiance to stated ideal family size, describing this measure as "a compound of fantasy before the fact and rationalization after the fact" (Ryder: 1973, p.60). This view not only

runs counter to the economists' desire to have a measure of perceived utility of children, but has brought a strong rejoinder from sociologists who have attempted to measure what they regard as such important motivations (Blake and Das Gupta: 1975).

The classical view of fertility transition is that it has been occasioned by an increasingly rational attitude to life, one aspect of which is a purposive control over fertility, arising partly from the need to fit in with the more stringent demands and greater opportunities of industrial, urban life and partly from the individualistic rationalism engendered by such societies (Notestein: 1945; Notestein: 1953). One of the authors has criticized this generalization as an explanation of the beginning of fertility decline in developing countries (Caldwell: 1976) and has argued instead that there are basically two types of society, one where there is no economic disadvantage in unlimitedly high fertility but where upper limits are in fact set by social constraints, and the other where economic advantage would dictate unlimitedly low (or zero) fertility were not a social floor imposed.

The same approach will be adopted here. It will be argued that North-western Europe and the societies that were colonized from it passed the point centuries ago where unlimitedly high fertility yielded indisputable economic gain, largely because of changes in family structure and in the direction and nature of obligations between members of the family. Western Europe had in fact reacted demographically to this situation by limiting itself to only moderately high fertility, largely through the mechanism of the female age at marriage, perhaps as early as the seventeenth century (Hajnal: 1965) at the time of what has been described as "The First Demographic Transition" (Coale: 1973). Even in the eighteenth and nineteenth centuries, considerable numbers of children were no great economic disadvantage; and fertility levels may have been no higher than were needed to give a reasonable assurance of any growing up.[3] Nevertheless, the situation was one of only quasi-stability. Fertility could be at least partly controlled by marriage and to a lesser extent (amongst most groups) by actions within

marriage.[4] Where children's positive advantages counted for more and where feeding and housing was a less serious problem, as on the American and Australian frontiers, birth rates could be allowed to rise (Malthus: 1798; Malthus: 1824; Goode: 1963). However, it is possible - even probable, at least in the Australian situation - that the rise in fertility was less a tribute to the advantages of children in such situations as to the advantage of having wives and hence the relaxation of attempts to delay female marriage and the beginning of child-bearing.

It is most improbable that this quasi-stability in fertility levels was upset by growing economic rationality, especially in an immigrant land like Australia, settled by people who had moved around the world to improve themselves materially - a society in which the pragmatic concern for bettering one's position in life can be read in a host of surviving documents. Certainly the stability was upset quite dramatically, and it will be the purpose of this examination to draw attention to parallel and perhaps causal changes and to chart in more detail the later and more contentious movements in fertility.

The beginning of decisive fertility change

Probably the most important evidence about the nature of the Australian fertility transition is that provided by its timing. In fact it is difficult to explain away the quite extraordinary implications of that timing.

Coale drew attention to the ease with which changing fertility patterns spread through a single linguistic unit (Coale: 1973) but he did not at that time relate these observations to the most geographically dispersed linguistic group, the English-language one. There has, in fact, been an astonishing similarity between the reproductive behaviour of Britain, the United States, English-speaking Canada and New Zealand.
Coale and Zelnik had already drawn attention to the near coincidence of Australian and white American crude birth rates from 1860 to 1960 (Coale and Zelnik: 1963, pp.27-31). Even where there were moderate divergencies, one could easily

suggest plausible historical reasons: a lower American birth rate in the first half of the 1860s during the Civil War; a somewhat higher Australian birth rate during the great economic boom of the 1880s; a steeper Australian decline during the economically catastrophic years of the 1890s; and, perhaps more interestingly, a slower decline in the 1960s when Australians were perhaps slower to give up pro-natalist views.

This analysis has been carried further employing weighted indices to examine the separate impacts of marital condition and marital fertility on overall fertility[5] from 1861 to 1931 (Jones: 1971). Once again, Australian and American fertility (for the period when comparable figures were available, 1891-1931) were shown to be almost identical, while English fertility was only about three-quarters as great but declined at a similar rate. However, an important continuing difference between Australia and America in the balance of the components determining fertility was also demonstrated: Americans married younger and hence had to restrict fertility within marriage to a greater extent. An intriguing relationship was revealed, at least for the period 1891-1931, in that Australian and English marriage patterns were similar, thus tending to restrict the fertility potential of the married years to about three-quarters of the American level (i.e. as measured by I_m), while American and English marital fertility levels were close to each other at about three-quarters of the Australian level (i.e. as measured by I_g).

Two findings threw important light on the nature of fertility transition in Australia, and indeed elsewhere. Firstly, Australian marital fertility began to decline during the 1880s (although apparently a previous rise was slackening in the 1870s), while the English decline - at a more modest rate - began in the 1870s. Thus the onset of the transition in Australia lagged by up to a decade behind England. Secondly, marital fertility was sufficiently under control in Australia by the following decade to allow it to be reduced by one-fifth during the fierce economic depression of the 1890s. This was a steeper fall than either England or America was to experience in the first decades of the

fertility transition; and, presumably as a result, marital fertility did not decline at all during the next decade, so that Australia had by 1911 rejoined the long-term overall fertility trend line that it followed in company with the United States.

The similarity of the timing of fertility decline in the English-speaking countries is clearly no coincidence. There obviously must be common elements in economic or social change, in institutions or ideas, or even in the availability and legitimation of contraception. It will be the purpose of this chapter specifically, and more generally of the whole book, to explore what those common elements might be.

One important point should first be made. Australia was less likely to be exchanging ideas and institutions in the late nineteenth century than to be importing them. One reason was its small population: only 400 thousand at mid-century and 2¼ million by 1880. Most books, a substantial amount of the comment in newspapers and journals, and the models for many institutions came from Britain. In addition there was also a considerable amount of interest in other English-speaking countries and American behaviour was extensively commented upon in the press, at least from the times of the Californian gold rush and the Civil War. Another reason was the very substantial immigration stream which, in the second half of the nineteenth century, did not falter until the 1890s. This brought people and ideas as well as a continuing link with Britain from which the overwhelming majority of immigrants originated.

If this line of thought is pursued further, the nature of the Australian fertility transition is seen to be very curious.

The 1911 Australian census collected information on the parity of women which was published by five-year age groups up to 100 years of age for the major nativity groups. These data have been used (Jones: 1971, pp.314-316) to show that the first age group of metropolitan women to have lower fertility than the quinquennial age group immediately senior to them were those who were 70-74 years old in 1911, while such fertility reduction

was not recorded among extra-metropolitan women until the 60-64 age group.[6] There is evidence that in the early stages of the Australian fertility decline, the most substantial falls in the age-specific birth rates occurred to women over 25 years of age (Royal Commission: 1904, Vol.I, Appendix, p.90).[7] Women who were 70-74 in 1911 were of this age in the years 1861-1881, evidence that metropolitan fertility was already declining in the 1870s, although perhaps no more than the rising age of female marriage (as measured by I_m) can explain, while both metropolitan and rural fertility were definitely falling in the 1880s, when changes in marriage age can no longer offer an explanation.

The 1911 census data can also be employed to show that, while the first quinquennial age group to lower its fertility below that of its predecessor was amongst British-born women who were 70-74 in 1911, among the Australian-born it was the 65-69 age group, and among the German-born the 50-54 year olds (Jones: 1971, pp.314 and 316). This seems simple enough at first sight: the British were the innovators, for Malthusian stirrings occurred in Britain first; the Australians were influenced both by events there and by British immigrants in their midst; while the Germans responded as many of their countrymen and women at home had done in a country where marital fertility declined in only a minority of regions until almost the end of the century (Knodel: 1974, pp.61-66). The major problem is that of identifying the population of Australia. Elsewhere in the 1911 census volumes (for the fertility tables do not specify the number of respondents) one discovers that, of the last quinquennial age group before the fertility decline, the 75-79 year olds, only nine per cent were native-born (while 83 per cent were from Britain); the next three quinquennial age groups in descending order by age were 15, 30 and 36 per cent native-born; while the 15-39 age group in 1911 were 91 per cent of local birth. This is dramatic evidence of the extent to which Australia was a land of immigrants in the prosperous years extending from the gold rush of the 1850s to the bank crash of 1893. In 1851

the population had been 438 thousand, while in the next four decades net immigration added another 1.31 millions or almost half the total increase (Borrie: 1948, p.38). However, during those years native-born infants were growing to adulthood, and, until migration ceased with the economic crash of the 1890s - a decade which recorded a net immigration of one thousand - the composition of the population of reproductive age changed rapidly.

This demographic history raises fundamental questions about the causes and nature of the initial Australian fertility decline. The retrospective evidence from the 1911 census was of initial falling fertility among a group of women overwhelmingly British, some of them indeed still being in Britain when they began to restrict their fertility. The first evidences of fertility transition in Australia of the 1870s and the more substantial changes of the 1880s were not the product of an Australian population influenced by British example and presence; rather were they primarily the doings of a British overseas colonial population acting out a social change which had frequently begun to influence them before they left home and influencing to an increasing degree the native-born cultural minority in their midst. The British may not have behaved exactly as they would have done at home; conditions were different and migration is a selective process. However, whatever differences there were between British reproductive behaviour in Britain and in Australia were not likely to have been primarily a product of native Australian influence. If any immigrant group should have been influenced it was the Germans, who were joining a larger native-born population resulting from an earlier German immigration stream, but their fertility remained high until at least the 1890s.

Fertility movements can be studied as primarily an Australian phenomenon only during the present century, and this will be the object of this book. The first impact probably can be witnessed during the first decade of the century. The slight recovery in marital fertility between 1901 and 1911 (1.6 per cent as

measured by I_g) appears not to be evidence of a recovery from a demographic over-reaction to the depression of the 1890s at all - not even the product of delayed births - for the decline in marital fertility of both the Australian-born and British-born steepened slightly. It was entirely the result of the increased proportion of native-born in the main reproductive age range. Fertility was certainly declining, for the native-born, although still up to one-tenth more fertile than the British-born in marriage, had also been influenced to reduce family size. Whether it was largely because of change in local conditions, or influence from overseas or immigrants in their midst (who may have been their mothers) is yet to be resolved.

Employing the fertility-weighted indices developed at the Princeton Office of Population Research to present a preliminary picture of fertility movements, the major trends in a period spanning 113 years are sketched somewhat crudely from census to census in Figure 1. Fertility (as measured by I_f) fell consistently from the gold rush period of the mid-century (when it had been half of what the Hutterites had achieved)[8] to the end of the century, stabilized during the first years of the present century as motherhood was increasingly taken over by the native-born and reached a trough in the economic depression of the 1930s. Subsequently fertility rose for three decades until the early 1960s when it had once again reached pre-World War I levels, only to begin then a hesitating descent that by the early 1970s had carried it down almost to the 1930s level again. This analysis can be carried further by examining its components. Marital fertility (I_g) fell more steeply from the 1880s to the 1930s than did overall fertility, but subsequently showed a less dramatic recovery, rising again to a peak in 1947 only half way back to that recorded in 1921 and a quarter of the way back to the 1911 level. It had fallen by 1966 to a record level from which it had descended by 1974 to little over one-third of the 1881 figure and to near replacement level. There was little evidence here of any secular trend except greater control over fertility within marriage, and, with it, ever smaller completed

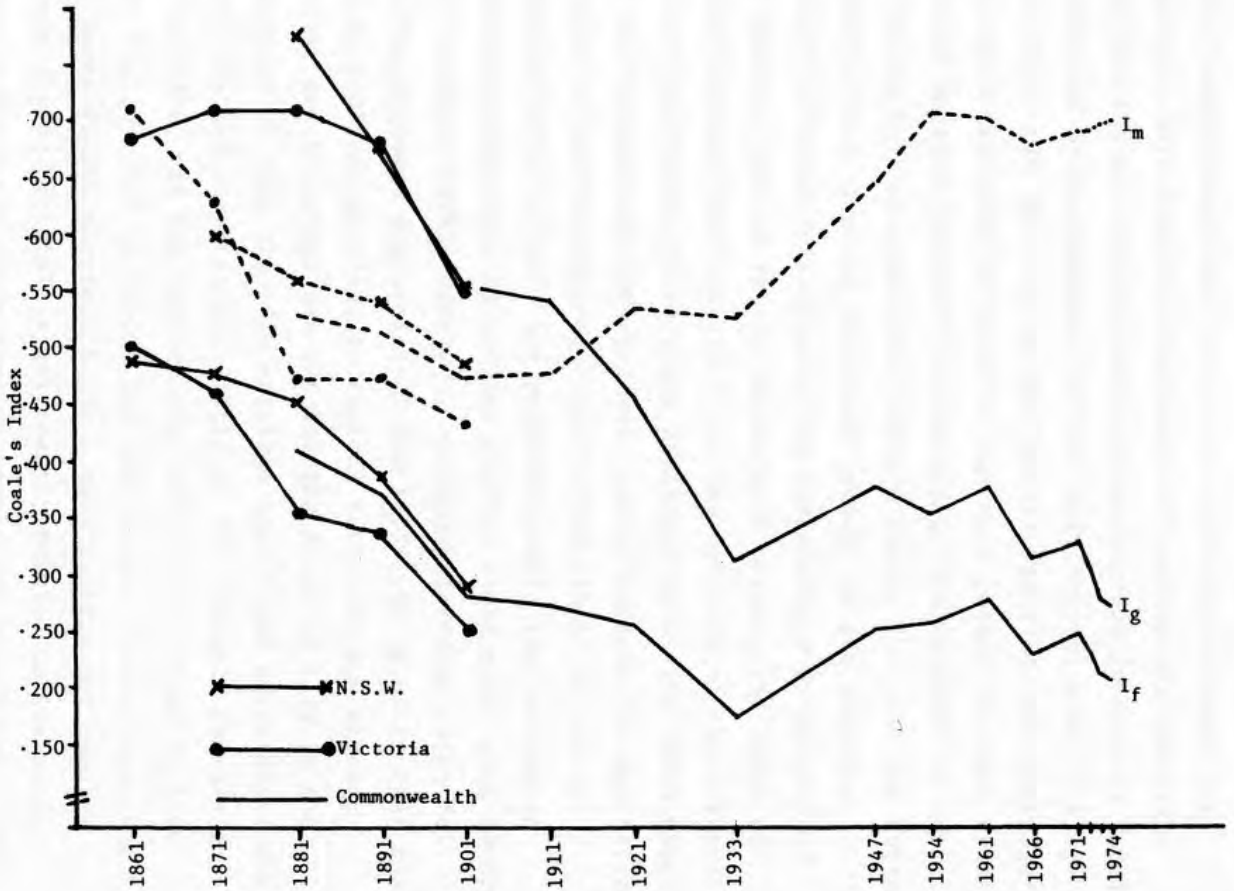

Figure 1.1 Values of Coale's indices I_f, I_g, I_m, New South Wales and Victoria 1861-1901, Commonwealth of Australia 1881-1974.

families. Marital fertility had fallen a little faster during the hard times of the mid-nineties and early thirties, and there had been a subsequent recovery, the first being slight and being explained largely by the transformation of an immigrant population into a locally born one. The clue to the link between the apparently more capricious movement of the overall fertility index and the more determinedly downward trend in marital fertility is provided by the movement of the fertility-weighted marriage index (I_m). In 1861 the period females spent outside marriage restricted fertility by about 30 per cent (about the same extent to which marital fertility was apparently restricted), a very low figure by comparison with Western Europe (but not the United States) at the time and explained largely by the relative scarcity of women in Australia and the enormous prosperity of the country. As sex ratios became more normal, the index of female marriage fell steeply (i.e. the fraction of their reproductive years spent in marriage declined) until the 1880s when the fall became much more gradual, partly because the sex ratios of those of marriageable age were moving closer to parity (McDonald:1974a, p.103), but probably partly too because an increasing proportion of married couples could exert some control over fertility within marriage. Although marriage rates fell with the economic depression of the 1890s, it is clear that the need to postpone marriage to control fertility was already passing, and the stage was set for the dramatic rise in the proportion of time spent in marriage that began after World War I, was checked surprisingly little by the economic depression of the 1930s, and had carried the fertility weighted marital index (I_m) by 1954 to beyond the 1861 level. Thereafter, the time spent within marriage began a slow decline for complex reasons almost certainly significantly related to the social change in which the contraceptive revolution itself had played a fundamental role.

It is difficult to interpret this picture in other than four stages. The first is the retreat after the 1850s from an El Dorado frontier land (whose prosperity was not entirely due

to gold) where wives were precious and where families could obtain higher living standards than in Europe no matter how early women married or how many children they bore. At first such increasing caution could be exercised only by postponing the age of marriage, as was also occurring, but at a less spectacular rate, in Europe. The second stage is that of increasing control over marital fertility from the 1880s until World War I with the postponement of marriage gradually coming to a halt. The third stage spans the period from that War until the 1950s, when ever greater assurance that fertility could be controlled within marriage meant that marriage became by the end of the period almost universal and began in early adulthood. The fourth stage began in the 1960s, logically but somewhat unexpectedly at the time, when new types of contraceptives (supplemented from the early 1970s by easier abortion) provided assurance of almost faultless fertility control before as well as after marriage and the need for early marriage began to be increasingly questioned. The long rise in the proportions married and the fall in the age at first marriage slowed to a halt, and by the early 1970s there were somewhat ambiguous signs that some reversal might take place. From 1975 unemployment and related economic problems might have been a minor contributory cause, but the change began in times of high prosperity.

Social and economic change

Australian fertility trends differed little from those of Britain or the United States. Fertility declines began somewhat later in the 1870-80 period than in Britain and in the 1960s than in either Britain or the United States, while the fall in the 1890s was uniquely steep. Explanations will be offered for these small divergencies. However, the central theme must obviously be concentrated on explaining the astonishing similarities in countries so diverse in economic experience and in the balance between population and natural resources.

In the second half of the nineteenth century, immigrant Britons did well in a land rich in minerals and capable of producing vast quantities of wool, wheat and other primary products

to meet the expanding needs of industrial Britain. The necessary infrastructure had been established to a surprising extent by the labours of colonial governments, convicts and pastoralists during the previous two-thirds of a century. The population structure was economically favourable, because of the disproportionate number of adult males brought in by the massive immigration streams (Butlin: 1970, p.273): in 1861 over half the population was in the workforce, and even in 1881 the figure had fallen only to 40 per cent, a level not again matched until 1961 when fertility decline had reduced the proportion of children and when married women had begun to enter the workforce in great numbers. Before the depression of the 1890s, Australia may well have provided the world's highest living standards, with per capita incomes (in terms of purchasing power) which have been estimated to have been one-eighth higher than the United States and perhaps over twice Britain's (Clark: 1951, pp.140-1; Kuznets: 1956; Butlin: 1970, pp.271-284). Yet, in these extraordinary conditions, with no sign as yet that the 40-year-long boom was drawing to an end, and with none of the fears that living standards might not be maintained which apparently characterized the British middle class of the time (Banks: 1954), fertility began to fall.

The long period of prosperity ended with a shattering depression from about 1893 with the collapse of a spectacular land boom, an ensuing bank crash, and an almost continuous devastating drought which more than halved the sheep population in the next decade, reducing their numbers by thirty millions (Shann: 1948, pp.328-348). Bitter strikes were fought out and labour, defeated, took to politics. Historians have frequently pinpointed the early nineties as the great turning point, when the Australian population lost their easy optimisn and heady nationalism and became much less optimistic about the country's future and less certain of their own continuing success. No Western European or North American country passed at this demographically critical time through such a sudden transition from unlimited economic hopes to such gloom and blighted prospects.

In Australia it occurred at a time when methods of fertility limitation, and ideas about employing them, had recently become more firmly established. The result was a fall in marital fertility (I_g) between 1891 and 1901 of one-fifth, which when compounded with delayed marriage, resulted in a drop in overall fertility (I_f) of one-quarter.

For decades the Australian economy continued to do badly until it was hit by another major depression in the 1930s. Butlin judged that, "It was not until the latter part of the thirties (possibly not until after the Second World War) that per-capita and per-worker growth rates were sustained at or above the levels achieved by the pioneering activities of the latter nineteenth century" (Butlin: 1970, p.285). In the first half of the twentieth century Australia's national product per capita increased at a decennial rate of only 9.5 per cent, compared with 11-12 per cent in Britain and New Zealand and 16-17 per cent in the United States and Canada (Kuznets: 1956, p.10) thus increasing per capita income in the sixty years following 1890 by half compared with a doubling in Britain and a trebling in the United States. Perhaps little more could be expected in a small market, isolated geographically and by increasingly high tariff walls, in an age of mass production of consumer durables. Rapid economic growth did come again in the three decades after World War II, apparently to hesitate again in the mid-1970s.

Other aspects of material life may also affect family and fertility decisions. Since the mid-nineteenth century, Australia has been one of the most urbanized countries in the world, vying with Britain and surpassing the United States if such indices are employed as the proportion of the total population in centres of specified sizes. One reason is its dryness, which has predisposed much of the land to pastoral use and another the fact that the country was largely settled after the invention of the railway, the macadam road and the intensification of commercial activities that accompanied the industrial revolution and these latter means of transport. The result was that much of the

rural areas were the home of miners, pastoralists and a scattered, and often itinerant, labour force; rural production was always for the market and the countryside contained no subsistence farmers and very few real villages. Much of the population lived in the large ports, mostly the colonial capitals, through which the all important export and import trade was carried on. Many of them helped to build these cities, construction and house rents contributing around one-fifth of the gross domestic product in the 1860s and rising to over a quarter in the 1880s. Much of this urbanization, especially with the coming of the motor car and the electric rail services in metropolitan areas in the twentieth century, was in fact suburbanization, and Australia has been described as "the world's first suburban nation" (Clarke: 1970, p.78). This can be put into perspective when it is realized that Australia's population has quadrupled this century while those of Sydney and Melbourne have multiplied by six to eight times. The old cores of the cities are now largely the homes of immigrants from Southern Europe.

Given that immigrants may well bring with them birth control ideas and practices that differ from those of the host population, one might anticipate that the history of immigration had a relevance for fertility history both in volume and source. Immigration was substantial until the final decade of the nineteenth century. During this century, there have been waves in the first decade, again in the 1920s, and from shortly after World War II until the early 1970s. For the purpose of this analysis special note should be taken of two streams: one of increasing volume through the 1870s and 1890s which brought ever more British from a country where birth control ideas were beginning to spread; and the huge stream which poured in through the 1950s and 1960s. The latter intake is of importance, not merely because it doubled the rate of population growth, but also because, for the first time, the British immigrants were in the minority. Culturally, Australia began to become a plural society, even, as will be seen below, in terms of contraceptive practice.

The immigration streams may also have had another effect on fertility control. Major periods of immigration have always been accompanied by strong feelings on the part of both government and electorate that Australia was underpopulated and that the future prospects for new-comers, whether immigrants or locally born babies, were unlimited. The very existence of a massive immigrant stream supports pronatalist feelings and idealogies. A favourite statement of politicians has long been, "The best immigrant is a baby", and, as late as 1971, over two-thirds of Australia agreed with the proposition (Melbourne Survey: 1972). It is hard to avoid the conclusion that the "baby boom" of the 1950s persisted further into the 1960s in Australia than in America at least partly because of the contrast in public attitudes towards population: the United States had officially regarded immigrants as somewhat suspect since the 1920s while the Australian Government continued to press a major recruiting drive overseas right through the 1960s. It was not until the early 1970s that such concepts as people as pollution, the decay of the city, the disappearance of the natural habitat and dwindling natural resources became popular themes in Australian mass culture and conversation as well as in the schools; when they did, Australian birth rates began to fall as steeply as those of America, although from a higher level.

Prosperity, a shortage of women and strongly populationist ideologies may have encouraged high fertility during the years before the 1890s. One factor may, however, have tended to exert pressure in the opposite direction. This same prosperity, a warm climate and a relative abundance of good, cheap food probably all worked together to ensure a better chance of child survival than was the case in Western Europe or more crowded North America (Young: 1969, pp.13-16). Even Australia's isolation and its relatively small population helped to render the spread of infection more difficult. Australian newspapers devoted much interest to mortality statistics and to claiming that Australia was healthier than Britain (P. Caldwell: 1966). It does appear that, during the critical years from the beginning of the 1860s until the end of the 1880s, when the infant mortality

rate in England and Wales fluctuated around the range of 170-180 per thousand live births, that in Australia was between 100 and 120 per thousand (Keyfitz and Flieger: 1968; Young: 1975). Expectation of life at birth during those years appears to have been around 48 years in Australia, or about five years greater than in England and Wales. Certainly, when we do have comparable data for Australia, Britain and the United States, around 1911, the three countries exhibited infant mortality levels of 72, 147 and 113 respectively and joint expectations of life at birth of 59, 51 and 52 years (Keyfitz and Flieger: 1968; Dublin et al.: 1949). During most of the second half of the nineteenth century, six live births in Britain would have been on average necessary in Britain to rear four children to adulthood, compared with only five in Australia (Coale and Demeny: 1966, "West" tables).

The direct impact of these social and economic factors on Australian fertility levels and trends seems to have been surprisingly slight. In the course of a century, two economic depressions of great severity, those of the 1890s and the 1930s, clearly hastened fertility decline - the first by accelerating reductions in the time spent in marriage and the level of fertility within marriage, and the second largely by checking and even reversing a trend towards earlier and more universal marriage. Since World War II, the lesser periods of economic adversity seem to have had no identifiable effect on either fertility or marriage trends (Basavarajappa: 1964). However, marital fertility restriction in Australia began first to intensify, not in the hard times of the 1890s but in the extraordinary boom years of the 1880s when houses and mansions were built in Sydney or Melbourne on a scale that was unprecedented and not again surpassed. The relationship between level of fertility or type of economy and fertility, if it exists at all, is far from clear. In the 1880s, at the onset of the Australian fertility transition, Australia was markedly richer than Britain, but less industrialized. Yet the female marriage levels of the two countries were by this time similar, and immigrant British women in Australia appear to have restricted fertility within

marriage to about exactly the same extent and as early as in Britain - neither less harsh economic realities nor a greater likelihood of child survival seems to have had the slightest effect.

Education

If one searches for a momentous economic and social change occurring in the English-speaking countries in the years immediately preceding the decline of fertility within marriage, it is difficult to find major shifts in occupation, urbanization and other factors which have been described as fundamental aspects of the impact of industrialization either particularly concentrated in those years or moving at the same pace or resulting in similar levels of these phenomena in the various countries examined. It is true that one can find closer similarities in consumption than production; perhaps one should take a much better look at the industrial revolution in terms of access to consumer goods and the advent of the consumer society with similar temptations in many countries towards acquiring possessions. Advertisements in Australian, British and American newspapers in the 1870s and 1880s were strikingly similar whether they were offering sewing machines or pianos.

However, one change was momentous and coincided strikingly in all English-speaking countries, and that was the advent of mass schooling. This change has been suggested as having been of fundamental importance in the British transition as long ago as the 1860s (Leybourne and White: 1940, p.80). Certainly it involved a major transformation of the role of children in the family and probably of the economic balance within the family. The relationship between mass schooling and the beginning of fertility decline has been largely ignored in recent years, probably for two reasons. The first has been a tendency to regard the economic and social transformations of the nineteenth century as bringing with them greater prospects of economic mobility and stronger aspirations for such mobility (Borrie: 1953, p.55), factors affecting the parents rather than the children and described as involving greater rationalism

(Notestein: 1953, pp.15-16). The second has been a belief that the timing was wrong: the beginnings of fertility change can be detected in the 1870s, if anything earlier than the coming of compulsory schooling.

Both lines of argument are probably wrong. There is little evidence in an immigrant frontier land of Australia's type that economic mobility had not been a driving force all the century, and the letters of settlers are saturated with economic rationality as to the best way of improving one's station in life. Furthermore the colonies were normally short of labour skills, managerial skills and entrepreneurial abilities, and throughout the nineteenth century there were ladders to success. There is no possibility of describing the Australian colonies as static agricultural societies where most knew there was little alternative to staying in their place. It is equally clear that few thoughts were given during the first two-thirds of the century to the number of children playing a determinant role in that improvement. It is hard to avoid the conclusion that moderately high fertility was no great economic disadvantage - it may even have been something of an asset in some of the rural areas. However, in the second half of the century circumstances changed. In analysing those changes, demographers have been slow to recognize the implications of the current debate on education and the industrial revolution and of Australian educational statistics.

Legislation compelling parents to send all children to school for at least elementary education was enacted in most English-speaking countries between 1870 and 1880: in Scotland as early as 1872, in England in 1876, in a majority of the American States by 1880. In Australia, such laws were passed first in Victoria in 1872, with Queensland following in 1875, South Australia in 1878, New South Wales in 1880 and Tasmania and Western Australia in 1893. Such legislation had existed by mid-century in Denmark, Sweden, Prussia and some other German States. Elsewhere in Europe it was more delayed: France in 1882, Norway in 1889, Spain in 1909 and Belgium not until 1914.

What has not always been appreciated is that these laws marked less the beginning of a new era than the final rounding off of a process long underway. For instance, the English Act of 1876 is, as is popularly recognized, less important than that of 1870 which made every local authority provide sufficient schooling facilities for every potential student. In Britain, State financing of education had been expanding since 1832, the most spectacular increase in funding for Church and other voluntary schools occurring during the 1850s, a decade which witnessed similar developments in the Australian colonies.

There occurred then in the mid-nineteenth century a complex movement towards the education of all children. It was partly caused by the fact that many occupations were becoming increasingly sophisticated and needed literate and numerate employees. This point should not be over-stressed as the censuses show that nearly all males and a majority of females had been literate since at least mid-century.[9] More than anything, this was probably a tribute to Biblical reading, taught often at the parents' knee or learnt painstakingly in later childhood, and it probably carried with it a sufficient reckoning ability for all but the most specialized jobs. However, there was obviously a case for formalizing and improving this education. The model was already there, for formal education had been the privilege of the minority for centuries, and the growing wealth of the public and governments made universality an attainable goal for the first time during the nineteenth century. Once started the process was doubtless irreversible and uncheckable. Employers demanded ever higher levels of qualification as the pool of children with qualifications expanded, and parents were forced to compete with other parents in schooling their children if they were to attain equally remunerative and prestigeful jobs. Prestige itself became more closely tied to the educational-occupational ladder. Governments found themselves more subject to mass pressure as the British electorate expanded to include the middle classes in 1832 and the urban working class in 1867, while universal manhood suffrage was achieved for most of the

Australian population in the 1850s. Increasingly, Governments set educational standards, supported school committees, provided school inspectors, trained teachers, and assisted the budgets of voluntary schools. Indeed, the compulsory education acts in Australia from 1872 onward marked a retreat from the last function rather than an advance.

Ever more children went to school and it was increasingly difficult for parents to chose not to educate them. The exact numbers in English schools have been the subject of fierce debate (West: 1965; Lawson and Silver:1973; West:1975), but it is clear that most children had some schooling by the 1860s and probably even by the 1850s. Similar analyses have not been carried out for Australia but a reasonable picture can be assembled from parliamentary papers and collections of official documents (Rankin: 1939; Griffiths: 1957). In Victoria, the numbers of children on school rolls increased from 26 thousand in 1854 to 56 thousand in 1864 and over a quarter of a million in 1875. In New South Wales there had been almost 50 thousand in 1864, 68 thousand in 1867, 74 thousand in 1875 and 135 thousand in 1879. These figures evidence both rapidly increasing population in the colonies and an increasing probability that children would be sent to school. Given that most children experienced only elementary schooling, these figures suggest that the majority of children were in school during the 1850s; one set of figures indicates that half may have had some schooling in New South Wales in the 1840s (Griffiths: 1957, p.72). It was estimated for that colony in the early 1870s that three-quarters attended school and that many of the balance were in remote localities, and for Victoria in 1873 - the year after the Act providing for compulsory attendance - that 85 per cent were on the rolls (Rankin: 1939, p.123). In 1856 Victorian government schools met the needs of almost one-fifth of the students, and in 1864 New South Wales government schools catered for one-third. By the early 1870s the government was the chief educator.

Thus school attendance probably passed from being the lot

of a minority of children in the first half of the century to over half by 1860, three-quarters by 1870 and nearly all by 1880. Sons were somewhat more likely to go to school than daughters, but the proportion that girls made up of all pupils was 48 per cent in Victoria in 1854 and 46 per cent in both Victoria and New South Wales in 1864. Society did not at once embrace all aspects of school-going completely, and it was not until well into the twentieth century that one found most children attending school nearly every school-day in the year, homework being set most nights, and the child who had never been to school becoming an almost unbelievable rarity. In Victoria, in the 1870s, only half the enrolled children attended school on any given day; it was 1901 before the proportion reached 60 per cent and 1935 before 72 per cent was attained (Rankin: 1939, pp.123, 129). The compulsory minimum age for leaving school rose very slowly during the twentieth century, from 14 in the earlier years to 15 or 16 by the 1960s. However, the proportion of 14-17 year olds at school gradually rose, especially as governments became more involved in secondary education during the first three decades of the century, from 20 per cent in 1911, to 25 per cent in 1921, 25 per cent in 1933, 39 per cent in 1955, 52 per cent in 1961, and 66 per cent in 1971.

The expansion of schooling during the second half of the nineteenth century must have profoundly altered the place of children in both the family and in society at large. It certainly emphasized their dependent nature, and probably increased the tendency of families to become child-centred with increasing attention being given to the children's present condition and future prospects. By 1971 many Australian families were claiming that their most fundamental decisions, such as those on family size, were being dictated mainly by the needs of their children (Caldwell: 1973, p.A10). Children undoubtedly cost more to keep: school teachers insisted on better clothing and on books and pencils. Certainly children were increasingly withdrawn from the labour market, but not without a rearguard battle and considerable parental bitterness.

One observer of Australian family life in the early years of the present century testified to the general complaints about children being prevented from earning, of the tradition of child labour in the fruit-picking and rabbiting industries, but also of the continuing "abomination of parents' greed in sweating their own offspring, and the spectacle of businessmen ready to brutalize children" (Ackermann 1913, pp.91-93). Her attitude reflected, of course, not increasing sweating, but a growing opposition to all child labour that was year by year reducing the proportion of household income derived from children, paralleled by an increasing proportion being spent on them. After talking to great numbers of mothers, she had no doubt that the birth rate was declining primarily because of the greater effort being put into the education of each child, and that this was supplemented by an appreciation of the greater likelihood of children surviving (Ackermann: 1913, pp.94-96). This raises the question of what employment children were engaged in. The Victorian and New South Wales 1891 censuses provide evidence at the beginning of the first major fertility decline, but unfortunately after most 5-14 year olds were at school. Amongst girls, by far the largest category were in domestic service, followed by dressmaking and nursing. The New South Wales census categorized the employment so as to show that many girls undertaking domestic work were doing so unpaid for relatives - presumably for keep and lodging and involving their parents in no expense. Amongst boys the employment distribution was similar to that for adult males excluding those occupations which required extensive education or training.

The picture seems to be one of a society where, before mid-century, children were treated far more as young adults than was subsequently the case. They earned their keep early, especially in the Australian colonies with their perpetual labour shortages, and involved little expenditure until that time. Older girls could work for relatives or others, at least for the price of their keep. But mass education altered both realities and attitudes, and the large family became an increasing liability, especially as the education of children became the dominant end

of child-rearing. In 1945, this description could be made of Cessnock, a working-class town on the northern coal-fields of New South Wales: "The average miner has an almost exaggerated belief in the efficacy of education, and will make considerable sacrifices so that his son, and in some cases his daughter, shall have the best training for life that is available. But his approach is, of course, utilitarian. It is really the money and the security which he believes education will make possible that he desires for his children" (Walker: 1945, p.23). Over the succeeding years concessions were slowly made to sex equality, as the declining masculinity ratios in the upper forms of secondary schools demonstrate (Encel, Mackenzie and Tebbutt: 1974, p.177). By 1971 a researcher could be most struck by the class differences in parental educational aspirations for their children rather than the fact that 74 per cent of working-class parents desired at least education to matriculation for their children (compared with 98 per cent of the others) and 47 per cent wanted university education (rather than 82-90 per cent) (Parsler: 1971, pp.102-106).

Contraception and abortion

Two questions are paramount. Firstly, if the second half of the nineteenth century brought a greater need to control fertility, were the means readily at hand? Secondly, to what extent has the greater efficiency of, or improved access to, anti-natal methods helped to bring down the birth rates? Australian evidence on such change is considerable (Royal Commission: 1904; P. Caldwell: 1966; Hicks: 1971; Melbourne Survey: 1972; Caldwell and Ware: 1973; Lavis: 1975).

The evidence seems to support the contention that the idea of family planning may sweep through a culture area. The pressures on the large family imposed by the rapid development of the schooling system occurred at least as early and with the same intensity as in Britain. Yet British immigrants were the first to innovate on any scale with family planning. Moreover, the first contraceptives were either imported from Britain or manufactured locally replicating British models, and the adver-

tisement of contraceptives followed the increased appearance of advertisements in British publications (Banks: 1954, pp.157-8) and were often the same advertisements.

These advertisements began to appear in Australian publications during the 1880s and multiplied rapidly in the latter part of the decade (P. Caldwell: 1966). In a debate in the New South Wales Parliament in 1889, half a dozen members complained about these new advertisements for contraceptives and chemical abortifacients (Hicks: 1971, p.257). In 1903 there were advertisements for quinine tablets, spring pessaries, sponges, spray douches, syringes, condoms and quinine pessaries, most of which had been available to perhaps a more limited extent for the previous 15-20 years. By that year, 200 thousand condoms and pessaries were being imported per annum, and these were being supplemented by locally made pessaries, sponges, syringes and abortifacients (Hicks: 1971, pp.258-9).

Evidence given to the 1904 New South Wales Royal Commission on the Birth Rate, which was investigating the fertility decline of the preceding two decades, described "when a wife defiles the marriage bed with the devices and equipment of the brothel, and interferes with nature's mandate by coldblooded preventatives and safeguards; when she consults her almanac, and refuses to admit the approaches of her husband at certain times". Information was also given by doctors about the employment of withdrawal, douching (often with astringent solutions), condoms and abortion. It was suggested that abstinence and prolonged lactation had also been used but that the frequency of the latter was declining, and that home-made pessaries were important but that the use of zinc sulphate as an ingredient was declining while quinine was being more frequently employed (Hicks: 1971, pp.143-158).

The range of methods suggest that none of them was very satisfactory and most rather inefficient. Nearly all were suited chiefly to use within marriage where prolonged and careful cooperation and planning could take place and where improvement could be achieved with practice. Nevertheless, the same mix of methods were to dominate the scene almost completely until

well into the 1920s, when marital fertility had been reduced to about half its level in the early 1880s. Even in the depression of the 1930s, the first period for which the retrospective data from the 1971 Melbourne Survey provides a coverage, withdrawal, the condom, rhythm, pessaries, douching, and the sponge were the main methods employed by three-quarters of all contraceptors - indeed withdrawal and the condom alone counted for over half of all contraception, and the terms condom and contraceptive were inter-changeable until the end of the 1950s.

For the last forty years the Melbourne Survey provides a good perspective of changes in that city, and an almost equally satisfactory one for the whole country because of the geographical homogeneity of the population. In one respect, however, the data should be used with caution; although retrospective information was collected in 1971 from female respondents up to 59 years of age, no responses about past periods apply to women over 35 years of age at the time until after the Second World War and none to women over 40 until the 1950s. This does not affect the analysis of types of contraceptives employed, because none of them was particularly age-specific. However, in a period when contraceptives were used increasingly with parity and age, it undoubtedly understates the proportion of married couples resorting to contraception; all one can say is that almost half of the marriages in the late 1930s where the wife was under 30 were practising contraception, just over half of the marriages during the Second World War where the wife was under 35 were doing so, and in almost two-thirds of marriages in the latter 1940s where the wife was under 40 was contraception being practised. One doctor reported that of patients seeking contraceptive advice from him towards the end of the War, 70 per cent were under 30, and 80 per cent had fewer than three children (Wallace: 1946, pp.86 and 94). Perhaps it would be nearer the mark to say that contraception, other than sexual abstinence, was probably practised in at least two-thirds of all marriages in the 1930s and three-quarters in the 1940s. There remains an area of doubt about the role of sexual abstinence. The oldest birth cohort, that of 1911-14, had recorded a two per cent use of

abstinence as the main anti-natal method over a five-year period, namely in 1945-49 when they were in their thirties. One historian, referring to the second half of the nineteenth century, has emphasized the double sexual standard and the extent to which men obtained sex outside marriage and presumably often to only a limited extent with wives "professing disgust at the insolent demands of men" (Turner: 1969, p.17). Certainly, it was commonplace in the 1930s and even after the Second World War for there to be little sex between spouses once the wife was well into her thirties or there were several children around the house. This was especially the case among the Catholic population of Irish origin, but the practice existed in other groups as well, and was hardly ever admitted to anyone. One description of life in an upper working-class suburb of Sydney in the 1930s observes, "sex wasn't acknowledged past middle age, when fathers retired to a room or verandah out back" (Moffit: 1969, p.76).

More modern forms of contraception were gradually becoming available and being used. Spermicidal foaming tablets and jellies increased in popularity, and probably in effectiveness, through the 1920s and even more through the 1930s, accounting for one-quarter of all marital contraception in the early 1940s. Barrier methods, first Dutch caps and then diaphragms, increased in use at about the same time, but up to the 1940s they were only about half as popular as the spermicides. Right through from the 1930s to the end of the 1950s one-third to two-fifths of all married couples were "modern" contraceptors, employing spermicides, diaphragms, and from about 1940 the Gräfenberg ring, the balance finally shifting decisively in favour of the diaphragm only during the 1950s. These couples were the first market for the pill, when it appeared in 1961, and the proportion of users of the other modern methods fell by two-thirds over the following five years.

The pill became available in Australia in 1961 and was the main method of contraceptive use for almost half of all married couples by the end of the decade. Only one other method had ever been employed as the main means of contraception by more

than about a quarter of any age group: the condom had peaked in 1940-44 with 26 per cent of the 1910-14 birth cohort, withdrawal in the 1950s with 26 per cent of the 1915-19 birth cohort (equalled during the 1960s by younger cohorts because of recent immigration from Mediterranean Europe), rhythm in the 1960s with 26 per cent of the 1915-19 birth cohort, and the diaphragm in 1955-59 with 25 per cent of the 1930-34 birth cohort. However, by 1970 the pill was already being used by two-thirds of the youngest wives. In addition the IUD had climbed in use from the mid-1960s until the early 1970s from one to eight per cent of all main contraceptive use, being used by the latter date by 12 per cent of all women around thirty years of age.

The new contraceptives - the ones that were not available in the late nineteenth century - consisted of the Dutch cap, diaphragm, Gräfenberg ring, pill and IUD. By the late 1930s they accounted for only 12 per cent of marital contraception, by the late 1940s for 18 per cent, by the late 1950s for 27 per cent, and by 1970 for 53 per cent. Undoubtedly the quality of spermicides also improved during the century. Nevertheless, the fact remains that for most of the population there was no real contraceptive revolution between the late nineteenth century and 1960 - only better use, greater availability and wide community acceptance of contraception. With regard to the type of contraception, the position seems to have been similar in Britain and the United States. Up until 1960, there had also been a very considerable educational differential (and doubtless a class and income one as well) in participation in what contraceptive revolution had taken place. In 1940-44 those with tertiary education were three times as likely to be using the diaphragm as those with only limited secondary education, but only half as likely to be employing withdrawal; but by 1971 such differentials had almost ceased to exist for pill use (although there had been a differential earlier in the 1960s in willingness to innovate) and had never existed for the IUD. In the 1960s South Australia liberalized its abortion law so that abortion was moderately easy to obtain. However, for most Australians the real change came from about 1972 when the enforcement of anti-abortion laws

in New South Wales and Victoria was virtually suspended partly because of difficulties in obtaining convictions from trials by jury.

The history of contraception in Australia from the 1870s to the 1970s can be divided into four periods. First, in the 1870s and 1880s, contraception was largely an imported innovation and was most likely to be practised by British immigrants. Second, between the 1890s and 1950s the practice was one reacculturated to local conditions with contraception slowly becoming more respectable, more universal and more accessible. Third, during the 1960s and the beginning of the 1970s, the pill and the IUD became available, and contraception became widely respectable and much more efficient. Fourth, from about 1972, most Australian women found it easier to obtain referral for an abortion.

The second period is one of long slow change, with public attitudes towards contraception softening as a result of growing sexual liberalization during the 1920s and sympathy for family economic problems in the 1930s. The rate of change should not be overstated. At least one authority concluded that the 1920s did not produce in Australia a sexual revolution equal to that in the United States or United Kingdom (Summers: 1975, p.394). Australian "wowserism" (dislike of fun, especially that associated with sex) was abetted by the Catholic Church which was fervently opposed to contraception (in a country where over one-fifth of the population and a greater fraction of the politicians were of Irish-Catholic descent), by the strength of middle-class suburban respectability, by governmental apprehension about low birth rates in the 1930s and the renewed worry about low population growth rates that World War II brought. The first two were evidenced by the facts that the word "contraceptive" could not be used on Australian radio until the 1960s; that many chemist shops, including Australia's largest chain, did not sell contraceptives until well into the 1950s or even 1960s; and that there was a widespread fear of consulting a doctor about contraception before the 1960s because he might well show signs of moral indignation. The last was evidenced by prohibitions enacted during

the 1930s and 1940s against advertising contraceptives (Whalley: 1972), which were still widely in force in the 1970s. Family planning association clinics did not exist in Australia until the 1960s (and, even in the 1970s, only Sydney had any number of them), partly because the tradition of voluntary social service was much more suspect than in Britain. There were some positive features: Norman Haire, an Australian by origin, discussed contraception intelligently in one of the country's widely circulating women's magazines throughout the 1940s under the pseudonym of Wyckham Terriss, and Lillian Roxon discussed the pill in the early 1960s in the same kind of publication.

Nevertheless, there remained great restrictions on the easy practice of contraception even within marriage. Norman Haire, reporting on Australia in the Second World War (Haire: 1943, pp.25-40), was astonished at the difficulties faced by those wishing to practise family planning compared with the position in Britain. He wrote, "As far as I have been able to ascertain, there are only two birth-control clinics in the whole of Australia, though there are one or two nurses and lay-women who set themselves up to give contraceptive advice ... The truth is that birth control, which has long been accepted as part of our folk-ways in England, is still regarded in Australia as something not quite respectable; and contraceptives are sold for prices fantastically higher than their real value, as drinks are at a sly grog joint". He pointed out that in Australia compared with Britain there was nothing like the cheap books or pamphlets on contraception, the clinics, the doctors able to write under their own names and the lectures for lay people. He could have added that, while condoms were sold in Britain by barbers, in Australia they were sold by some chemists, and, even then, the transaction was often shrouded in an aura of impropriety. He did discover that pessaries, which cost 1s.6d. in British family planning clinics, were sold for £1.1.0 by Australian chemists (over eleven times the cost once the difference in Australian and British currencies at that time is taken into account), and that police put strong pressure on Australian

booksellers not to display books on contraception. It should be noted that, although a small clinic was established in a private house in Sydney in 1926, it sought to avoid attack until the 1960s by its eugenicist name, "The Racial Hygiene Association of Australia".

Contraception was not easy in Australia. One obtains a picture of educated, unmarried young women in Australia during the mid-1930s from Dymphna Cusack's Jungfrau. Although it contains some sex, it is clear that sexual freedom is more a discussion topic than a way of life. The book is saturated with the distaste that the unmarried felt about using the contraceptives available at the time, the fear of pregnancy, the horror of venereal disease, the Byzantine difficulties connected with finding obscure nervous abortionists, and the unflinchingly hard Catholic line against both contraception and abortion (Cusack: 1936). A decade later, Ruth Park vividly described the fear of pregnancy and abortion amongst an Irish family in slum Sydney and of the use as abortifacients of Epsom Salts and "other things ... you could buy at dirty little chemists' shops. They slipped them to you over the counter - packets of pills, and little bottles of bitter black medicine ... They didn't always work". She wrote also of "The doctor [who] used to come in the back entrance, and left the same way, and he charged ten pounds". In spite of all this, it is quite clear that in the subsequent honeymoon contraceptives were not even considered (Park: 1948).

The practice of contraception increased, and probably became more efficient, from the late nineteenth century until the early 1960s. There were three important lag effects. The first arose from an educational-social class effect. The poor and uneducated adopted family planning as such more slowly and took much longer to adopt any innovation, and the very marked differential in diaphragm use persisted. The rapidity with which these differences disappeared once the pill had become generally available suggest that class differentials in Australian fertility were more a question of the means available to restrict fertility than of differentials in desired family size. The second was caused by

the Catholic Church's attitude to contraception, other than abstinence and rhythm. Amongst the native-born, Catholics were only two-thirds as likely to be practising contraception as late as the 1940s, although the gap slowly lessened thereafter, and moved spectacularly towards closing in the 1960s. Catholic usage of diaphragms, condoms and spermicides has been far below that of non-Catholics, largely probably because these were methods in use before the debate in the Church in the 1960s, but perhaps partly too because their intimate connection with the sexual organs does emphasize the sexual aspect of such contraception. Such differentials narrowed with the advent of the pill and, judging by 1971 data, there would, by the mid-1970s, have been little Catholic-Non-Catholic difference among the native-born under 35 years of age in the use of "illicit" contraception. The third is the very marked differential by nativity, dividing those immigrants from Mediterranean Europe from the rest of the community, whether native-born or from elsewhere in Europe. In 1971 the use of withdrawal as the main contraceptive method ranged from 62 to 74 per cent among wives born in Italy, Yugoslavia and Greece compared with five per cent among the native-born. Conversely, the level of pill use was only one-quarter as great among Mediterranean immigrants as the native-born even though most of the immigrant women had been living in Australia during the period when the pill came into mass use. Yugoslav immigrants, coming from the late 1950s onward from a country with easy access to legal abortion, had few qualms about seeking abortion in Australia, and often found a doctor who specialized in treating their group. These are differences which can be explained to only a minor extent by educational and religious differentials.

It is widely believed that premarital sex has widely increased among the middle and urban classes this century (Taft and Walker: 1958, p.163). Certainly the condom has always been available, though it can present many awkwardnesses in such relationships. No other contraceptive innovation made such relationships easier or more spontaneous until the arrival of

the pill in the early 1960s.

Easy contraception, available to all, was not available until the 1960s, and back-up reasonably easily available abortion until after 1972. The earlier period witnessed an increasing competence in using contraception within marriage which can go far towards explaining the downward trend in fertility without the need for postulating ever decreasing family-size desires. This increasing competence was marked by major social and religious differentials which may explain most fertility differentials. Certainly there seems little need to explain these differentials mostly by choice as some economists and sociologists have tried to do (Becker: 1960; Easterlin: 1969).

One should not over-estimate the extent to which the pill is accepted and will continue to be accepted. Although a majority of Australian women believed in 1971 that, "The pill has brought more benefits than any other modern invention", over three-quarters felt that "The long-term effects of the pill are not fully understood and could be harmful" (Melbourne Survey: 1972). Almost half of married women in 1971 had tried the pill at some time but 43 per cent had at least once temporarily or permanently discontinued use because of side-effects and 30 per cent because of fear about long-term effects, a situation which has parallels to that reported in the United States (Westoff and Jones: 1970). The thrombosis scare halted the rise in pill use in the late 1960s and may even have increased fertility slightly in 1971. It is difficult to determine the exact impact of the pill, partly because those most likely to persevere with fertility restriction are likely to use it regularly and continually and partly because it has an effect on increasing confidence about the efficiency of contraception (thus encouraging women to plan ahead as if no pregnancy could occur) which can be distinguished from its actual contraceptive effect. However, the most detailed investigation of that impact in Australia does present convincing evidence that women who employed the pill had greater control over their fertility and exhibited lower fertility (Lavis: 1975).

Marriage

Marriage trends in Australia probably can be understood only in terms of trends in fertility desires and contraceptive ability. Detailed analysis of marriage movements exists for the period from 1860 to 1971 (McDonald: 1974a).

Until the 1880s marriage was determined largely by the large excess of males, which rendered marriage probable for nearly all females and impossible for a substantial proportion of men. As this surplus passed out of the main nuptial age groups, the proportions ever marrying sank to a level lower than one might have anticipated in a frontier country, lower even perhaps than one would have anticipated from the situation in England. It has been suggested that the "conditions prevailing in the colonies, such as the insecurity of employment, the rarity of family settlement upon the land and the relative concentration of males in remote pastoral areas contributed to their lower marriage rates" (McDonald:1974a, p.247). This was reinforced by the depression of the 1890s so that among women of 45-49 in Victoria only eight per cent had never married in 1891 (most who married in Britain or Australia had done so before or around 1870) but 21 per cent had never married in 1921 (those who had married had mostly done so before or around 1900). This was the case in spite of the fact that there was an almost equal number of unmarried men of the same age. Checked only by the First World War and Depression, the proportion of women ultimately marrying began to rise slowly for marriages formed in the first decade of the century, accelerating from the Second World War, until, in the 1960s, 93 per cent of women who reached the age of 30 had already married as had 87 per cent of men. The age of first marriage of women did not show such early movement: the median remained from the late nineteenth century until the Second World War at 24-25 years and then fell consistently until women marrying in the mid-1950s exhibited median ages of about 21½ years. Thereafter the decline ceased. The median age at male marriage fell a little more steeply, reflecting a diminishing age gap between spouses, from about 28 years in the early 1920s to 24 years

by the end of the 1950s.

The trends most closely tied to contraceptive change are those of the proportion married. It seems probable that, until some degree of control over marital fertility could be guaranteed, a proportion of the population, perhaps the poorest and the most upwardly mobile, felt either that they could not marry at all or that marriage must be long postponed (thus increasing their chances of not marrying at all). It is now apparent that the secular trend towards earlier and more universal marriage was finally halted in the 1970s. It seems reasonable to suggest that this was the result of the achievement at last of anti-natal guarantees as reliable for sex outside marriage as within it. This was achieved by the pill in the 1960s and access to easy abortion in the 1960s. For the first time premarital sex could be as frequent and as carefree as marital sex and it became easier to put off marriage and to talk of premature marriage in a way that had not been heard in prosperous times for decades.

Changing age at first marriage was not alone in its impact on marriage. Divorce had increased in frequency substantially this century; at the beginning of the century, four per cent of marriages could be expected to end in divorce, while two generations later the level was 12 per cent (Day: 1965, p.170). During the period of earlier and easier marriage, quicker re-marriage largely cancelled the impact of this change on fertility. However, in the last decade the effects of marriage dissolution have probably been greater than changing age at first marriage on fertility, and the net impact has been towards lowering it. By 1970 Australia and the United States recorded about ten per cent of women 25-34 as single, lower figures than those found in Europe (Blake: 1974, pp.140-1). However, in America the proportion was probably already rising, a change which may be slower in Australia. Observers have argued that weddings in Australia are still relatively important (Rigg: 1969b), and have pointed out that church marriages are more common in Australia than in other English-speaking countries (Inglis: 1965, p.53).

In their turn these marriage changes have profoundly altered other aspects of society.

Changes in the family and the deterioration of suburban society

Marriage and a family were probably even closer to being the universal goal of female Australians at mid-century than at the beginning, and were certainly more easily realized. Working-class girls did not expect to have to defer marriage because of poverty. A fictional portrait of Roie, a young single girl of the 1940s, walking home from her job in a box factory in inner Sydney, provides her most important dreams: " 'I'm married, and I've been doing the shopping, and I'm going home to cook the tea for my husband, and then we're going to the pictures, and he'll buy me an ice-cream and put his arms around me.' For Roie's heart was full of sweet timid yearnings for the security and contentment of love" (Park: 1948, p.19).

Most Australian fiction and social science research is in agreement on the central role that the Australian wife and mother plays in the family and the relatively greater strength of her position than in most English-speaking societies (Fallon: 1953; Middleton: 1954; Adler: 1965). There is some agreement that this is because she has had little domestic help and hence embodies all female roles. The shortage of domestic help has long been believed by popular culture, and has been attested to at the beginning of the century (Ackermann: 1913, p.86), although the earlier censuses did enumerate a substantial number of women in domestic service, and one authority believes that such help became scarce only with the Second World War (Encel, MacKenzie and Tebbutt: 1974, pp.89-90). It is also claimed, with some statistical support, that this centrality has also been a product of the unwillingness of Australian fathers to make domestic decisions or to impose family discipline (McElwain and Campbell: 1965, pp.142-3). Family cohesiveness has, if anything, increased since the Second World War, partly because the house has become very much more the home with the almost complete disappearance of shared accommodation and a rise in home ownership by the early 1970s to around 70 per cent (Balmer: 1974, pp.68 and 72), and

partly because the family car and the television set have increased joint activities (McElwain and Campbell: 1965, p.139). There is agreement that the family is surprisingly cohesive (Connell et al.: 1957; W.Campbell:1963; Krupinski: 1974; Connell et al.: 1975), and some evidence that the central interest of the family has ever more become the prolonged education of the children (Parsler: 1971). One report on a working-class family of forty years ago, claims that at least amongst the population of Irish descent, "Mothers had to fight fathers to get education for their children ('at his age I was out earning a living!'), and they usually lost. The aim was a steady job, even a dead-end one in a factory, but preferably the Public Service". It is also claimed that there has been a vast change in the money spent on child training other than formal education since the 1930s: "it wasn't the done thing to 'develop' your children then" (Moffit: 1969, p.75).

Relationships and roles for the various family members have changed, but the greatest change, uncertainty and dissatisfaction clearly centre on the position of the wife/mother. This is not a new phenomenon, but there do appear to be new elements. Parsons (1942), writing over a third of a century ago about American society, concluded that, "It is quite clear that in the adult feminine role there is quite sufficient strain and insecurity so that wide-spread manifestations are to be expected in the form of neurotic behavior" and that new choices had produced "a situation likely to produce a rather high level of insecurity". He put this down early in adulthood to the need for choosing between a career and marriage, assuming that a wife not working, or at least not competing in work, was fundamental to the stability of the marriage and home. Subsequently, the problem was the retention of the domestic/maternal image and role of the housewife ("God's police" according to a recent revival of an older Australian description (Summers: 1975)) in an increasingly complex world where she was tempted and encouraged to take up another once less respectable role, namely that of glamorous sex-partner (dangerously close to that once filled by "damned

whores"), as well as a still further role, once assumed to be solely filled by males, that of companion, a notion and possibility arising largely from extended female education.

These strains may have been felt in Australia, but they do not appear to be those that have increasingly tended towards a disintegration of the domestic/maternal role over the last quarter of a century, an event which has profound demographic implications. There is certainly role conflict present: an advertisers' report shows that advertisers present their ideal women as "house-proud, obsessed with cleanliness: clean family, clean house, clean clothes", yet 50 per cent of letters to radio panellists and open-line radio sessions are from women worried that their husbands are losing interest in them (Rigg: 1969c, pp.143 and 148-9). There are deep emotional troubles too; the Cairnmiller Institute in Melbourne devotes itself to the suburban neuroses of middle aged women and presents clear evidence of frightening loneliness in the suburbs as children grow up and as husbands succeed in their occupations (Tennison: 1972). Parsons argued that wives going to work on any scale "would only be possible with profound alterations in the structure of the family", and that, as the utilitarian domestic role of women declined, in middle age they increasingly tended to institutionalize their interests as in membership of clubs but that this often bore the marks of insecurity and strain (Parsons: 1942, pp.610-612). Stephenson, a quarter of a century later in Australia, wrote that the housewife's lot was hard work when the children were young, followed by increasing alienation and preoccupation with trivia and ritual (Stephenson: 1970, pp.90-91). Much of what has happened can in fact be understood within the framework of social change we have been constructing.

Every social investigation has shown that Australians, like other people, are more dependent on kin than on friends for continuing and indestructible social relationships (Encel: 1970, pp.273-4). Kin networks were often destroyed by migration, but, for women at least, in the nineteenth century, new networks were quickly established because of their high levels of repro-

duction. After the last child leaves home, women depend more than ever on their nearest relatives of similar age, their siblings and especially their sisters. The first native-born generation who found on average the number of their siblings (and of their husbands' siblings) substantially cut were those born during the 1890s, whose last child probably left home during the Second World War. It is only since the War that the community has contained a high proportion of women with few siblings, often no sisters, and with a small number of children of their own to establish new kinship attachments. This analysis is supported by the findings of a 1965-66 survey in three areas of Adelaide (Martin: 1967). Housewives lived in startling isolation: "about half the wives in each sample reported that they had visited or been visited by one or more neighbours (in the sense of anyone living nearby) during the week before the interview, and the average number of neighbouring families whom the wife had contacted in this way varied only from 0.7 to 0.8" (Martin: 1970, p.315). Certainly, "relatives within reach commonly provided a continuing source of companionship and emotional support and occasional material help in times of need". However, often there were insufficient relatives to meet such needs and one explanation for this predominated: "The marked differences among the samples in the number of kin the parents had living in Adelaide or elsewhere in Australia resulted from the size of the families into which parents had themselves been born" (Martin: 1970, pp.311-313). The demographic problems, especially those of the age at which the last child leaves home and the kinship networks formed by children's marriages, were compounded by the women themselves having smaller families, and, especially after the Second World War, by their younger age at marriage and at child-bearing - the effects of which are just beginning to be felt.

Not all the problems are of demographic origin. Australians have always felt that there was a danger in becoming too familiar with one's neighbours: "But Mum had a good convent education and fought to maintain gentility and apartheid" (Moffit: 1969, p.76). This has also been ever more the pattern between relatives, especially between the married younger and the older generations.

"Most ... were adamant that relatives must not be allowed to run one's life" (Martin: 1970, p.313). This is what is meant when it is said that the nuclear family has become increasingly independent of other relatives (Taft and Walker: 1958, p.164).

However, the major changes have undoubtedly been in the way of life and in the extent to which married women work outside the home. Over the last generation there has been a disintegration of suburban life. Part of it is undoubtedly the price of privacy, using that term in a somewhat broader way than Robin Boyd intended. As the small families have turned in on themselves and ever more emphasis is given to the rearing of the children, priority has been given to the home, almost as a castle (Boyd: 1952, pp.115-120). The proportion of disposable income going on the home has been rising faster than expenditure on anything else except the family car (Kondos: 1965, pp.311-312). The hire purchase debt formed almost entirely by the purchase of the family car and the furnishing of the family house rose from $10 million in 1945 to $804 million in 1961 and then doubled again by 1970 (Colliver: 1974, p.55). Houses and the blocks of land became larger, and families were more likely to move to new houses in unfamiliar neighbourhoods. In these new settings they did not get to know their neighbours as well as past generations would have done; the family car saw to that, allowing - almost enforcing - shopping in distant and cheaper supermarkets instead of in the local store, transporting everyone to a faraway beach at the weekend in preference to wandering to the local sports oval, taking husband and wife to a League's Club in another suburb for dining, and taking family members straight to work instead of having them meet neighbours at the bus stop or railway station. A decline in church-going tended often to sever the last neighbourhood link.

Certainly housewives could try to improve the position, and their methods have been described (The Patterson Report: 1972). They include working for their children's school, especially cutting lunches in the tuck shop, an activity that is no longer available in middle age. Knowing the doctor and

chemist is important. Visits to the large shopping centres fill needs other than buying - some women always go through the same check-out exit at the supermarket so that the girl on the cash register will recognize them. Radio and television provide company of a sort; a well-established pattern is for women to work furiously all the morning so that the housework is finished as the midday film begins on television.

Without doubt, the major assault on suburban life has been the fact that an increasing number of women work part or full time. Fewer houses have women at home all day, and few neighbouring women feel that they have common interests. This change, and the reasons for it which flow directly from the transformation of society already described in this chapter, will be examined in the next section. However, it should be noted here that the increase in the proportion of working women has been partly caused by the decay of suburban society and has in its turn intensified the decay and the ensuing flight. There are other anomalies. A good deal of the need to work has been caused by the more expensive houses and children, neither of which are enjoyed as much and both of which are to varying degrees neglected by the working wife. Some of this neglect gives rise to a new range of wife/mother neuroses. Many of the working wives are greatly overworked, for Australian husbands have not yet learnt to accept or cope with a fair share of domestic work; many husbands resent the little they do as detracting from their work and leisure time. An ideology of the virtue of women's work has been developed at the same time as the work ethic itself has come under attack. An Australian sociologist has argued that the correct and inevitable solution will be for the husband to withdraw to a point of less involvement in his work while the wife becomes more involved with hers so that a symmetrical position is reached where neither is obsessed with either work or domestic matters (Bryson: 1974). However, it is at least as likely in many marriages that husbands will feel that they are putting insufficient time into their job and wives will feel that they are being inadequate in the home. Recent

evidence (D. Campbell: 1976) suggests that the dilemma will have demographic effects. Both partners will see some of the resolution of their problem in postponing childbirth or curtailing family size.

Part of the disintegration of the suburban housewifely way of life has also sprung more directly from demographic concerns and ideologies. The respect for having reared successful children is by no means yet a thing of the past, but the same is not equally true of having babies and being largely involved in looking after them. This loss of maternal status, which means a loss of housewifely status, has been well put by one mother. "Child-bearing is now a little shameful. Now no drunk shouts good naturedly as you pass en famille: 'Good on yer, missus. I love a battler!' Even my Catholic friends have not told me lately that there's a crown waiting for me in Heaven, and when did you last hear someone pronounce at a wedding: 'May all your troubles be little ones'?" (Moffit: 1969, p.80).

There may be a deeper conflict between the child-centred family with its intensive investment in a small number of children and child-bearing itself. When most women left school at fifteen, and many thereafter did unpaid domestic work for their parents and other relatives for years, marriage and motherhood represented the initiation into the adult world of responsibility. However, young women who have been educated for long years in a society which increasingly lays emphasis on careers, and who have reached adulthood as part of a continuous process of child development without any drop into menial work, may well feel directly threatened by competing children - that the process of child development is still not complete or not fully fulfilled in themselves without having to abdicate and give priority to being their children's hand maidens in the process. Similar feelings may not be completely unknown in their husbands.

Women's work

The major social change with demographic implications in the succession of such interrelated changes which we have been follow-

ing is undoubtedly the increasing employment of married women.

In the nineteenth century whether a woman worked was largely a question of social class; the poor frequently did so, at least before marriage, while employment was rare among middle-class daughters. Working-class daughters were also more likely to be allocated chores because there was no hired help to assist their mothers (Turner: 1969, pp.13-14). Domestic service was the first great source of female employment, first the convict women, then the immigrant girls and ultimately the native-born, who were likely to accept such employment only on a day basis and rarely became faithful old retainers (Anderson: 1920, pp.296-298). In the 1870s and 1880s women's employment in industry expanded with the growth and mechanization of light industries, such as textiles, clothing, footwear and foodstuffs, but outwork, largely for clothing manufacturers, also continued in the homes (Turner: 1969, p.19). The census of New South Wales showed 16 per cent of women to be employed in 1871, 17 per cent by 1891 and 18 per cent in 1901; proportions which the Commonwealth Censuses showed to have climbed to only 19 per cent in 1954 and 20 per cent in 1961, just before a new trend was established with dramatic and sustained rises. Probably all censuses underestimated part-time domestic work and clothing outwork. The 1871 census showed almost half of the employed women working as domestics, one-sixth in industry which was dominated by the clothing trade and another sixth in agricultural and pastoral pursuits. In the next 30 years, agricultural work declined, domestic work slowly increased, industrial work rose steadily but moderately, and professional work, such as teaching and nursing, multiplied by two-and-a-half to employ over an eighth of all working women. In 1901 a majority of working women were under 25 and overwhelmingly single, the only exception being the professions, an indication that even then it was permissible for highly trained married women to work. Whilst in 1911 domestic service, dressmaking and working in hotels provided three-fifths of all female jobs, half a century later the proportion had fallen to less than one-sixth.

Change up to the Second World War came from three causes: transformation of the economy and the occupational structure, the fact that society did not expect women to be so greatly protected, and periodic crises. The changing economy exhibited a vast growth in its tertiary sector and during the first three-fifths of the century female employment increased more rapidly than did factory employment. The New South Wales Education Department regularly collected and published the occupational intentions of school-leavers up to 1950, and these show the proportion of girls who intended to stay home (admittedly rising slowly in average age over time) and not seek a job as falling from 78 per cent in 1930 to 62 per cent in 1939, 45 per cent in 1946 and 24 per cent in 1950 (Cooper: 1969, pp.69-70). The opposition to women replacing men was voiced from the turn of the century when the Sydney Morning Herald complained about women replacing men as labourers (apparently as cleaners in industrial and commercial premises), while adding that their children were suffering (P. Caldwell: 1966, from SMH: 1903), until the depression of the 1930s when female employment fell less steeply than male employment partly apparently because they could be employed on lower wages (Summers: 1975, pp.396-402).

Two major changes followed. The first was the rise in female employment during the labour shortage of the Second World War, 35 per cent, and over 40 per cent if the Services and Land Army are included (Summers: 1975, p.416), and the change in the nature of employment as women went into heavy industries for the first time - industries which were no longer quite as heavy as the Satanic mills of a generation earlier. Females formed one-third of the work force by 1943 (Hutton and Knox: 1948, p.14). Although this proportion subsequently fell, the experience was not forgotten by either employee or employer, and set a precedent for the widescale employment of women in factories as the post-war boom continued through the 1950s and labour needs were met by massive immigration. On the whole it was not the native-born or the North-west European immigrant

women who took such jobs - they went to the offices- but the Italian, Greek and Yugoslavs who became the backbone of the lighter industries (Martin and Richmond: 1968, pp.216-217).

Until the Second World War the fertility and marriage changes which had been going on for over half a century did not seem to have had much impact on occupational structure. But from that time onward these changes could hardly but have an impact. At the outbreak of War, almost one-fifth of the workforce had been female, a situation made possible by the employment of women who never married and others who worked before marriage. During the preceding decades, the proportion of women who never married had declined, but this could be compensated for by employing an ever higher proportion of females between school and marriage. This alternative was almost exhausted by the time the average age at female marriage began to fall steeply. Employers had little alternative to encouraging married women to work. Young married couples were often not unwilling for the wife to continue working for a while; she was still young, often very young, and neither wife nor husband had made the savings before marriage which they would have made had marriage been delayed to a later age. They were reasonably confident (until the 1960s when they became very confident) that the wife would not become prematurely pregnant. In fact it was probably this greater confidence in contraception and in the wife's ability to help get them on their economic feet after, rather than before, marriage, which was the prime cause in lowering the age at marriage. Prosperous conditions also gave confidence, and, on average, the wife's education suited her better to many forms of occupation than had her mother's.

This substituion of married women for single women so exactly paralleled the post-War marriage changes that until the early 1960s the proportion of women in the workforce remained almost constant. Subtle changes were, however, occurring: not all the substitution was from the reservoir of married but childless women, while some of the latter were tempted to retain the job and remain childless a little longer. The stage was being set

for the more dramatic changes of the 1960s and 1970s.

An analysis of the participation rates of economically active women (Alberto: 1977) shows that the proportion of economically active females remained astonishingly constant throughout the present century until the early to mid 1960s. Amongst women 25-29, 27 per cent were employed both in the decade before the First World War and in the 1950s. There had been a jump between pre- and post-World War II years in younger women working, but no continuing trend during the late 1940s and 1950s, except for a decline amongst 15-19 year-olds from the early 1960s as more continued with their education. Amongst women over 30 there had been a gradual but significant increase in employment after the Second World War. Much of this can be explained by re-employment in part-time or full-time work as children grew up. Before the War, few women ever worked again after marriage; no age cohort reaches a level of over six per cent at any age. After the War each cohort of married women fell to a low point of participation during the main child-bearing period, usually 25-29 years of age, with a subsequent rise, peaking during their fifties. The proportion working at the bottom of the trough rose consistently from 8 per cent for the 1917-21 birth cohort to 18 per cent for the 1932-36 cohort; at the height of the hump 14 per cent of the 1917-21 cohort were working, while 21 per cent of the 1922-26 cohort were working at 35-39 years of age.

In the 1960s this pattern of gradual change was suddenly broken. Between the early to mid 1960s and the early to mid 1970s, participation rates at 20-24 years of age jumped from 50 per cent to 59 per cent (the same change in a decade as had been recorded over the previous half century), that at 25-29 years sky-rocketed from 27 to 41 per cent (after no change over the preceding half century); while even in the older age groups rates multiplied by about one-and-a-half times in a decade. The results are just as remarkable when measured by age cohort, although they are somewhat magnified by the effect of passing from the child-bearing trough to the later hump: the youngest cohort to show little change in participation from the mid to late 1950s until the early

to mid 1970s was the 1907-11 birth cohort - the 1912-16 one climbed 33 per cent, the 1917-21 one 61 per cent and the 1922-26 one 86 per cent (younger cohorts are too affected by the trough to allow this kind of calculation). Amongst married women the figures are even more spectacular. In that fifteen years every birth cohort born after 1917 more than doubled its participation (until the trough interferes with calculations). The trough itself was becoming shallower fast: at its low point only 18 per cent of the 1932-36 birth cohort were still working, but 25 per cent of the 1937-41 cohort never gave up work, a level which reached 34 per cent among the 1942-46 cohort. At that rate of change, nearly all women would continue to work throughout their married lives by the end of the century.

The period was a prosperous one, and every female cohort was better educated than its predecessor, but the prosperity had continued for a generation and there had been no quantum jump in education. There can be no doubt at all that the advent of the pill in 1961 was the harbinger of this revolutionary social change, and that it was sustained by the addition of easier abortion, the IUD and sterilization. There remains a question about the exact nature of the impact on female participation in the labour force. It can be argued that by the mid-seventies most of the new innovations had been absorbed and that, although nearly all women would eventually work in early and late marriage, a stable position would be achieved where perhaps no more than half would remain employed in the main child-bearing period. Indeed, it can be argued that no higher level of participation would be likely, because that of the younger wives in the 1970s was possible only because older age cohorts of wives were the survivors from an earlier culture and had lower participation rates, thus being available for informal child-minding. However, the full possibilities of easy abortion, sterilization and IUDs had by no means been experienced by the mid 1970s; nor had the chain-reaction effect on mothers of young children of knowing that most of their peers in this condition were continuing to work. It also seemed likely that there would be a gradual trend

towards more formal child-minding, with creches set up by government, employers, commercial interests and community groups.

The mechanisms of this change are now becoming clearer. The analysis of retrospective data collected from married women in Melbourne in 1971 (Melbourne Survey: 1972) allowed a comparison of the work experience of the 1955-59 marriage cohort (still married too early to have felt the full impact of the pill) with that of the 1945-49 and 1935-39 marriage cohorts (Young: 1976). The brides of the late 50s exhibited a similar work pattern to those of the late 40s except at a participation rate about 50 per cent higher; they were one-and-a-half times as likely to work between marriage and their first birth and while still having a pre-school child. The great change, from a situation where working immediately after marriage or with a pre-school child was unlikely, had occurred between the pre-War and post-War marriages. Whilst only one per cent of women married in 1935-39 had worked continuously through every stage of child-bearing and child-rearing, 16 per cent of those married twenty years later had done so. Amongst all married women in 1971, ten per cent had worked continuously, but 19 per cent of those with matriculation or tertiary education had done so, and, while only 10 per cent of the native-born had worked continuously, 20 per cent of immigrants had done so. British immigrants in fact behaved much as did their sisters in Britain, who exhibited much higher levels of economic activity during the 1950s and 1960s than did Australians. These figures tend to confirm the proposition that by the end of the century nearly all married women will work most of the time; by 1973 women made up one-third of the labour force, compared with little over one-fifth a quarter of a century earlier (Women's Bureau: 1974, p.4). We would understand more about the increase in the female workforce, and would be able to predict future trends with more confidence, if we had better analyses of just how it happened. We need to know the extent to which women took on jobs always done by women, and whether they joined men in other jobs or completely displaced them.

The nature or extent of maternal responsibilities seemed to have little to do with the likelihood of working; a 1966 survey in Melbourne, with a sample containing disproportionate numbers of the poor, showed that 36 per cent of wives without dependent children were employed compared with 31 per cent of those with dependent children, a figure which varied little by the number of children (Harper: 1967-8). There was even little difference by marital circumstance: in households with male heads, 31 per cent of wives were working, while where the head was a female (a widow, divorcee or separated woman) 38 per cent had jobs. However, these gross figures do hide the distinction between full-time and part-time work, the latter being particularly important in explaining the return to work after the child-bearing trough. Women constitute 81 per cent of all part-time workers, and five-sixths of these are married women, while, amongst males, such work is of significance only amongst the very young who are still being trained or the old semi-retired (Women's Bureau: 1974, pp.51-53). Part-time work is not of great importance in manufacturing, but is dominant in the areas of amusements, hotels and personal services. The retrospective information from the Melbourne wives showed that 47 per cent had worked before the first birth (five-sixths in full-time employment), 17 per cent when they had a pre-school child (half full-time), while thereafter 40-50 per cent worked (with full-time employment rising from two-fifths when the youngest child was still in primary school to half when all had left school) (Young: 1976). The native-born were more likely to work part-time but this may have been largely a result of lowly educated Southern European immigrant women having little option but to accept full-time factory work. In the prosperous conditions before 1971, part-time employment resulted from choice, not necessity; only five per cent of such workers reported that they would prefer full-time work (Women's Bureau: 1974, p.49). By 1974 most differentials in employment, those by nativity, education and family situation, were lessening; rural areas still had much lower participation rates but this was probably mainly a reflection of the lack of employment opportunities.

No surveys have secured easily interpretable data on why women work. The temptations of the consumer society are obviously important, and in the early stages of marriage the desire to acquire and furnish a house is dominant. The nearest thing to necessity is probably the decision to return to work because otherwise there seems to be no way of meeting the mortgage or hire purchase payments (Colliver: 1974, pp.55-60). One factory personnel officer was quoted as saying, "they come along here telling us how badly they need the job, but they've all got cars" (Hall: 1969, p.26). Probably the most common reason for working would be to improve the life style of the family. Certainly the attitudes of males and females to work is not yet identical. A survey of adolescents and young adults in employment in Sydney in the mid 1970s showed females twice as likely as males to value the job because of the company, while the reverse was the case when appreciating the degree of security in the job (Connell et al.: 1975). A survey of 1,070 married women graduates of the University of Sydney showed that only 40 per cent of those in employment gave their prime reason as financial, and half of these said that they enjoyed the work. The rest said they were bored with housework, had too much time on their hands or lacked company at home. Over half of those who were not working said that they were fully occupied at home or that marriage and motherhood was a full-time career (Dawson: 1965, pp.170 and 200).

It is not possible to employ income figures directly to demonstrate the need for extra earnings; in households where the wife works, husbands on average earn somewhat more than in households where she does not (Women's Bureau: 1974, p.17). In a 1963-64 Sydney survey wives worked in one-quarter of the families with an intact marriage (Edwards and Gates: 1966, pp.87-95). Rather startlingly, they contributed only 28 per cent of the family income, and only one in twenty-five contributed 50 per cent or more. Obviously, the Australian husband's machismo was in little danger. The explanations included unequal salaries paid to men and women, more part-time work by women, a lower proportion of women with continuous service and hence rises up

the ladder of seniority, and an undoubted reluctance to appoint even those with continuous service to senior positions. Australia's system of separately taxing the spouses, together with a moderately steep progressive tax scale, meant that the effective contribution of these wives' earnings was considerably greater than 28 per cent. Certainly, the fact that the wife is working necessitates expenses that would otherwise not occur, such as child-minding, prepared meals and usually more clothing, but families where both are working save 50 per cent more than single-income families.

Stephenson may well be right in claiming that married women at the beginning and end of the present century lack work options: in 1900 it was almost impossible for them to work, and by 2000 they will find it as difficult as their husbands to refuse full-time employment (Stephenson: 1970, p.1). However, three-quarters of the way through this period of transition all problems have not been resolved. Full-time work still presents greater difficulties for wives and mothers than for husbands and fathers; of those employed Sydney University graduates surveyed, 51 per cent reported that they did not have enough leisure, 44 per cent that home and work responsibilities often made them very tired, and 24 per cent that they did not have enough time with their children (Dawson: 1965, p.165). Children are still mostly looked after by relatives or neighbours and most working mothers would be unhappy to leave their children in more institutionalized care. Not all husbands fully approve of their wives working, and employed wives are most unlikely to be fully settled in their jobs unless they have this approval (Bryson and Thompson: 1972, pp.71-75).

There can be little doubt that better contraception and easier abortion greatly speeded up the movement of married women into the workforce. This was not discouraged by Government: "Acknowledging the crucial importance of working wives, and specifically wives with young children, the Minister for Labour and National Service asserted in 1967: 'Such is the overall shortage of labour that my Department and I are busily engaged

in hastening this trend because it does, of course, add considerably to our national income' " (Faust: 1969, p.151). The impact on economic activity of a fertility transition that at first allows and then compels women to seek full-time employment can hardly be overestimated. Given Australia's present mortality level, a stable population with completed family size of six children and adult males alone working would mean about one-fifth of the population in the labour force, while one with two children and adults of both sexes working would mean three-fifths doing so.

There are reasons why this latest change is probably irreversible, and why fertility is unlikely to rise again much above replacement level and might well fall significantly below it. As will be seen in the final chapter, the contraceptive and employment changes are interrelated. The jump in employment was made possible by contraceptives that were felt to be one hundred per cent effective and allowed one to control one's life. This effectiveness meant that the real contraceptive decision was no longer to keep on trying to minimize the chance of having a baby, but to positively decide when to stop contracepting and have one. This was a heavy responsibility and was likely to be deferred. Such deferment of the first birth was all the more likely because the efficiency of contraception meant that, prior to it, commitments had already been made both to employers and to expenditures. The last was especially the case with housing commitments; for the first time, the age of the pill meant that some financing organizations were willing to grant short-term, high-instalment-repayment second mortgages solely on the grounds that the wife was employed and could guarantee that she would not have a baby until full repayment had been effected. Subsequent full or near-full employment for the wife during the family-building stage of the marriage meant that career and re-employment prospects had to be weighed against the duration of absences with infants and the alternative obligations of small children, as well as taking into account the impact on the husband and his job. The job also provided an alternative interest to children, especially as one's peers were ever more likely to

want to exchange experiences about employment rather than child-raising. Increasingly there were reasons for wishing to stop at two children, or even to defer births so that the family size might fall short of two even if that number had been thought of as an ultimate target. In these circumstances, an ever greater proportion of the community developed a vested interest in near-perfect contraception and in access to safe and relatively cheap abortion.

Australia's position was not unique, as it had not been earlier in the fertility transition. From 1950 to 1970 the rise in the proportion of women in the workforce was similar in Australia, New Zealand, Canada and the United States, the last keeping slightly ahead in the number of women in the workforce (Blake: 1974). However, England, like most other European countries, did not show a pattern of continuous increase; indeed England, Switzerland and Denmark not only showed little change, with about 50 per cent of women in the workforce, but exhibited higher levels in 1950 than even the United States was able to reach in 1970. However, if the analysis is confined to married women, a much closer resemblance appears between the North-western European patterns and those of the overseas English-speaking countries. The explanation is that Australia and the United States began the period with only one-tenth of women 25-34 unmarried. England had almost twice that proportion, while various other Central and Northern countries had 2½ to 3 times as much; in these European countries the proportion of unmarried fell steeply compared with only gradual falls in Australia and the United States. There is some evidence that the pre-1960 contraceptive revolution had been more successful in the overseas English-speaking countries, but that some countries in North - western Europe had attained in the 1970s similar levels of pill use (Economic Commission for Europe: 1975, p.123).

One could perhaps interpret the movement in women's economic activity as bringing the roles of men and women closer together once the contraceptive revolution had minimized the

biological difference. Thirty years earlier Parsons had commented on the relatively unsatisfactory position of American women, explaining their dissatisfaction on the grounds that "our society is conspicuous for the extent to which children of both sexes are in many fundamental respects treated alike" and that it is "a strongly established pattern that all children of the family have a 'right' to a good education" (Parsons: 1942, pp. 604-606).

Ideas, ideology and legitimation

Ideas and fertility fashions are treated late in this chapter, not because they have no importance, but because they often seem to have been more a product of the demographic and contraceptive revolutions than its cause.

One of the continuing themes of Australian historians has been mateship: a fondness men felt for men's company, developed in frontier conditions when women were scarce, and not overtly homosexual. Observers who originally came from other Western societies have often noted the division of the sexes in the society in day-to-day activities and in roles (Spate: 1968, pp.283-4). This was particularly the case in working-class society prior to the post-World War II consumer society (see Walker: 1945, pp.27-29, on the Northern New South Wales coal fields in the early 1940s). It has been argued that this outlook consigned women to domesticity and motherhood and made Australian men resentful of women turning up in the work-place as partners on the job, thus explaining lower female work participation rates in Australia than Britain.

It is impossible to discount completely Australia's strong belief in the overriding importance of population growth as a pronatalist factor at the level of the individual family. Apart from temporary losses of confidence in economic depressions, this viewpoint was first successfully challenged in the society as a whole only during the 1970s. As late as 1971, only one-tenth of Australians had any misgivings about the political policies which had increased the population by 50 per cent over 20 years

(Melbourne Survey: 1972). In these circumstances, women who bore and raised new Australians were given more credit for the achievement than was the case in America in the late 1960s, a circumstances which may well help to explain the lag in Australia's fertility decline. It would doubtless be wrong to suggest that either population was chiefly motivated by ideas of the national or global good; but it might well have been the case that, when more complete control over fertility became possible and when alternative temptations to child-bearing strengthened, then American women earlier found an extra argument available and convincing. Attitudinally young Australians went the same way in the 1970s (see final chapter).

Perhaps the most pervasive shift in ideas during the fertility transition was that towards ever more concentration of emotions within the nuclear family and an increasing belief that the chief role of parents was to do their best for their children. This is more than a peripheral belief; it may well be the chief mechanism of transition. In the early 1970s a report on the Australian woman concluded that "Her hopes centre on the children and their future, and, in the modern world, she sees education as essential to secure this happiness", and that "Restricting family size is considered necessary for the welfare of existing children" (The Patterson Report: 1972, pp.3 and 175). This attitude came closest to challenge in the Women's Liberation debate of the late 1960s and 1970s, when the case was strongly put that women should be sacrificed neither for their husbands nor for their children. Nevertheless, no survey work with which the writers have been connected (Queanbeyan Survey: 1971; Melbourne Survey: 1972; Caldwell: 1973; Caldwell et al.: 1976) has suggested that this challenge has been at all successful in shifting the focus off the children; it may have helped to send women to work but they explain the need for an increased income in terms of the house and the children. Certainly the period since the 1850s with its erection of a vast system for continuing education and training, has witnessed a vast extension in what parents can economically (and emotionally) do for

children and a complementary reduction in what children can financially contribute to the household.

Allied to this change has been the extent of the consumer revolution. A revolution of sorts has been going on since the neolithic revolution, and its acceleration explains both the settlement of Australia and the onset of the fertility transition. However, fed by hire purchase, centring on the kind of home one could create, and permitted by the most sustained economic boom since the beginning of fertility transition, the 1950s and 1960s seem to have witnessed a greater determination to live better and more expansively than previous generations. The bard of the new big spenders, describing them as the "beach generation", wrote, "Since the War, a new generation has grown up in Australia which is radically different in its attitudes, beliefs and way of life to any previous one" (McGregor: 1966, p.277). He described them as materialist, aware, 'sharp', and brash, and diagnosed the change as a fundamental shift, apparently made possible by education and rising real incomes, from working-class to middle-class aspirations. He described their basic motivation as a "concentration on material possessions and having a good time", but conceded the central importance in their plans to own a "good home". Another observer has stressed that it was the consumer tastes of the 1960s which increasingly dictated the need for two income-earners in the family (Summers: 1975, pp.442-446).

Another attitudinal change which has been intimately linked with the fertility transition, largely a product of it but in turn helping to accelerate change, has been the emphasis on greater sexual freedom - the ideological separation of sexual pleasure from reproductory roles, just as contraception more concretely separates sex from reproduction. Better contraception was certainly the basic force, but new impetus was provided by the upheavals of two World Wars and by the social and ideological dissensions of the Vietnam War period. The New Left tended to favour sexual freedom as a good in itself, but it also encouraged the birth of the Women's Liberation movement which,

on egalitarian sexual grounds alone, was committed to fighting the double standard and to achieve for females what had anciently been the actual rights of males.

The Women's Liberation Movement has bitten fairly deeply. Only a small minority, even of women, say that they approve of it, but there has been a significant reaction to its arguments. At least among young couples, husbands are much more conscious than a decade ago that their wives have decisions to make, women are more inclined to believe that their individual security and integrity is bound up with continuing to have a job, and, if they do continue working, husbands are likely to give a little more domestic help than they once did. The Movement may well have done something to accelerate the upswing in female economic participation rates. Nevertheless, in terms of work, reproduction and contraception, it is difficult to see its contribution as much more than an affirmation and justification of changes underway. By 1975, even the Australian Women's Weekly was publishing articles by single women along the lines, "I value my freedom highly. I am afraid of becoming dependent on the child's father, both emotionally and economically ... I am afraid of becoming a domestic drudge" (Coote: 1975).

A question of legitimation also arises. Contraception became respectable during the 1950s and 1960s, and abortion almost respectable during the 1970s, partly because of the debate about global population explosion and environmental questions. These were the substance not only of newspaper and magazine articles but of school lessons and sermons from the pulpit. Certainly, young working women in the 1970s were very ready to explain their fertility restriction in terms of these issues (D. Campbell: 1976). Though this may have been largely the froth of rationalization, the reality is that fertility restriction became easier to practise. In the 1940s only a minority of doctors would help a woman to practise contraception; by the 1960s most did so with the grace that implied that it was a noble mission. It was certainly this legitimation that stayed the hands of juries and ultimately of

police in the 1970s and greatly increased access to abortion.

A more difficult question is whether the "baby boom" of the 1950s partly also had ideological underpinnings which helped to cause and sustain it. Betty Friedan has argued that in America (and the position was doubtless nearly identical in Australia) the late 1940s and 1950s found, for the first time, nearly all women married, and that the result was an accompanying justification of motherhood as women's first priority, a view that could not be taken without qualification by the pre-War media because of the fact of large numbers of unmarried women (Friedan: 1963). She argued that a single generation, especially the middle classes of that generation, were strongly affected by this feminine mystique, but that it was fundamentally unstable because it did not satisfactorily meet the need for identity, a need that was apparently created to a considerable extent by prolonged education and its implication of roles beyond the walls of the house.

Two points remain.

The first is the impact of the written word and of the other mass media. Australian novels or films have probably not had anything like the impact of books imported from England or films from America on popular attitudes and mores. Even the imports probably largely reflected what was already happening (especially in the conditions imposed by Australian censorship until the 1960s). Admittedly continued behavioural change probably requires some supporting reflection in popular culture, and that reflection helps to sustain the direction of change, but such a role for popular culture is hardly a causal one - indeed it may be an inevitable one. Australian novels were usually not read by the mass audience, even of the well educated, so hardly played any considerable sustaining role. They sometimes reflected change, although frequently in books published well after the event in a kind of nostalgic after-glow. This is the case with Xavier Herbert's Soldiers' Women, a boisterous account of changing sexual mores in wartime Sydney (Herbert: 1961) or of Kylie Tennant's Tell Morning This, a story of the seamier side of

Sydney around 1950, and significantly written in the early 1950s but not published in full because of censorship restrictions in the earlier period (Tennant: 1967). The impact of the widely read Australian women's magazines is different. The older ones rarely encouraged married women to go to work or restrict themselves to two children. Had they done so the reaction may have been falling sales rather than accelerated social change. However, it is likely that, in the early 1960s, they took the message of the availability of the pill to a greater proportion of women in Australia than was at that time the case in any other society; certainly they gave it great coverage, and Australian acceptance of the pill probably led the world until around 1965 (Lavis: 1975, p.19). However, the scare about the long-term effects of the pill, which was an event of the late 1960s and the beginning of the 1970s, and which presumably was responsible for a slowing down in pill acceptance and perhaps a rise in the birth rate, was reported more extensively, and often more dramatically, in the newspapers than in the magazines.

The second point is the possibility of the separate existence of "an ideal family size" as a feature of the society which actually affects fertility. It has been discarded (Ryder: 1973, 1974) and defended (Blake and Das Gupta: 1975) in the United States. Certainly, in Australia, commercial polls have shown a consistent series of average ideal family sizes given by polled respondents declining from 3.6 children in 1947 to 2.7 in 1974 (Spencer: 1975, summarizing Morgan Gallop Polls: 1947-1964). However, they hardly seem to be either a plan or an inspiration for child-bearing; the 1947 and 1957 figures were higher than either the total fertility ratio or the average completed issue of marriages had been for over a generation; even the 1974 figure was last attained by the women who were born in the late nineteenth century and who married in 1916-20 (Spencer: 1971). They did not forecast the "baby boom", but then the American figures, even for the very young, peaked around 1960 at the end of the "boom" (Blake and Das Gupta: p.234).

It seems unlikely that in Australia they represent much more than observations of families already formed, perhaps of the same period as the families of origin of the respondents.

A summary view of the transition

The fundamental nature of the fertility transition in Australia was that it was a historical process, taking time to play itself out because the implications of each change only became apparent and effective over time, leading almost inevitably in due course to another change. Fertility decline took time because these changes took time, and not because people were slowly mentally adjusting to the implications of industrialization or because the economy demanded a different proportion of the population as labour force at successive stages of industrialization.

What is clear is that children were no great economic problem in mid-nineteenth century Australia. Why this should have been so has never clearly been explained for any Western society. They were not a net asset; there was little movement to increase or maximize fertility. The very high fertility of Australia at the time was largely a product of the shortage of women and the favourable marriage market for them; women married early and faced many fecund years in a society which contracepted little. The fact that the economic strain of large families was small must be explained by the fact that children cost little except amongst the really well-to-do. Families were less child-centred and young children wore hand-me-downs. Even amongst the poor, children had their Sunday-best, but this was used only for Church, family occasions and being photographed (hence, to us, they seem to have always been dressed in this way), and was cut and sewn by female relatives. At perhaps ten years of age, they began either to earn enough to help keep themselves or they were kept on an apprenticeship. In an age when the standard of comfort depended on the number of willing hands in the house, their work was appreciated at home or by relatives. A father with many daughters could be very pampered indeed (Kingston: 1975). Such relatives kept them

and preferred to have a relation in the house rather than a stranger. Children were expected to work in and around the house and were often chided to do so by Biblical quotations, which invariably struck chords because of the same quotations used many times in an earnest and fairly strict upbringing, but were praised as well, often in similar language.

In the course of two or three decades, some fundamental change occurred. The change itself was not as dramatic as its consequences; once the balance was upset and the system was put in motion, the changes were inexorable. The change was certainly not increasing acquisitiveness or the passing of the traditional society. Immigrants to Australia had transplanted themselves half way around the world because of acquisitiveness, and no well-established traditional society existed. Manufacturing offered more scope for female employment from about the 1880s but this meant daughters could earn more, rather than less, while no-one thought of their mothers seeking such employment (Kingston: 1975).

Only two changes of sufficient magnitude occurred in Australia. Firstly, by a complex interaction between demand and supply, that involved parents, educational entrepreneurs, government and employers, and because parents had to keep up with the Jones because employers changed their requirements when they found the kind of children the Jones parents could supply, schooling spread over the face of Australia. The change had little to do with the growing complexity of jobs during that time, and, in any case, the largely literate immigration stream had to date proved surprisingly capable. Secondly, contraceptive ideas, attitudes and experience were part of the continuing migration stream from Britain. One could in fact argue for the primacy of the second change, but the ease with which the imported innovation took local roots suggests that a local need had arisen as well. The Australian occupational structure, income, rate of economic growth (until the early 1890s) and, to a lesser extent, social atmosphere and way of life were all substantially different from Britain, but the conversion of the

society into one where parents planned for their children's education, and children thought of themselves as school children in training for the adult life, occurred at much the same rate over an almost identical period.

Schooling meant that children were in an institution not completely unlike Church for most of the week and had to dress appropriately; and they needed equipment as well. For a considerable part of the time they were unavailable for paid employment, and could not as easily be supplied to different relatives as the need arose. This is probably only half the story. Parents thought of school children as being more dependent, and as being dependent for a longer period than children who did not go to school. Children thought of themselves as being more dependent and as needing extra expenditure and as being unsuited to many kinds of employment even after school hours. Parents were likely to agree, partly because during the critical years of early transition in the 1870s and 1880s unschooled parents were trying to cope with the demands of their school-attending children, and feeling both proud and a little incapable and self-effacing in the process, and partly because, from the 1890s onward, an increasing proportion of the parents had been to school themselves and assumed the new parent-child relationships. The whole process can be observed today in many parts of the developing world (Caldwell: 1968, pp.107-110). Schooling encourages expenditure on children in a rather subtle way because the educational ladder to success provides a series of goals, not only for children, but also for parents, which tempt them onward. It is easy to forget how recently most economic success in the community was not tied to such a series of targets. In those days the main way of helping sons was to encourage them to join their fathers' businesses or work, and this was usually a net economic gain to fathers. The ultimate cost to the parents cannot be measured by a simple balance sheet showing financial outlays on education and children's earnings foregone; the transformation of the expenditure pattern can be understood in terms only of the transformation of the balance within the family of emotional and material obligations.

The educational and emotional changes have continued. Periods of education have been extended both by State and voluntary action. Parents have provided ever longer education both because other parents did so while employers demanded ever more educational qualifications and because they felt guilt if they did not give their children more education than they themselves had obtained. Current interviewing demonstrates the extent to which each generation is orientated towards the occupational success of the next generation.

Once the fertility decline and the related increasing familiarization with mechanical and chemical contraceptives was underway the change had an inherent impetus of its own. It was only a matter of time before marriage ages could fall and the proportions married could rise, and, when such change could occur, it would, for the single condition, often either celibate or relatively sexually deprived, was one at odds with the central assumptions of the society about the full life. Eventually marriage changes would be so great that from the point of view of both the economy and the married couple some concessions to married women working would have to be made, concessions that would slowly destroy the type of society in which non-working wives lived. Such destruction had begun decades earlier when the reduced birth rate ensured that women would have fewer siblings. This alone would probably have eventually brought most wives into the workforce, but the process was speeded up by contraceptive advances that greatly increased a woman's ability to guarantee that she would not become pregnant and by a reduction in the difficulty of obtaining abortion which meant she retained options about child-bearing even if she became pregnant. These changes in contraception and abortion ultimately brought the movement towards universal and early marriage to a halt and by the early 1970s some reversal may have been beginning, although any movement in statistics on marriage may have reflected only a somewhat greater increase in de facto marriages instead of formal ones. By the mid 1970s the fact of ever more women working in their main years of potential reproduction, together with some reduction

of the proportion of time spent in formal marriage, meant that fertility levels were unlikely to stabilize much above replacement level and might well eventually lead to population decline. It was difficult to see any mechanism, of the kinds that had propelled successive changes over a century, that would again raise fertility substantially above replacement, although there was still some room for debate about the nature of the "baby boom" of the 1950s.

These changes had been partly propelled by shifts in the society's outlook. If attitudes played no significant role it would be difficult to explain the extraordinary similarities in demographic trends in the English-speaking world. In a hundred years, overall fertility (I_f) had halved in England, America and Australia from around 0.4, with England a little lower than the others, to around 0.2 with America in the middle, Australia slightly higher and England slightly lower. Marriage levels had surprisingly converged, and (as measured by I_m) had been almost identical in the early 1960s, with, by the mid 1970s, England recording the highest level, for the first time ever, and America the lowest. Similar battles had been fought in all three countries to make contraception more easily available and to liberalize abortion laws, and such activities in England and America secured considerable publicity in Australia. Women's rights philosophies and movements over a hundred years, intimately tied to other radical and liberal movements in the society, had hastened the fertility transition, but those movements themselves gained great strength from the actual and potential changes brought by the contraceptive revolution. There had also been a complex interrelation between both contraceptive and women's movements and the profound stirring in the community over sexual mores and the continuing effort to rid that area of human concern from many of its taboos - taboos that had sometimes become outdated or irrational only because of the contraceptive revolution. Changes in contraceptive behaviour and in a range of related activities had been hastened first by a number of severe crises, economic depressions in the 1890s and 1930s and two World Wars,

but also by the development of a consumer society with an accompanying lust for life and new experiences in the 1920s and during the 1950s and 1960s.

The argument is, then, that the order of events and the fact of their occurrence was inevitable. Ultimately they were based on the economic growth of the societies brought about by the Industrial Revolution, critical circumstances being the existence of some contraceptive knowledge and interest in nineteenth century society and the move towards universal schooling. The timing of the different stages was fixed, however, only by the broader history of the time. Part of that history was the periodic crises. However, an important part of the social history of much of the world was the contraceptive-fertility-women's position-women's work-sexual freedom changes and debate going on within the sound box for ideas made up by the English-speaking countries. Even within this society, timing was influenced by events external to demographic change. The Australian fertility decline would not have so quickly caught up with those of England and America but for the severity of the depression of the 1890s. The First World War probably shook social tradition sufficiently to hasten the move towards universal marriage in all these countries. The economic depression of the 1930s may well have postponed the movements towards earlier marriage and married women working. The Cold War, the massive move towards technical aid for developing countries and the concern with the "population explosion" not only made contraception more respectable in the 1950s (and abortion in the 1970s) but hastened the research that led to the discovery of the pill and its availability in the early 1960s. If that technical breakthrough had been delayed so would the massive increase in married women working and the trend towards replacement fertility. It is too simple an interpretation of events to attribute the fertility declines of the 1960s and early 1970s solely to the pill and easier abortion; they are attributable to the complex interaction between these changes and the new roles of women, especially engaging in full-time work throughout marriage, that

they allowed. Fertility transitions in countries which begin with effective contraception or easy access to abortion and which have much more powerful resistances to women working or the extended education of girls may have very different timing.

This survey has largely ignored fertility differentials within the various societies, although many demographic theorists have hung their theories on these pegs. Such differentials were an aspect of the Australian fertility transition, and some may even have preceded it. The New South Wales Government Statistician, T.A. Coghlan, deploring the fact of 'A New Country and a Declining Birth-Rate' (the title of the first chapter) in his 1903 book on The Decline of the Birth-Rate in New South Wales, was impressed by the "superior fertility" in the early stages of the transition of Catholic, and particularly Irish, women (Coghlan: 1903, pp.40-44). The 1911 census showed that, with the exception of the German Lutheran groups, Catholic fertility fell last and was at the time of the census still the highest; nevertheless, the retrospective evidence available from that census showed that even Catholic fertility had fallen steeply in the 1890s to a level 20 per cent below that recorded a generation earlier. By the 1954 census there was still a Catholic/non-Catholic fertility differential, but it had declined from a margin of about one child to one-third of a child (however, the proportional change was of course smaller because of generally declining fertility) (Day: 1964, pp.61-62). There has long been a marked metropolitan-other urban-rural differential, which showed no sign of disappearing during the first half century of transition (Borrie: 1953, pp.52-53). It was the product of a female marital differential which, because of the shortage of women in the country areas, had existed since the early days of settlement, and of an earlier decline of marital fertility in urban areas - indeed the rural decline may not have begun at all until the 1890s (Jones: 1971). Australian metropolitan fertility has been close to that of Britain; differences have been greater in rural areas (Borrie: 1971, p.526), but then the nature of those rural areas is very different. Farmers had, and continue to have,

higher fertility than others, but all other occupations exhibited an extraordinary similarity in their reactions to demographic transition, with extremes in fertility decline between 1880 and 1900 ranging only from about 30 per cent for those working in transport and communications to 42 per cent for professionals (Jones: 1971, p.318) - perhaps a tribute to Australia's much vaunted social egalitarianism.

It is difficult to take seriously these relatively modest differentials as signifying real differences in attitudes to family size or the value of children. If such differences exist, they are not serious enough to cause significant differences in the postponement of marriage, because by mid-century they were explained almost entirely by differentials in fertility within marriage (Day: 1970, pp.23-24). More importantly, the differentials have existed solely because one section of society attained a certain level of fertility at a somewhat earlier date than another.

It seems far more plausible to employ an explanation in line with the whole discussion in this paper: some groups felt pressure earlier to educate their children, some had access to contraception and abortion at an earlier date, and some were more likely to have working wives. Every nineteenth century report draws attention to the difficulty experienced by all but the wealthiest rural population in educating their children at all. Most of the Catholic population were sufficiently likely to heed the views of their religious leaders to have their access to contraception significantly limited. When the Church hesitated in the 1960s, Catholic contraceptive use began to converge with non-Catholic use (Caldwell and Ware: 1973, pp.23-25) and almost certainly fertility (and "ideal family size") will, as a result, converge. Until the 1960s, spermicides, and above all, the diaphragm, exhibited marked educational differentials in their use, largely presumably because of problems of use and access. This may have reflected to a slight extent the facts that educated married women were somewhat more likely to be working and their children to be staying in school

longer, but most of the explanation almost certainly lies in the way innovations diffuse. This was probably also the explanation for lower urban fertility in the last quarter of the nineteenth century and thereafter, when "the 'wicked city' theme was vigorously rehearsed during Australia's fin de siècle population crisis" (Hicks: 1975). The wickedness of the cities lay primarily in the fact that they were at first almost the only place where contraceptives could be obtained. A greater concentration on fertility differentials would throw some light on the diffusion of innovation and would explain some transient differences in reproduction, but it would throw next to no light on why the fertility transition occurred and spurious light on the long-term economic or social value of children to different segments of the population. Analyses with cross-sectional data (Becker: 1960; Easterlin: 1969) almost certainly can be confounded by evidence drawn from the relatively short period of a few decades.

It will be the task, then, in the remaining chapters of this book to map and measure the path of Australian fertility during its transition, with attention concentrated on the present century when the great majority of the population have been native-born. The major question is how well the demographic changes fit in with the sequential historical analysis presented here. Finally, the last chapter will draw together contemporary evidence to seek clues as to future sequences.

Footnotes

1. By 1890 birth rates were certainly falling in France, Ireland and the United States (in all of which they had been falling for decades), in England and Wales, Scotland, Norway, Sweden, Denmark, Finland, Germany, Holland, Belgium, Switzerland, Hungary, Australia, New Zealand, in English-speaking Canada and white South Africa. By 1900, Spain, Italy, Poland and Yugoslavia also had declining rates.

2. 1971 survey of Queanbeyan, New South Wales, described in Helen Ware (ed.), Fertility and Family Formation: Australasian Bibliography and Essays, Monograph No. 1, Australian Family Formation Project Series, Department of Demography, Australian National University, Canberra, 1973, p.A1; 1971 survey of Melbourne, Victoria, described in J.C. Caldwell et al., "Australia: Knowledge, Attitudes and Practice of Family Planning in Melbourne, 1971", Studies in Family Planning 4, 1973, pp.49-59; 1975-6 interviews in Canberra, Sydney and Melbourne described in John Caldwell et al., Towards an Understanding of Contemporary Demographic Change, Monograph No.4, Australian Family Formation Project Series, Department of Demography, Australian National University, Canberra, 1976.

3. In England and Wales in 1861 the total fertility ratio was 4.5 and the expectation of life at birth about 40 years. Thus, on average, there would be 4½ births with 3 children reaching 20 years of age and somewhat more than 2 reaching 50 years; the chance of no child surviving to 20 from this number of births would be about 1 per cent and to 50 years about 5 per cent. In Sweden around 1780, the total fertility ratio was 4.5 and the expectation of life at birth about 36 years. On average, this would mean fewer than 3 children reaching 20 and fewer than 2 reaching 50, with about 2 per cent chance of none reaching 20 and 10 per cent of none reaching 50. These calculations are made from data in Keyfitz and Flieger: 1968, and are based on the (undoubtedly incorrect) assumption that there is no association between the chances of different siblings dying.

4. Fertility had long been lower amongst certain elite groups. See T.H. Hollingsworth, "A Demographic Study of the British Ducal Families", Population Studies, 11 (1), July 1957, pp.4-26. It was probably largely controlled by withdrawal, rhythm and abstinence (for contemporary use of the latter method, in a non-European part of the world, see J.C. Caldwell and Pat Caldwell, "The Role of Marital Sexual Abstinence in Determining Fertility: A Study of the Yoruba in Nigeria", Population Studies, XXXI, (2), July 1977).

5. Ansley J. Coale, "Factors associated with the development of low fertility: an historic summary", in United Nations, World Population Conference, 1965, United Nations, New York, 1967, Vol.II, pp.205-209.

6. The 1921 census retrospective data indicated a metropolitan decline beginning a decade later and an extra-metropolitan one five years later, but only births to current marriages were cross-tabulated for that census.

7. Between 1871 and 1891 the declines in the age-specific birth rates were for the following age groups: 20-24 = 6 per cent; 25-29 = 13 per cent; 30-34 = 13 per cent; 35-39 = 13 per cent; 40-44 = 12 per cent.

8. This involves a comparison of fertility levels of all Australian women with those of married Hutterites in the United States in 1921-1930 when they achieved a total marital fertility ratio of about 12½.

9. It is significant that the mid-century censuses collected data on literacy but not education.

CHAPTER 2

THE COURSE OF FERTILITY DURING THE TRANSITION

Between 1788, when the First Fleet landed in Sydney Cove, and December 1825, when Van Diemen's Land (later Tasmania) became a separate colony, the European population in Australia grew very slowly reaching only about 48,000 by the end of 1824.[1] The first census was taken in 1828 in New South Wales, followed by Tasmania in 1841, South Australia in 1844, Western Australia in 1848, Victoria in 1854, and Queensland in 1861. The census dates and populations enumerated in each of the then Colonies between 1828 and 1901 are shown in Table 2.1. The first census planned to secure uniformity of data collection and classification in all States of the Commonwealth was that of 1901, but not until the 1911 census, when a central authority, the Commonwealth Statistician, was appointed, was such uniformity really achieved.

In the period 1825 to 1859 the British possessions in Australia were gradually transformed into six separate colonies; Tasmania came into existence in 1825, Western Australia in 1829, South Australia in 1834, Victoria in 1851, and Queensland in 1859. The population size increased from 48,000 in 1824 to 1,097,000 by the end of 1859, and reached 3,773,800 at the time of the 1901 census.

It is not possible to obtain reliable statistical data on the levels of fertility and mortality in the Colonies during the early decades of the European settlement in Australia. Civil registration of marriages, births and deaths first became compulsory several decades after the various Colonies were first settled and even then it may be presumed that the records, particularly those from areas far remote from the urban centres, were incomplete. In the Colonies civil registration was introduced at different times and, significantly from the demographer's point of view, the most populous Colonies, New South Wales and

Table 2.1

Australian Censuses, 1828-1901

Population Enumerated (exclusive of Aboriginals)

Census Year	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Common-wealth (Total)
1828	(Nov.) 36,598						
1833	(2 Sept.) 60,794						
1836	(2 Sept.) 77,096						
1841	(2 Mar.) 130,856					(27 Sept.) 50,216	
1844				(26 Feb.) 17,366			
1846	(2 Mar.) 189,609			(26 Feb.) 22,390			
1847						(31 Dec.) 70,164	
1848					(10 Oct.) 4,622		
1851	(1 Mar.)(a) 268,344			(1 Jan.) 63,700		(1 Mar.) 70,130	
1854		(26 Apr.)(b) 234,298			(30 Sept.) 11,743		
1855				(31 Mar.) 85,821			
1856	(1 Mar.) 269,722						
1857		(29 Mar.) 408,998				(31 Mar.) 81,492	
1859					(31 Dec.) 14,837		
1861	(7 Apr.) 350,860	(7 Apr.) 538,678	(7 Apr.)(b) 30,059	(7 Apr.) 126,830		(7 Apr.) 89,977	
1864			(1 Jan.) 61,467				
1866				(26 Mar.) 163,452			
1868			(2 Mar.) 99,901				
1870					(31 Mar.) 24,785	(7 Feb.) 99,328	
1871	(2 Apr.) 502,998	(2 Apr.) 730,198	(1 Sept.) 120,104	(2 Apr.) 185,626			
1876			(1 May) 173,283	(26 Mar.) 213,271			
1881 (c)	749,825	861,566	213,525	279,865	29,708	115,705	2,250,194
1886			(1 May) 322,853				
1891 (d)	1,123,954	1,139,840	393,718	320,431	49,782	146,667	3,174,392
1901 (e)	1,354,846	1,201,070	498,129	363,157	184,124	172,475	3,773,801

(a) Including Port Phillip District, which afterwards became the Colony of Victoria. (b) Previously included with New South Wales.
(c) 3rd April. (d) 5th April. (e) 31st March.
Source: Census of the Commonwealth of Australia, 1933. Statistician's Report, p.32. Commonwealth Government Printer, Canberra, 1940.

Victoria, were the last ones to pass the appropriate legislation. Tasmania was the first, introducing civil registration in 1839, followed by Western Australia in 1841 and South Australia in 1842. Civil authorities took over the responsibility for the registration of marriages, births, and deaths in Victoria in 1853, and in New South Wales (then including the territory of what later became Queensland) three years later in 1856. For the whole of what later became the Commonwealth of Australia, birth, marriage, and death rates were calculated retrospectively from 1860 by the Commonwealth Statistician; by that time presumably the completeness of registration had significantly improved. One limitation, however, remained, and still exists in the Australian vital statistics system; since its start the statistics were tabulated by the year of registration of the respective event rather than by the year of its occurrence. This was and undoubtedly still is at least partly because of the varying periods in different Colonies and later States within which the events are to be reported. Even today, births must be reported within 28 days in the Territories administered by the Commonwealth Government, but within 60 days in the States. The reporting of deaths varies from eight days (Tasmania) to 30 days (New South Wales and Queensland); only for marriages is the period of reporting set uniformly throughout the country, namely within 14 days.

The variation in the time of reporting of events does not represent a serious distortion of the time series in the recent decades because the pattern of the delayed reporting does not vary greatly from one year to another. However, it may have been a more serious cause of distortions in the nineteenth and early twentieth centuries and thus some apparent fluctuation in the annual vital rates may be a reflection of differences in reporting delays from one year to another rather than genuine fluctuations in the incidence of such events.

A study of the course of the fertility decline calls for a

careful selection of suitable fertility measures. Unfortunately the choice of such measures is not always a free one between alternatives but often - and this applies in particular to historical data - is determined by the available statistics in tabulated form. This is the case in point with much of the Australian vital statistics and enumerations before 1901 or even 1911. For separate Colonies the crude birth rates since 1860, the general fertility rates for the census years, and child/woman ratios (general fertility ratios) are the only data with which we can work.[2] Age-specific fertility rates can be first calculated for the year 1911 and then from 1921 for each calendar year.

None of the three measures, the crude birth rate, the general fertility rate or the general fertility ratio, reflects the changes in fertility alone. Each of them, in varying degrees, is also affected by changes in the sex, age and marital status composition of the population. Structural changes of this type were particularly marked in the history of the Australian population. The age structure of the population of European descent was until 1881 very much dominated by the sex/age composition of the immigrants. The first census to reveal an age pyramid evidencing significant features of a population shaped under the influence of natural growth was that of 1881. With respect to sex composition, the anomalous situation lasted considerably longer, males still outnumbering females by a wide margin until towards the end of the century. A few examples will illustrate the situation.

In 1838, half a century after the landing of the First Fleet, over two-thirds of the 152,000 persons living in the Colony were males, yielding a sex ratio of 226 males per 100 females. The imbalance of sexes was mainly due to the predominance of males among the convicts under sentence: McDonald (1974a, p.39) gives a figure of 11.7 males transported for every female in 1820, a ratio that declined only gradually to 7.6 by

1841. The sex ratio improved in the later years partly because of the cessation in 1840 of transportation to New South Wales and partly because of an excess of females among those who arrived as assisted immigrants. The discovery of gold provided a new incentive for male-dominated immigration during the 1850s. The 1861 censuses in the Colonies enumerated about 1,168,000 persons among whom 57 per cent were males (a sex ratio of 134 males per 100 females). The imbalance between the sexes was much more severe in the countryside than in the capital cities. McDonald (1974a, p.46), using 1851 figures, estimated the sex ratio for Sydney and Suburbs as 1.18 males per female in contrast to 4.01 in the 'remainder of the Colony'; for Bourke County (Melbourne) as 2.35 in contrast to 7.06 in the rest of the Port Phillip district (later the colony of Victoria); for Hobart 1.70 compared with 6.19 for the rest of Tasmania. The sex ratio of the population of all Australia was still 1.18 and 1.15 at the time of the 1881 and 1891 censuses respectively.

Such anomalies and deviations from the 'normal' age-sex distribution of a population inevitably render crude rates, particularly birth rate, of limited use for any analysis of trends over time. We shall use them here only to outline the main thrust of the fertility change and its course over time without placing undue weight and importance on these introductory observations. In the later part of this section and, in particular, in the next chapter, more adequate refined measures of fertility will be used in preference to the crude rates as suitable data become available for the later period.

According to the course crude birth rates followed during the period 1860 to 1974 it may be convenient to discern at least five periods characterized by a particular type of change. These will now be discussed briefly with some indication of the likely cause of changing trends.

1860-1889:

Levels of fertility in the early 1860s were still very high in Australia. The highest crude birth rates (Commonwealth Bureau of Statistics, 1939) were recorded in New South Wales in 1864 (44.0 per 1,000 population), in Victoria in 1862 (44.7), in Queensland in 1860 (47.9), in South Australia in 1862 (45.4), in Western Australia in 1860 (39.0) and in Tasmania as late as 1884 (36.6). For the whole country the highest crude birth rate was 42.6 per 1,000 population in 1860. The three eastern mainland Colonies and South Australia showed a well pronounced downward trend in birth rates from the early 1860s. However, a different situation obtained in Tasmania and Western Australia. In the former, the birth rate was close to 37 per 1,000 population in 1860, declined rapidly to below 30 around 1865, remained relatively steady for about a decade thereafter, and resumed an upward trend from 1875 to a new peak of 36.6 in 1884. From then on, a steady slow decline set in ending with a low level of 27.5 births per 1,000 population in 1898. In Western Australia, crude birth rates fluctuated but exhibited a generally downward trend until 1875 by which time the rate had dropped to 28 per 1,000 population. Subsequently it rose rapidly reaching a peak of 38.5 in 1886 only to drop abruptly again - this time plunging to a mere 24 births per 1,000 population by the middle of the 1890s.

In Victoria, Queensland, and South Australia the decline in birth rates was for some time arrested during the 1880s. However, this did not last very long. In 1890, the rate for the whole of Australia was 35 births per 1,000 population ranging from 32.7 in South Australia to 39.8 in Queensland. Taking the highest rate of 43.3 in 1862 for all Colonies together, this represented a decline of almost one-fifth over a period of 28 years.

The lack of any reliable evidence about birth rates in the Colonies prior to 1860 renders any dating of the beginning of

fertility transition open to criticism; it is not impossible that at some earlier time the crude birth rates might have been even higher than those reported afer 1860 - that is to say, higher than the 43.3 recorded for all Australia in 1862 or even the highest rate on record, that of 47.9 for Queensland in 1860. Considering, however, the anomalous age-sex composition of the Australian population in the period before 1861 this possibility is a rather slim one.

There exist reports dating from the early years of the Colony of New South Wales which emphasize extraordinarily high fecundity of the female settlers. They attributed frequent childbearing and its continuation to advanced ages to various causes, particularly to the 'salubrity of the climate', to a herb used in lieu of tea known as 'sweet tea' (Smilax Glicyphylla), to moral revolution transforming deported prostitutes into settled mothers of families (Gandevia and Forster: 1974). One observer who undertook a brief tour from India to New South Wales for the sake of his health in the 1830s produced a definitely peculiar statement in this respect:

> "... the effects of the climate of Australasia, it is well known, are to increase, in a high degree, the productive powers of animals of all descriptions: man is by no means an exception to the general rule; probably in his case, owing to the abundance of provision, in conjunction with the well-known salubrity of the atmosphere ... Almost every woman, under 42 years of age, on her arrival in New South Wales, and properly treated, will beget a large family, producing, for a considerable period, a child once a year. Females of a higher class are less affected by the climate." (Henderson: 1832, pp.21-22).

The reference to favourable climate permeates the literature throughout the nineteenth century and even Coghlan (1903, pp.18, 40) refers to it as the explanation of the greater fecundity of the Australian-born married women in comparison to the immigrants from the British Isles.

Gandevia and Forster (1974, pp.1091-2) critically examined

the available statistics from the early period of New South Wales and found no proof that fecundity and fertility were exceptionally high. They suggested that the casual observers as well as the early medical reports may have been misled by the young age structure of the population of the Colony that partly resulted from an exceptionally low, compared to contemporary England, infant and child mortality.

> "The swift increase in the number of young children relative to the adult population could scarcely fail to create the impression of heightened female reproductive powers (virility being accepted tacitly as a biological constant by all contemporary authorities)." (op.cit., p.1092).

They consider it unlikely that fertility would have been high during the formative years of the Colony which was troubled with scarcity of food, irregularity of supplies, and failures of local crops. It is likely that birthrates did not exceed the rates observed in the middle of the century when the population age structure became more regular, living conditions more settled and locally produced food in abundant supply. The point is raised because in the United States rates did decline throughout the century, but that country was settled earlier and by 1800 exhibited a more normal age-sex structure.

On balance it appears that the beginning of the downturn in crude birth rates can be best dated in the early 1860s. Before we turn to other measures of fertility, a brief look at the situation in contemporary Europe and in the United States may be of interest. Alfred Sauvy (quoted by Matras: 1973, p.299) attempted the dating of the start of the fertility decline in Europe as follows:

France	-	from 1760	England	-	from 1875
Sweden	-	1820	Germany	-	1880
Belgium	-	1840	U.S.A.	-	1885
Switzerland	-	1860	Italy	-	1885
Netherlands	-	1875	Hungary	-	1890

Thompson and Whelpton (1933) estimated that the crude birth rate

of the white population of the United States had been as high as 55 per 1,000 in 1780 and remained above 50 until after 1830. As in Australia, however, the crude birth rate in the United States was affected by the generally younger age structure of the population and - probably to a lesser degree than in Australia - by the excess of males in the population.

Accepting for the time being that - in terms of crude birth rates - the fertility transition started in Australia during the 1860s it is also worth noting that the first phase of the decline, from 1860-62 to 1875-76, was a rather steep one: from about 43.3 births per 1,000 population to 35.9 or by 17 per cent. Thereafter, up to 1890 the crude birth rates merely fluctuated at a plateau between 34.5 and 35.8 per 1,000 population.

1890-1912:

After a few years of steady or only slightly falling birth rates during the 1880s a decade of a steep decline followed. The downward trend was arrested for only two years (1900-01) and ended at a level of 25.3 births per 1,000 population in 1903. The following eight years were marked by a slow recovery that terminated in 1912 with 28.6 births per 1,000 population. The steep decline of the birth rate during the earlier period started before Australian society was hit by the aftermath of the sudden collapse of the economy in 1893. Although the depressed state of the economy undoubtedly contributed to both the steepness and the extended duration of the fall, it did not trigger it off. Even after the recession subsided, life was obviously never the same again. In terms of living standards, particularly of the working classes, recovery was very slow.[3] Moreover, the depression of 1893-94 was followed by another in 1903, the period in between not having produced a restoration in confidence in the unlimited possibilities of economic growth and expansion that seem to have been the characteristics of the earlier times.

The harshness of living conditions during those two decades

was probably significantly worse in Victoria than in the other Colonies. Newspaper reports of those days estimated that two thousand people were living on the verge of starvation. The drought of 1896 was followed by an increase in the prices of basic food items that led to a further deterioration in the situation of the majority of the people. Unemployment was high, reaching a maximum of close to 25 per cent of the work force in 1894 and exceeding 10 per cent for the period from 1892 to 1898. The short-lived decline of unemployment rates in 1899-1901 was followed by a further rise in 1902-05.

The demographic reaction to the economic distress was of two types: postponement of marriage (McDonald: 1974a, p.148) and a widespread use of methods of birth control (Hicks: 1971). About the former McDonald wrote:

> "The extension over almost two decades of economic conditions unfavourable to marriage must be regarded as the primary cause of the large proportions of women remaining permanently single as was apparent for women aged 45-49 years in 1921."

According to the 1921 census the proportion of never-married women aged 45-49 years was 17.6 per cent for the Australian-born and 12.5 per cent for the foreign-born, among whom, presumably, many were married before migrating to Australia (Commonwealth Bureau of Statistics, 1921 Census).

On average, the crude birth rates in Australia dropped by 18 per cent from 35.0 to 28.6 per 1,000 population between 1890 and 1912. However, the lowest level reached during that period was during the second economic depression in 1903: namely 25.3 births per 1,000 population or 28 per cent below the level of 1890. It is understandable from the earlier discussion that the fall in the birth rates was more pronounced in Victoria than in the other Colonies. In 1890-91 Victoria still had 33.6 births per 1,000 population; this dropped to 25.5 in 1898 - the second lowest figure of all Australian Colonies at that time (South Australia was the lowest with 25.4 births per 1,000 population).

A short period of recovery in 1899-1901 was followed by a further decline to 24.5 in 1903, a level that Victoria shared with Queensland and that was only slightly above the birth rate of South Australia (23.8). For the rest of the period until 1912 Victoria's birth rate remained among the lowest: by 1912 it stood at 25.0 while in the other Colonies it ranged from 27.6 (Queensland) to 28.9 (South Australia).

1913-1934:

The twenty-one years after 1913 were a period of continuous decline of birth rates in Australia. From 28.6 births per 1,000 population the rate plunged to its lowest point of 16.4 in 1934, representing a fall of 43 per cent. The 1934 level was the lowest ever recorded in the demographic history of the country.[4]

Two circumstances obviously determined the trend and its steep slope. The first was the secular trend toward a smaller family size that was gradually spreading and taking root among ever widening strata of the society. This will be discussed in greater detail in the next chapter; here it is sufficient to note that the average issue of married women[5] aged 30-34 years was 2.80 in 1911 but only 2.54 children in 1921. Wives aged 45-49 years had, on average, 5.02 children in 1911 but merely 4.02 children in 1921. Married women reaching the end of their reproductive life cycle in the late 1930s were around 55-59 years old in 1947; the census of that year showed an average issue of 3.33 children for this age group and 3.03 children for women aged 50-54 years (Commonwealth Bureau of Census and Statistics, 1961 Census).

The second was the two major social disruptions, the Great War of 1914-18 and the Economic Depression of the 1930s, which contributed considerably to the fall of the birth rates both indirectly, by changing marriage patterns, and directly, by birth deferment by married couples. Marriages were delayed considerably during the years 1917 and 1918, although some of the postponed marriages were made up later especially in 1920-21

(McDonald: 1974a, p.158). Deferment of marriage was not only caused by the departure of troops to overseas war theatres but also was probably widespread among the men who remained in Australia (McDonald: 1974a, p.159). The subsequent compensation for this deferment raised marriage rates in 1920-21 and undoubtedly contributed to the increase of the birth rate in 1920, although it could not arrest the steep decline in the birth rates for more than a year or two.

During the decade separating the end of the First World War and the onset of the Economic Depression in late 1929 the crude birth rates declined at a steady pace: from 25.4 in 1920 (post-war maximum) to 20.2 in 1929. The Depression only accelerated the pace of the decline further, the trough being reached in 1934 at a level of 16.4 births per 1,000 population. The falling birth rates in the 1920s are somewhat surprising in the light of the evidence presented by McDonald (1974a, p.188) about an incipient trend toward a younger age at marriage noticeable in the 1923-27 period. Obviously, the secular trend of fertility, the result of a desire for a smaller family size, was already so strongly and deeply established that it could not be counter-balanced in determining the crude birth rates by the more favourable changes in the marriage pattern.

The probabilities of marrying for the two sexes began to decline from 1928 and rapidly reached their lowest point in 1931; after that they rose again and regained their pre-Depression level in 1935. In McDonald's opinion the effect on the marriage rates of the Depression of the 1930s was less severe than that of the economic recession of the 1890s. This may well be true in the case of the birth rates as well; between 1891 and 1898 the crude birth rate fell by 0.91 per 1,000 population each year on average, but between 1929 and 1934 merely by 0.76 each year. Basavarajappa (1971) found a moderately strong negative correlation between age-duration-specific confinement rates and unemployment indices in the 1920-21 and 1937-38 period, particularly for the older age

groups and longer marriage duration categories; correlations for the shortest and the longest duration within each age group were smaller and often not significant. Because marriage rates were, in general, more sensitive to the fluctuations of the economy than birth rates (op.cit.: p.41) it appears that those who married during the Depression years were also likely to have their first child early. In some instances undoubtedly marriage was prompted by conception rather than vice versa. Conversely, many couples in their main reproductive years were reacting to the poorer economic times by postponing additional births.

1935-1961:

Unlike most of the 75 years preceding 1935, this was a period marked in its first phase (1935-1947) by an uninterrupted increase of the birth rates in Australia. It was followed by another 14 years of rather stabilized birth rates fluctuating within a very narrow range at a high-plateau level: the crude birth rate between 1948 and 1961 at no stage dropped below 22.4 and did not rise above 23.1 births per 1,000 population.

The recovery of the birth rates from the aftermath of the Economic Depression was a slow one: the rates rose from 16.4 in 1934 to a mere 17.6 in 1939. During the Second World War, however, they continued rising and in this respect the general trend of the birth rate differed from that noted during World War One.

The first two years immediately after the end of the war saw a further, not unexpected, uplifting of the birth rate to a peak of 23.6 (1946) and 24.1 (1947). The obvious explanation was that such rise in birth rates was a compensation for deferred reproduction during the war - and thus of only short-lived duration. What was not expected at that time was the subsequent continuation of high levels of birth rates extending over the next fourteen years. This latter course of fertility, later labelled the 'baby boom', was also experienced by other Western countries and its explanation is still a subject of controversy among demographers.

The upturn in the trend of the birth rates after 1934 was obviously the result not only of a compensation for deferred childbearing during the Depression but also of additional births arising from the continuation of the trend toward a younger age at marriage and ever increasing proportions of married persons in the population. The probabilities of first marriage at young ages were rising between 1935 and 1939 faster for females than for males. McDonald (1974a, p.189) showed that by the end of 1939 the proportion of never-married females between 21 and 25 years had dropped by 20 to 54 per cent in comparison to the lowest pre-Depression levels at that age.

Marriage rates not only remained high during the war but even increased significantly to levels never recorded before: 11.06 marriages per 1,000 population in 1940, 10.57 in 1941, and 11.99 in 1942. This again was a significant deviation from the trend experienced during World War One. Thus the 'marriage boom' commenced in Australia in 1940; against all expectation it subsequently continued, keeping the marriage rate above 9 per 1,000 until 1951 (with the sole exception of 1945 when it fell to 8.5 marriages per 1,000 population). More important, however, was that at the same time both age at marriage was declining and the proportions ever married at young ages were rising. As a result, the percentage of women still single at age 35-44 years dropped from 16.1 per cent in 1933 to 12.8 in 1947 and 6.5 in 1961 (NPI: 1975, p.59).

Continuing economic prosperity after World War Two, a growing stock of married persons in general and of young women in particular, and large-scale immigration keeping the age composition favourable to marriage and fertility, all in their own way undoubtedly contributed to keeping birth rates high. This high plateau at which birth rates remained for fourteen years concealed, however, a significant undercurrent of changes in family formation patterns that are first revealed when we turn, in the later section of this chapter, to other indices of fertility.

1962-1976:

In 1962 the sudden drop of the birth rate by 0.7 per 1,000 population marked the beginning of a new era and an incipient downturn in the trend. From its height, sustained for fourteen years, the birth rate suddenly plunged at a pace resembling that of the economic Depression of the 'thirties: by an average 0.71 per 1,000 population a year. It reached a new floor of 19.28 in 1966 and slightly recovered to 21.62 in 1971. However, this episode of recovery turned out to be a temporary one only. The descent that followed occurred at an even faster pace, so far unprecedented in Australian demographic history. Within the next four years the birth rate fell by almost 1.1 per 1,000 population a year to 17.2 in 1975 and 16.4 in 1976, a level that was about at par with the low birth rates of the deepest economic recession of the 'thirties.

In the early 1960s probably no demographer in Australia expected such a turn in fertility behaviour. Nothing much seemed to have changed, at least on the face of it, that could issue a warning as to what was about to happen. The economy was steady and growing; marriage rates, although at a lower level than during the post-war years, were also steady; and the trend toward younger marriages and higher proportions ever-married continued rising. Between 1961 and 1971 the proportion of ever-married women aged 20-24 years increased from 60.5 to 64.3 per cent and among those aged 25-29 years from 87.6 to 88.4 per cent respectively. Median age at first marriage - 24.7 years for bachelors and 21.6 years for spinsters marrying in 1956-60 - declined to 24.2 and 21.3 years respectively for the 1961-65 marriage cohorts and further to 23.3 and 21.0 years respectively for the marriages of 1972-73. The age composition of the female population within the age span 15-49 years, assisted by the age composition of immigrants, was also favourable to a further boosting of birth rates.

The search for an explanation of the variations of fertility, particularly since 1947, is the main objective of this book - an explanation based not only on demographic determinants but linking them with the broader changes in the social and cultural setting. At this point it is necessary only to suggest that none of the 'causes' occasionally mentioned - particularly in the press and public debates - such as the increased effectiveness of modern contraceptives that became available in the 1960s, increased work force participation of women, particularly of the married ones, changes in the role of the family, general relaxation of the attitudes toward pre-marital sexual relations, in later years relaxation of the social attitudes toward induced abortion - can by itself be accepted as the full explanation. In our view the process has its historical roots further back and can be understood only from the historical perspective. But before we attempt to do this we shall examine the impact of some demographic factors that have affected the variation in birth rates over time.

Demographic causes of the fluctuation of birth rates

The crude birth rate reflects not only fertility but the sex and age composition of the population as well. Some of the biases in the trends introduced by changes in this composition, but by no means all, can be disposed of by using certain other measures of fertility. Employing the general fertility rate removes the nuisance effect of all structural elements other than the number of women in the childbearing ages; it will not, however, 'control' for the changing age composition within this rather wide range generally taken as between the ages 15 and 50 and neither will it allow for the changes in the marital status of women within the reproductive age span over time. Similarly there are problems associated with the use of the child-woman ratio (sometimes referred to as the general fertility ratio). In the case of this measure,

additional problems arise for comparison over time or between subgroups of the population because of differentials or changes in infant and child mortality if our purpose is to assess the impact of fertility change alone and not of the 'effective' fertility, that is fertility reduced by child loss. Apart from that, there is the additional relatively minor nuisance that this index approximately measures the average fertility of the period of five years preceding the census.

Generally, the index best suited to fertility analysis is the age-specific fertility rate, if possible subdivided further into nuptial and ex-nuptial components. Additional refinements of the former, such as those introduced by the specification of marriage duration and birth order, make it the most valuable tool in the demographer's technical equipment for analysing fertility.

A procedure that helps to overcome some of the problems that structural changes create for the analysis of aggregate fertility indices is standardization. Two approaches have been extensively used in demographic literature. A set of indices that allows for changes in age and marital status composition of the female population has been developed by A.J. Coale and used extensively for the study of European fertility transition at the Princeton University Office of Population Research (Coale: 1973). Using this procedure, E.F. Jones (1971) analysed fertility changes in Australia and New Zealand between 1861 and 1933: her series for Australia were updated by the present authors to 1971.

Coale's system of indices uses three measures of fertility: (1) <u>total fertility index</u>, I_f, that shows how the fertility of the population under study compares with the 'natural' fertility of the Hutterite communities in the United States. The highest values of I_f found in Europe prior to the demographic transition were around 0.7 (Coale: 1973, p.56); (2) <u>index of marital fertility</u>, I_g, measures the deviation of the fertility of married

women from that of the Hutterites. Levels of 0.65 to 1.0 were found in different provinces and regions of pre-transition Europe; (3) index of ex-nuptial fertility, I_h, compares fertility outside marriage (illegitimate, ex-nuptial) with that of the Hutterites.

To be able to add the indices I_g and I_h so as to obtain I_f one has to make allowance for the marital status of the female population. This is done by the fourth index of the system, namely the weighted proportions married, I_m, this being the sum of the products (by age) of proportions married and Hutterite fertility rates. Total fertility index is then related to the component indices in the following way:

$$I_f = I_g \cdot I_m + I_h (1 - I_m).$$

The disaggregation of I_f into the three components expresses the measure in terms first of deviations of marital fertility from the 'natural' fertility of married Hutterites, then ex-nuptial fertility, and finally the impact of the changing composition by marital status (effect of marriage formation patterns). Because all calculations use one set of age-specific fertility rates as a standard - namely the 'natural' fertility - the indices are comparable over time and free of the effect of changing age and marital status composition either over time or between sub-populations.

The alternative approach is by disaggregating the crude birth rate into four components, three of them reflecting the impact of structural changes (sex composition of the population, age composition of the female population, and proportions married among women in childbearing ages) and the fourth one being the effect of changes in nuptial or ex-nuptial fertility by age. (Details are explained in a technical annex, Annex I).

Whenever standardization procedures are applied, the selection of a suitable 'standard' has to be decided upon. In the set of indices devised by Coale, the case was resolved by

using the age-specific fertility rates of married Hutterite females as a standard. The indices reflect then the deviations of the actual fertility of the population under study from the 'natural' fertility level and pattern. The other standardization procedure described has no pre-determined 'standard' and the analyst has to decide which one might best suit his objective. Frequently, limitations of data decide the problem of selection for him.

The requirement of structural data for most measures of fertility implies that in most instances they can be calculated only for the census year or for a short period around the census year thus missing the variation of fertility during the intercensal periods. In Australia, this applies in particular for the whole period before 1921. From there on, intercensal estimates for each State and the whole of Australia of the sex and age composition (by single years of age) of the population have been prepared annually by the Commonwealth Bureau of Census and Statistics (now the Australian Bureau of Statistics). Another set of intercensal estimates was created by the late H.P. Brown of the Department of Economics, Research School of Social Sciences, Australian National University; this set contains for each year from 1921 to 1966 estimates of the sex-age-marital status composition of the Australian population by single year of age. The data bank was up-dated for the purpose of our study and for other work in progress in the Department of Demography of the same University for the years 1967 to 1974 by the present authors.

Subject to the data limitation, in the following section a brief review of the path of fertility decline will be presented in the light of other measures of fertility than the crude birth rate. Up to 1920 the statistical description will necessarily be sketchy, and then, from 1921 on to the present time, a detailed analysis of fertility fluctuations over time will be given.

Fertility change prior to 1921

Until about the 1861 census, the statistics on the age-sex composition of the population in the Colonies are either not available, or, if ages are given, they usually appear in groupings unsuitable for fertility analysis. For the calculation of general fertility rates one cannot very much rely on the completeness of the birth registration either. Thus, for instance, the general fertility rate (GFR) for Victoria in 1854 amounted to 165.7 births per 1,000 women 15-44 years of age, but 216.7 for 1857 and 217.2 for 1861. It is quite obvious that the rapid increase of GFR in the first three-year period was caused by the improvement in the registration of births (first introduced in 1853) and not by increased fertility. In Tasmania, in the same year 1854 the GFR was 182.6 births per 1,000 women aged 14-44 years (the Tasmanian census of that year providing only this age grouping) and probably would have been close to 190 if women aged 15-44 were considered.

Table 2.2 presents GFRs for the Colonies for the 1854-81 period based on census returns and births registered in each Colony in the census year. From 1881 to 1921 GFRs are presented in Table 2.3 for all Australia.

Taking the levels of fertility of 1861 as an indication of the levels prevailing before the transition, the data seem to suggest that the decline in the GFR during the first decade, that is between 1861 and 1871, was, if anything at all, probably only a moderate one. The only possible exceptions appear to be Victoria and Tasmania where a somewhat steeper decline might have occurred. By 1881, however, the fall in fertility was well under way throughout the whole country; GFRs were reducing fastest in Victoria but probably only at a moderate pace in Tasmania and New South Wales.

Table 2.2.

General fertility rates in the Australian Colonies, 1854-1881

Colony	Registered live births per 1,000 women aged 15-44 years								
	1854	1857	1861	1866	1868	1870	1871	1876	1881
New South Wales			203.9				201.7		189.3
Victoria	165.7	216.7	217.2				189.7		146.2
Tasmania	182.6[a]		156.5[b]			146.5[b]			162.0
South Australia			192.3[c]	199.0			185.2	182.9	180.2
Western Australia									183.2
Queensland					227.5		232.9	220.9	207.4

(a) per 1,000 women aged 14-44 years; (b) per 1,000 women aged 15-49 years;
(c) per 1,000 women aged 15-45 years.

Table 2.3

General fertility rates, Commonwealth of Australia, 1881-1921

Registered live births per 1,000 women aged 15-44 years	1881	1891	1901	1911	1921
	170.8	159.4	117.6	115.4	107.1

From the previous discussion we have noted, however, that from the 'sixties and 'seventies marriage patterns were changing in a way less favourable to maintaining high birth or general fertility rates. Thus the decline in both may have been caused primarily by changing marriage patterns rather than by a decline of fertility within marriage. E.F. Jones (1971) derived a series of Coale's indices from the Australian statistics for each Colony (later State). Those indices are reproduced in Table 2.4 for all Australia. According to her findings, marital fertility remained high until 1881 (the slight increase between 1861 and 1871 may reflect merely improved registration of births). What appeared as a decline in fertility (I_f index) between 1861 and 1881 was a reflection of a less favourable distribution of the population of married women. Marital fertility (I_g) started declining effectively after 1881.

Table 2.4

Indices of fertility and proportions married, Australia 1861-1921

Index	1861	1871	1881	1891	1901	1911	1921
I_f total fertility	.492	.464	.401	.367	.276	.280	.250
I_g marital fertility	.691	.724	.736	.677	.548	.557	.450
I_h ex-nuptial fertility	.037	.038	.036	.039	.031	.030	.025
I_m proportions married	.696	.621	.520	.515	.473	.475	.528

Source: E.F. Jones (1971).

Note : Data are for five-year interval centred on the census year; 1861 data for Victoria and South Australia; 1871 for New South Wales, Victoria, Queensland, South Australia.

From Jones' data we derived in Table 2.5 the percentage change during each decade reviewed of each of the three relevant indices, I_f, I_g and I_m, for each Colony/State and for the Commonwealth of Australia as a whole.

If we look at the pace of the diffusion of fertility decline between the Colonies it appears that, on balance, marital fertility started declining at a faster pace in New South Wales followed by Queensland; the pace was much slower in Tasmania, Victoria, and South Australia, and probably did not start in Western Australia before 1891. During the 1890s marital fertility dropped further, this time by 15 to 29 per cent below its 1881 level; the lowest percentage decline occurred in Tasmania and the highest in Western Australia.

During the next decade, 1901-11, marital fertility appears to have stabilized at a lower level. The increase of I_g by 3.5 per cent at one extreme (New South Wales) and the decline by 4.3 per cent at the other extreme (Western Australia) are both of too small magnitude to be of any real significance.

Between 1911 and 1921 marital fertility dropped steeply again, by at least 15 per cent in Tasmania and Western Australia, and by up to 23 per cent in South Australia, with Victoria and New South Wales marked by about a 20 per cent reduction. This time, however, the decline in marital fertility was obscured by the simultaneous increase in the distribution by marital status of the female population in the childbearing ages. This latter development, quite impressive by itself (I_m index increased in that decade by between 8 and 16 per cent in all States but Western Australia) was, however, not sufficient to offset totally the decline in marital fertility rates; in Western Australia the adverse effect of marital status composition further aggravated the effect of declining marital fertility.

By 1921, marital fertility in all Australia was about one-half of the 'natural' fertility level of the Hutterites and 39

Table 2.5

Changes in Australian fertility 1861-1921 and its components by Colonies (States). Percentage increase (+) decline (-)

Colony/ State	1861-71	1871-81	1881-91	1891-01	1901-11	1911-21
I_f total fertility:						
N.S.W.	-	- 4.9	-14.9	-27.1	+ 3.9	-12.0
Victoria	- 8.5	-23.2	- 5.7	-25.0	+ 0.4	- 9.1
Queensland	-	- 3.9	-15.6	-25.2	- 4.6	-10.7
S.A.	- 6.5	- 4.5	-14.9	-30.4	+ 6.3	-11.5
W.A.	-	-	+ 2.7	-21.4	- 0.4	-20.2
Tasmania	-	-	- 1.8	-20.1	+ 1.0	- 8.8
I_g marital fertility:						
N.S.W.	-	+ 1.4	-13.1	-20.0	+ 3.5	-20.3
Victoria	+ 2.9	+ 0.4	- 6.4	-18.4	+ 0.9	-19.3
Queensland	-	+ 7.2	- 9.3	-19.2	+ 1.9	-17.5
S.A.	- 1.4	+ 3.0	- 5.5	-21.5	+ 1.6	-23.4
W.A.	-	-	+ 4.6	-29.1	- 4.3	-15.6
Tasmania	-	-	- 6.2	-15.2	- 1.3	-15.3
I_m proportions married:						
N.S.W.	-	- 6.7	- 3.4	-10.0	+ 1.2	+11.8
Victoria	-11.7	-25.0	+ 0.2	- 8.3	- 0.9	+13.5
Queensland	-	-11.7	- 7.6	- 9.9	- 6.8	+ 9.8
S.A.	- 5.4	- 7.6	-10.7	-12.4	+ 4.5	+16.3
W.A.	-	-	- 1.8	+11.2	- 4.1	- 5.0
Tasmania	-	-	+ 4.9	- 7.4	+ 3.2	+ 7.8
			Commonwealth			
I_f	- 5.7	-13.6	- 8.5	-24.8	+ 1.4	-10.7
I_g	+ 4.8	+ 1.6	- 8.0	-19.1	+ 1.6	-19.2
I_m	-10.8	-16.3	- 1.0	- 8.2	+ 0.4	+11.2

Based on the data from E.F. Jones (1971).

per cent below the highest level of .736 recorded in Australia in 1881. It seems that the decline of marital fertility did not start anywhere in Australia before the 1880s and in Western Australia possibly not up to a decade later than in the other Colonies. When it did start, it probably progressed at a faster pace in New South Wales than elsewhere. As for the age pattern of the decline, there exists, to our knowledge, only one tabulation giving the age-specific marital fertility rates for each census year from 1871 to 1901 - namely a tabulation based on New South Wales statistics and reproduced in the Report of the Royal Commission on the Decline of the Birth Rate and on the Mortality of Infants in New South Wales (1904). The rates presented here in Table 2.6 are for quinquennial age groups from 20-24 to 40-44 years.

Table 2.6

Age-specific marital fertility rates (per 1,000 married women) New South Wales, 1871-1921

Year	Age of wife					
	15-19	20-24	25-29	30-34	35-39	40-44
1871[a]		441.5	407.5	336.7	270.4	134.1
1881[a]		457.9	405.2	338.6	273.6	128.9
1891[a]	471.1[b]	416.3	353.7	292.2	236.3	118.4
1901[a]	556.5[b]	397.0	298.7	226.8	172.5	88.1
1911[b]	512.3	392.1	301.3	219.9	157.0	69.5
1921[c]	557.1	373.2	258.4	184.9	129.2	56.0
			Index (1871 = 100)			
1881		104	99	101	101	96
1891		94	87	87	87	88
1901		90	73	67	64	66
1911		89	74	65	58	52
1921		85	63	55	48	42

Source: [a] Royal Commission (1904); [b] Report on the Vital Statistics (1912); [c] our calculation based on 1921 Census and Demography Bulletin 1920-1.

The rates indicate that no significant change in marital fertility took place between 1871 and 1881; during the next decade, fertility rates dropped by 6 per cent below their 1871 level at ages 20-24 and uniformly by about 13 per cent at all higher ages. In the subsequent decade (1891-1901) the decline was not only more pronounced but exhibited all the typical marks of fertility control aimed at the eventual limitation of completed family size with women at higher ages (presumably of higher parities) restricting their childbearing progressively more than the younger women.

A word of warning, however, is in place here: to look at fertility data from the standpoint of time alone may lead to an erroneous conclusion, particularly in cases like the present one, once change has begun to occur to the established pattern of reproduction. Looking at the data from a slightly different viewpoint, namely considering what changes occurred to the fertility of the same group of married women as they progressed from the youngest to the oldest ages of their reproductive life cycle, produces a very different picture. The women who form 'the same group' by definition are in this case women who were born in the same period of time.[6] They grew older at the same rate as chronological time advanced. Thus women aged 20-24 years in 1871 were all born during the years 1846-1851. They were of the same generation as the women who reached 30-34 years of age in 1881 and 40-44 years in 1891.

This generation had not produced any significant changes in the pre-existing pattern of marital fertility before the women reached the age 40-44 years around 1891. But when they did reach that age[7] their fertility appears to have been 12 per cent below the high level of 135 births per 1,000 married women recorded in 1871. Thus, in New South Wales, the generation that first started limiting family size were women born in 1846-51 and they started doing so when they were well into the latter part of their reproductive life cycle.

The next group, women aged 20-24 years in 1881, that is the generation born in 1856-61, started their marital childbearing with fertility rates at the same high level as their predecessors; but, when they reached the age group 30-34 years around 1891, their fertility was already 13 per cent lower than the fertility that had been recorded in 1871 and in earlier years at that age. When they reached the age group 40-44 years, their control over pregnancy and birth was even greater and reduced the fertility rate by one-third below what it had been in 1871. Obviously, this generation started controlling its fertility earlier in life and was more determined to do so, presumably at least partly because of the harsh economic situation they had to face when in their late thirties.

The women who started their marital reproduction around 1891 (generation born in 1866-71) did so from the beginning at a level 6 per cent below that obtaining in 1871. When they turned 30-34 years of age, their marital fertility had already been reduced by one-third below the 'uncontrolled' level of 1871. It is rather unfortunate that marital fertility rates are available for census years only. Thus the trends inferred from them as to changes in generational fertility within marriage have to be rather broad generalizations.

The generational approach confirms that fertility decline in the 1880s was clearly associated with attempts to limit family size. The data apply to New South Wales only, but from the earlier discussion it may be presumed that similar trends operated in other Colonies (except in Western Australia) at about the same time. The decline started about a decade before the depression of the 1890s, firstly among women of higher ages (and thus presumably of higher parities), and spread gradually to the younger women, in this latter instance presumably also because of the impact of the unfavourable economic situation during the Depression.

The cross-sectional data are not likely to provide more

information on the early stages of demographic transition of fertility. For a deeper understanding we shall have to examine generational fertility and its differentials; that, however, will be deferred to Chapter 3.

Fertility variations during the period 1921-1971

The demographic and social structure of the Australian population changed dramatically between 1921 and 1971. The population size increased 2.3 times, but only doubled at the youngest ages 0-14 years and increased 3.5 times at ages 65 and over (Table 2.7). More important in many respects was the change in the structure occasioned by the large-scale immigration after 1947 of Europeans from outside the United Kingdom and in the late 1960s of non-Europeans, particularly from Asia. Table 2.8 presents data on the structure of Australian population by birthplaces for 1921, 1947 and 1971. During the first 26 years the population increased 1.4 times, but the Australian-born 1.5 times in contrast to a decrease (in absolute numbers) of the foreign-born component by 14 per cent. The decrement affected the British born, particularly the Irish, whose number in 1947 was only about one-half of that found in 1921. Substantial increases in numbers were recorded by males from Italy and Greece, 3.5 times by the former and 2.9 times by the latter. The next 24 years, between 1947 and 1971, changed the ethnic structure of the Australian society even more significantly. By 1971 immigrants made up 21.5 per cent of the males and 19.0 per cent of the females in Australia, in contrast to 11.0 and 8.6 per cent in 1947. Moreover, British and Irish immigrants dropped from about 70 per cent of all foreign-born population in 1947 to 40 per cent in 1971. A largely new element, the Southern European immigrants, increased to 23 per cent of all foreign-born persons in Australia.

The ethnic minorities brought with them specific marriage and family formation patterns deeply rooted in their cultures and religions which were in many instances markedly different

Table 2.7

Population size and age composition, Australia 1921, 1947 and 1971

Age at census	Males			Females		
	1921	1947	1971	1921	1947	1971
0-14	875,098	967,759	1,880,557	849,906	931,294	1,789,495
15-44	1,276,444	1,745,359	2,807,837	1,272,221	1,712,983	2,661,315
45-59	397,337	642,824	1,033,716	355,120	645,341	1,016,179
60-64	90,655	159,157	243,740	78,687	164,552	257,804
65+	123,336	282,271	446,861	116,930	327,818	618,134
Total	2,762,870	3,797,370	6,412,711	2,672,864	3,781,988	6,342,927
			Percentage distribution			
0-14	31.7	25.5	29.3	31.8	24.6	28.2
15-44	46.2	46.0	43.8	47.6	45.3	42.0
45-59	14.4	16.9	16.1	13.3	17.1	16.0
60-64	3.3	4.2	3.8	2.9	4.4	4.1
65+	4.5	7.4	7.0	4.4	8.7	9.7
Total	100.1	100.0	100.0	100.0	100.1	100.0

Table 2.8

Structure of the Australian population by place of birth, 1921, 1947 and 1971

Country of birth	Males			Females		
	1921	1947	1971	1921	1947	1971
	number in 000's					
Australia	2,278	3,380	5,037	2,311	3,455	5,139
Overseas	485	417	1,376	361	327	1,204
Out of them:						
England	248	205	434	201	176	408
Wales	8	7	12	6	5	11
Scotland	61	56	82	49	47	77
Ireland	54	24	35	52	21	29
Germany	14	9	56	8	6	55
Greece	3	9	83	0.5	3	77
Italy	6	23	159	2	11	130
Yugoslavia	-	4	75		1.6	55
Europe (total)	422	365	1,171	328	286	1,025
Australasia	20	23	46	19	23	44
Asia	27	16	92	4	8	75
Africa	4	4	32	3	4	30
America	8	7	30	4	5	25
Polynesia (Pacific Is.)	2	1.5	3.6	1	1.6	3.8
At sea	1.9	0.5	0.2	1.8	0.5	0.2
Percentage born overseas	21.3	12.3	27.3	15.6	9.5	23.4
Out of 100 overseas-born there were born in						
England & Wales	52.8	50.8	32.4	57.3	55.4	34.8
Scotland	12.6	13.4	6.0	13.6	14.4	6.4
Ireland	11.1	5.8	2.5	14.4	6.4	2.4
Greece, Italy, Yugoslavia	1.9	8.6	23.0	0.7	4.8	21.8
Other Europe	8.7	8.9	21.2	4.8	6.5	19.8
Australasia	4.1	5.5	3.3	5.3	7.0	3.6
Asia	5.6	3.8	6.7	1.1	2.4	6.2
Africa	0.8	1.0	2.3	0.8	1.2	2.5
America	1.6	1.7	2.2	1.1	1.5	2.1
Elsewhere	0.8	0.5	0.3	0.8	0.6	0.3

from the Australian and Anglo-Saxon traditions. High levels of intermarriage within the Southern European communities, particularly the Greeks, Yugoslavs, and Italians, plus lower educational levels and stronger religious ties, isolated some of the larger communities from the rest of the Australian population. This often made them at first demographically more conservative and less permeable to changes sweeping through the host population.

Dominant in terms of its impact on fertility, however, has been the change in the structure of the population, and of females in particular, with respect to marital status. Table 2.9 presents the proportions never married and currently married (including permanently separated) in the reproductive ages in 1921, 1947 and 1971.

Table 2.9

Percentage distribution of women in reproductive ages by marital status, Australia, 1921, 1947 and 1971

Age at census	1921		1947		1971	
	NM	M	NM	M	NM	M
15-19	96.4	3.6	94.4	5.6	91.2	8.8
20-24	66.4	33.2	51.4	48.0	35.7	63.7
25-29	36.5	61.8	21.0	77.0	11.6	86.8
30-34	23.8	73.3	13.8	83.3	6.5	91.1
35-39	18.9	76.7	12.7	83.5	5.0	91.5
40-44	17.7	76.0	12.9	81.5	4.8	90.0
45-49	16.6	74.0	12.6	78.9	4.9	87.1

NM = never married (single); M = married and permanently separated.

Out of the structural determinants of crude birth rates we shall, at this stage, examine the impact of age and marital status composition on marital and ex-nuptial fertility. Taking a set of age-specific fertility rates, marital and ex-nuptial, and the structure of the female population by age and marital

status of one particular year as a 'standard' (i.e. as a base for further comparisons), we shall be able to assess the extent to which changes in each of these components contributed to the change in the crude birth rate. Because the crude birth rate relates the number of births to the total population, changes in the sex composition of the population over time will be considered as well, although their effect has been, generally speaking, negligible. Details are explained in Annex I.

The selection of the 'standard', in this particular instance, is made easier by the period examined in this chapter. As we are basically interested in the trends of the birth rate over time, it is convenient to take the year 1921, or a three-year period centred around that year, as a base for further comparisons. The data needed for this type of analysis impose a limit on the scope of analysis; structural characteristics of the population are available only for census years and thus, in what follows, variations in the crude birth rates for each three-year period centred around the census year are presented in Table 2.10. In this table the crude birth rate (marital births) for each three-year period is derived as a product of four components: sex and age composition of the population, proportion of married women in each five-year age group (within the reproductive age range) and age-specific marital fertility rates. Thus, save for rounding, the birth rate of 0.02371 or 23.71 per 1,000 population for the 1920-22 period is a product of

$$0.492 \times 0.048 \times 1.0 \times 1.0$$

In this instance the effect of marital fertility and nuptiality (structure by marital status) is in each case unity because the 1920-22 parameters were used as standard for subsequent comparisons. The birth rate of 0.01574 for 1932-34 is a product of

$$0.492 \times 0.046 \times 0.997 \times 0.698$$

In comparison with the base line the fall of the birth rate from 23.71 to 15.74 was occasioned by a marginal deterioration of the age composition of the female population (from 0.048 to 0.046)

Table 2.10

Demographic components of the changes in the crude birth rates, 1921-1971

Period	Crude birth rate* per 1,000 population	The effect on birth rate due to sex composition	The effect on birth rate due to age composition	The effect on birth rate due to nuptiality	The effect on birth rate due to fertility
		A. Marital confinements			
1920-22 (standard)	23.71	0.492	0.048	1.000	1.000
1932-34	15.74	0.492	0.046	0.997	0.698
1946-48	22.39	0.499	0.046	1.240	0.789
1953-55	21.54	0.494	0.043	1.329	0.768
1960-62	21.07	0.494	0.039	1.375	0.797
1965-67	17.85	0.496	0.039	1.412	0.661
1970-72	18.78	0.497	0.041	1.463	0.633
		B. Ex-nuptial confinements			
1920-22 (standard)	1.17	0.492	0.0024	1.000	1.000
1932-34	0.77	0.492	0.0024	0.997	0.668
1946-48	0.96	0.499	0.0022	0.775	1.130
1953-55	0.90	0.494	0.0019	0.672	1.404
1960-62	1.13	0.494	0.0019	0.654	1.846
1965-67	1.42	0.496	0.0020	0.664	2.118
1970-72	1.88	0.497	0.0022	0.629	2.779

* The crude rate is based on the number of confinements (marital or ex-nuptial) resulting in live birth.

and by a steep decline of marital fertility (from 1.0 to 0.698). Sex structure of the population remained unchanged and the composition of the female population by marital status was only marginally less favourable to fertility (1.0 in contrast to 0.997). The important components of the changes in birth rates are obviously past nuptiality which determined in each period the proportion of married women in the childbearing age and the marital fertility rates.

The subsequent increase in the birth rate to 22.4 in the 1946-48 period, that is to nearly its 1920-22 level, was occasioned primarily by changes in nuptiality. The proportions married in reproductive ages were in 1947 about 24 per cent above the level of 1921, while fertility within marriage, although somewhat higher than in the 1932-34 period, was still 21 per cent below the 'standard' of 1920-22. In addition the age structure of the female population of reproductive age was slightly less favourable to fertility than in 1921. If the nuptiality patterns of the years between 1933 and 1947 had not assisted the recovery of the birth rate, the crude rate of the 1946-48 period would have remained at about 18 per 1,000 population or well below the 1920-22 level.

During the subsequent years, the decline in the crude birth rate was almost totally explained by the reduction of marital fertility; age composition within the childbearing period also slightly deteriorated, particularly in 1961 and 1966. That the crude birth rate did not drop more steeply was due to continuing high nuptiality, constantly increasing the proportion of women married at each age. If the proportions married had remained at the same level as in 1921, the crude birth rate would have dropped to 15.4 around 1961, and to 12.8 and 12.9 in 1966 and 1971 respectively.

By contrast, the ex-nuptial component of the crude birth rate, the level of which remained below the 1920-22 standard until the 1965-67 period, for most of the time concealed the

true movement and marked rise of ex-nuptial fertility. Because of the rapidly declining proportions of non-married women at childbearing ages the fact that the ex-nuptial fertility rate was rising was not very obvious. In 1970-71 the ex-nuptial component of the crude birth rate having risen from 1.17 to 1.88 births per 1,000 population was 61 per cent above its 1920-22 level; however, ex-nuptial fertility rates per se had increased 2.8 times. If the age structure and the proportions of non-married women within the reproductive age range had remained unchanged, we would have had 3.0 ex-nuptial births per 1,000 population in 1970-72 instead of the recorded 1.9.

Data in the last column of section B of Table 2.10 clearly show that, but for the 1932-34 period, ex-nuptial fertility was constantly rising above the 1920-22 levels, the increase being particularly steep since about 1966. Similarly, the last column of section A of the same table manifests the extent of the decline in marital childbearing in relation to the 1920-22 level.

To sum up, changes in nuptiality during the five decades 1921-71 and of the proportions married at the childbearing ages masked to a significant extent the true movement of fertility rates; the crude birth rate, convenient as it may be, became a rather spurious measure of fertility because of the overwhelming impact of the structural changes. Before proceeding further in the discussion of the pattern of fertility it is thus necessary to pay some attention to the 'marriage revolution' first.

Marriage patterns and proportions married 1921-1971

P. McDonald (1974a), summarizing the findings of his study of marriages in Australia, noted that, during the intercensal decade 1911-1921, marriage rates rose rapidly for both males and females (op.cit.: p.144). The age at marriage, computed for the year 1921, was rather high, probably because of the inclusion of marriages delayed by the war and re-marriages of persons widowed by the war and the 1919 influenza epidemic. "The slow

decline in age at marriage and in the proportion ultimately never marrying seems to have begun sometime in the first decade of the twentieth century." (Ibid.: p.203). During the economic Depression of the 1930s, some marriages were delayed, but the marriage rates recovered quite rapidly and there seems to have been no long-term effect of the Depression on nuptiality.

McDonald places the commencement of the marriage boom in 1940 or at about the same time as it began in New Zealand and England and Wales, and about two years earlier than its commencement in the United States. It is likely that this boom was the product of special wartime conditions. However, the continuation of high marriage rates and, particularly, the trend towards younger age at marriage continued its course after the war and in this context can be viewed as a continuation of a change in family formation patterns rooted in the increasing cultural acceptance of early marriage probably beginning in the early part of the century. The presence or absence of passing impediments to marriage distorted the trend at one time or another, but did not reverse it.

The decline in age at marriage observed in many European countries by Hajnal (1953a and 1953b) was recognized rightly by some demographers (see for instance U.N.: 1958) as being more than a temporary post-war phenomenon but rather a sign of far-reaching change in family formation patterns. In Australia, Borrie (1957) argued on the basis of his analysis of the 1947 and 1954 censuses that the tendency towards younger marriages was continuing after the war-induced boom.

If the women who were enumerated in 1921 in the reproductive ages had been exposed to the same forces of marriage formation and dissolution that determined their distribution by marital status at the time of the census, they would have spent almost 57 per cent of their reproductive life span in marriage. Twenty-six years later, that is after the impact of the Depression and war noted earlier on the patterns of marriage formation, the

proportion of the reproductive life span which would have been spent in marriage had risen to over 65 per cent. By 1971, with marriage rates during the preceding years continuously rising and the age at marriage declining, the proportion approached close to 72 per cent.

Such increases were obviously not solely the result of nuptiality. The reduction of mortality, and thus of the chances of widowhood before the end of the reproductive span, contributed as well. The chances of both wife and husband marrying at ages 20 and 25 years respectively surviving until the wife was 50 years old increased from 70 to 84 per cent between 1920-22 and 1968-70. The chances of a married woman becoming a widow before turning 50 years old, on the same assumptions, dropped from 17 to 11 per cent. The implications of the mortality decline are reflected in the falling percentage of widows in each census since 1891. Between 1891 and 1933 the proportion of widows among women aged 15-44 years dropped from 2.6 to 1.7 per cent and continued falling steadily to 0.9 per cent in both 1966 and 1971. Certainly, those percentages do not represent the impact of mortality decline alone but are also modified by the variations in the chances of remarriage. Such chances depend strongly upon the age of widowhood; McDonald (1974b, p.32) estimated that only 35 per cent of women widowed at ages 25-29 in 1965 had remarried within six years, but almost 80 per cent of those widowed at ages 15-24 years did so. It is likely that the chances of remarriage were not stable over time but it is unlikely that their variation would outweigh the impact of the decline in mortality.

During the same period the importance of divorce as a cause of marriage dissolution dramatically increased. The percentage of divorced women among those aged 15-44 years was merely 0.03 in the 1891 census and did not reach one per cent before 1954. It remained almost steady around this level until 1971 although at the same time in most five-year age groups the percentage of

divorced women tended to rise slightly, particularly between 1966 and 1971. The annual number of divorces per 1,000 marriages was well below 20 between 1892 and 1918. It started increasing thereafter to reach 32 in 1921, 42 in 1933, leaped to 115 in 1947 only to descend gradually down to 88 in 1961. Since then the annual number of divorces increased again to 110 in 1971 and thereafter, partly because of the declining number of marriages and increasing number of divorces, leaped to 160 in 1974. The subsequent rise of the number of divorces - to 24,229 in 1975 (233 per 1,000 marriages) and to 57,839 in 1976 (526 per 1,000 marriages) is largely the aftermath of the new divorce law enacted in 1975 and does not represent an unbiased estimate of the propensity to marriage dissolution.

As in the case of widows most of the divorced women remarried. McDonald (1974b, p.32) observed that 50 per cent of women divorced under the age 25 years in 1965 remarried within a year and virtually all within six years. The remarriage rate was greatest in the year following divorce; thus of the women divorced while 35-39 years of age in 1965 more than one-third remarried within one year and more than half within six years.

The extent of marriage disruption may be expanded further by taking into consideration separations, legal or otherwise, that have not yet resulted in divorce. Such information was first asked in the 1954 census. On the average, 1.9 per cent of women aged 15-44 years have been recorded in all censuses 1954-1971 as 'married but permanently separated', the percentage increasing with age from about 1.7 (ages 20-24) to just under 3.0 (40-44 years).

In this context it is worth recalling that marital fertility has been continuously declining during the five decades 1921-71, and this decline has occurred despite the substantial increase in the couples' exposure to conception because of the extended duration of the marital life cycle. It was thus clearly the Neo-Malthusian controls of reproduction that have reduced marital

fertility: the practice of birth control within marriage must have been widespread and increasing to depress, even temporarily, fertility by 30 per cent between 1920-22 and 1932-34; and it obviously was practised with a great deal of efficiency to keep fertility low and declining after 1947 and prior to the advent of more reliable contraceptives in the 1960s.

Changes in fertility levels and patterns, 1921-1974

A fertility measure which has the advantage of being free of many of the distortions found in the crude birth rate is the total fertility rate (TFR). Used in assessing the level of fertility at one point of time, it represents the number of children that would be born to 1,000 women if they experienced no mortality and were subject to the particular fertility schedule (that is age-specific fertility rates) of that time throughout their reproductive lifetime. It thus indicates in easily understandable terms what a perpetuation of a particular array of fertility rates would lead to in terms of completed family size. Restricted to live-born female children only and further allowing for mortality before and during the child-bearing period, the TFR leads to a net reproduction rate, which is an estimate of the relative size of the next generation of daughters compared to the present generation of their mothers - always assuming that the fertility schedule remains unchanged over time. An easy further step leads from the net reproduction rate to an estimate of the rate of population growth given the further assumption of a stable distribution of the population (which includes the assumption that the average age of women at childbirth, and hence the length of the generation, remains constant).

In the period 1921-1974 the TFR in Australia fluctuated very widely; it reached its lowest value in 1934 at 2,106 and culminated in 1961 at 3,585. The 1934 fertility schedule, if perpetuated for several decades, would eventually lead to cessation of population growth, and ultimately, under the impact

of the mortality prevailing in the early 1930s, it would be found that the low fertility of the period would not be sufficient even to replace one generation by the next. In other words, the net reproduction rate dropped below unity for eight years, 1932-39, and was only just about unity in two other years, 1931 and 1940. The high fertility in 1961, if continued, would have generated in the long run each new generation larger than the preceding one by 67 per cent, implying a rate of population growth of about 1.8 per cent a year.

What was the pattern of childbearing and how did it change between 1921 and 1971? To examine this facet of the problem, still in terms of time-period changes, variations of fertility by mother's age, that is to say, during different stages of the reproductive life cycle, must be considered, and subsequently separated with respect to nuptial and ex-nuptial fertility. Second, changes in the birth order and of timing and spacing of the marital births are aspects of the same broad problem of age-specific fertility rates and their changes over time. With the age at marriage decreasing over most of the period under study, exposure to the risk of childbirth rose significantly as we noted earlier. The continuing presence of a high proportion of higher order births as well as relatively high marital fertility at the advanced stages of the marital life cycle are indicators of a limited control over pregnancy and fertility; the opposite, that is a gradual reduction of fertility at ages beyond 35 years, declining proportion of higher-order births, and a concentration of childbearing within a shorter period of the reproductive life cycle, are signals of deliberate and successful control over reproduction, be it by widening use of contraceptives, technological improvements of contraceptives or through abortion, illegal or otherwise.

Table 2.11 gives in a summary form most of the relevant statistics concerning the variations in the TFR between 1921 and 1973. The total fertility rate for each year is subdivided into

Table 2.11

Characteristics of family formation in Australia 1921-1973
Total fertility rates and their components (per 1,000 women) and percentage of women married at a given age.

Year	Total fertility rate per 1,000 women[a]			Cumulated marital childbearing within the age span			Percentage of TF(N) within the age span			Percentage of women married at the age		
	TFR(45)	TF(N)	TF(EX)	Under 25	25-34	35 and over	Under 25	25-34	35 and over	25	35	45
1921	3135	2992	143	735	1541	716	24.6	51.5	23.9	52.9	76.9	75.5
1922	3121	2985	136	735	1547	703	24.6	51.8	23.6	54.4	77.2	75.7
1923	3022	2886	136	716	1500	670	24.8	52.0	23.2	55.4	77.6	75.9
1924	2969	2837	132	712	1477	648	25.1	52.1	22.8	56.5	77.8	76.1
1925	2944	2812	132	716	1454	642	25.5	51.7	22.8	57.5	77.8	76.3
1926	2843	2715	128	704	1401	610	25.9	51.6	22.5	56.9	78.2	76.6
1927	2806	2680	126	714	1379	587	26.6	51.5	21.9	56.5	78.3	76.8
1928	2766	2642	124	727	1347	568	27.5	51.0	21.5	56.1	78.6	77.0
1929	2634	2518	116	696	1291	531	27.6	51.3	21.1	55.6	78.8	77.2
1930	2584	2473	111	688	1264	521	27.8	51.1	21.1	54.8	78.9	77.4
1931	2361	2253	108	630	1155	468	28.0	51.2	20.8	52.9	78.9	77.5
1932	2186	2090	96	581	1072	437	27.8	51.3	20.9	51.5	78.8	77.5
1933	2170	2076	94	572	1082	422	27.6	52.1	20.3	51.0	78.8	77.6
1934	2106	2018	88	560	1052	406	27.8	52.1	20.1	50.8	78.7	77.7
1935	2110	2023	87	570	1065	388	28.2	52.6	19.2	52.1	78.6	77.8
1936	2172	2082	90	586	1095	401	28.1	52.6	19.3	54.1	78.6	78.0
1937	2198	2108	90	602	1119	387	28.6	53.1	18.3	56.7	78.4	78.0
1938	2191	2104	87	603	1125	374	28.8	53.4	17.8	57.4	78.6	78.1
1939	2205	2119	86	615	1135	369	29.0	53.6	17.4	58.3	78.7	78.4
1940	2235	2154	81	627	1159	368	29.1	53.8	17.1	60.5	79.1	78.6
1941	2349	2262	87	674	1213	375	29.8	53.6	16.6	63.1	79.9	78.9
1942	2363	2275	88	681	1210	384	29.9	53.2	16.9	65.7	80.8	79.3
1943	2558	2450	108	727	1313	410	29.7	53.6	16.7	68.5	81.8	79.4
1944	2616	2502	114	686	1356	460	27.4	54.2	18.4	69.4	82.5	79.6
1945	2722	2603	119	712	1409	482	27.4	54.1	18.5	69.0	82.5	79.6
1946	2972	2845	127	813	1535	495	28.6	54.0	17.4	69.0	83.1	79.7
1947	3064	2942	122	922	1546	474	31.3	52.5	16.1	69.6	83.9	79.9
1948	2970	2850	120	916	1487	447	32.1	52.2	15.7	72.1	84.5	80.1
1949	2973	2850	123	938	1482	430	32.9	52.0	15.1	73.6	85.2	80.6
1950	3056	2936	120	981	1522	433	33.4	51.8	14.7	75.3	85.8	81.0
1951	3059	2935	124	1010	1510	415	34.4	51.4	14.1	77.1	86.5	81.6
1952	3179	3050	129	1071	1563	416	35.1	51.2	13.6	78.0	87.1	82.2
1953	3195	3063	132	1095	1556	412	35.7	50.8	13.5	78.3	87.6	82.7
1954	3211	3079	132	1120	1553	406	36.4	50.4	13.2	78.4	88.2	83.4
1955	3292	3153	139	1167	1580	406	37.0	50.1	12.9	79.9	88.7	83.9
1956	3349	3206	143	1205	1600	401	37.6	49.9	12.5	81.2	89.1	84.5
1957	3456	3309	147	1244	1660	405	37.6	50.2	12.2	81.8	89.6	84.9
1958	3458	3302	156	1242	1663	397	37.6	50.4	12.0	82.7	90.0	85.5
1959	3493	3332	161	1263	1674	395	37.9	50.2	11.9	82.9	90.3	86.0
1960	3499	3337	162	1258	1690	389	37.7	50.6	11.7	82.4	90.6	86.4
1961	3585	3409	176	1290	1724	395	37.8	50.6	11.6	81.6	90.9	86.9
1962	3481	3303	178	1239	1683	381	37.5	51.0	11.5	82.8	91.1	87.2
1963	3380	3201	179	1189	1638	374	37.1	51.2	11.7	82.6	91.2	87.5
1964	3195	3005	190	1098	1549	358	36.5	51.5	11.9	82.6	91.4	87.8
1965	3003	2815	188	1036	1454	325	36.8	51.7	11.5	82.3	91.6	88.0
1966	2901	2708	193	997	1402	309	36.8	51.8	11.4	81.7	91.9	88.4
1967	2876	2695	181	1001	1398	296	37.1	51.8	11.0	82.6	91.7	88.0
1968	2907	2718	189	1009	1424	285	37.1	52.4	10.5	82.8	91.7	88.1
1969	2897	2709	188	1006	1427	276	37.1	52.7	10.2	83.0	91.7	88.1
1970	2862	2664	198	991	1405	268	37.2	52.7	10.1	83.3	91.7	88.2
1971	2957	2724	233	1040	1424	260	38.2	52.3	9.5	83.5	91.7	88.2
1972	2758	2530	228	975	1326	229	38.5	52.4	9.1	83.8	91.7	88.3
1973	2504	2291	213	887	1208	196	38.7	52.7	8.6	84.0	91.7	88.3

[a] TFR(45) total fertility rate up to the age 45 years;
TF(N) component due to marital childbearing;
TF(EX) component due to ex-nuptial childbearing.

its marital and ex-nuptial component, expressed as the number of births to the married (TFR-N) or non-married (TFR-EX) women - in each case, however, reduced to 1,000 women irrespective of marital status.

Marital fertility is cumulated through ages 15 to 24, followed by a figure giving the average number of additional children born as the wives' ages increase from 25 to 34 years and from 35 to 44 years, when it is presumed that reproduction for all practical purposes has stopped. The distribution of the cumulative fertility rate of married women within those broad age groupings is expressed in the form of percentages to illustrate the changing age pattern of marital childbearing.

Variations of aggregate indices of fertility in general and of marital fertility in particular are caused not only by varying levels of fertility rates (that is of the probabilities that a woman of a given age will give birth to a child before reaching the next higher age) but also by varying proportions of all women who are married at a particular age or at a particular stage of their reproductive life cycle. This has been noted on the preceding pages several times and it has also been shown that in this respect a significant change occurred not only in Australia but in the majority of Western countries. To indicate the extent to which changes in the latter occurred during the 53 years reviewed here and to assess their impact on the measures of fertility the last three columns in Table 2.11 present the percentages of women currently married when aged 25, 35 and 45 years.

Births within marriage always contributed the majority of total births recorded in any particular year. They represented around 95 per cent of the total fertility rate for most of the period reviewed; but from about 1960 the ex-nuptial fertility component of the TFR started rising, to reach eventually 8.5 per cent of the TFR in 1973. The changing proportion of ex-nuptial births in the TFR was only partly due to the continuously

declining level of the marital component, but more significant was the increasing probability of non-married women becoming mothers. The changing incidence of ex-nuptial fertility will be taken up later in Chapter 4 together with the discussion of non-marital pregnancies and their outcome.

Following a similar pattern to the crude birth rates, total fertility rates declined steadily from 3,135 per 1,000 women in 1921 to 2,634 in 1929 at an average annual rate of decrease of 2.2 per cent. Between 1929 and 1934 the pace of fertility decline more than doubled: the lowest point ever recorded, of 2,106, was reached in 1934 while the rate of decline averaged 4.5 per cent a year, a pace probably unprecedented before and similar to one that occurred during the early 1970s.

During this period the general decline of TFRs was paralleled by both its components: marital and ex-nuptial rates. By 1935 all three indices were about one-third below their 1921 levels.

The recovery progressed at about the same pace as the earlier decline - by an average of 2.9 per cent a year during 1934-1946 - and again, the movement of both components was parallel to the TFRs. After 1946 the rise of TFRs was arrested for a brief period of about two to three years before it resumed its upward trend once again - to create the much publicized 'baby boom'. The total fertility rate rose from 2,970 in 1948, after a somewhat slow start, to 3,585 in 1961; its marital fertility component from 2,850 to 3,409 during the same period; and the ex-nuptial component from 120 in 1950 to 176 in 1961. This time, however, nuptial fertility grew by about 1.4 per cent a year while ex-nuptial fertility rose by almost 3.5 per cent a year.

By 1961, all three measures exceeded their 1921 counterparts: the TFR and its marital component by about 14 per cent, and the ex-nuptial component by 23 per cent.

The next 12 years witnessed an almost uninterrupted fall

of TFRs. However, the two constituent parts took different courses. Marital fertility started falling again - by about 3.3 per cent a year to reach a new trough of 2,291 in 1973 with every indication from as yet incomplete evidence of continuing decline not only in 1974 but also extending through 1975 and 1976. Ex-nuptial fertility, in contrast, went on increasing continuously up to 1971 at an average rate of 2.8 per cent a year. A new peak was reached in 1971 of 233 ex-nuptial births per 1,000 women with a slight fall to 213 in 1973 and an indication of stagnation at about the latter level in 1974 and 1975.[8]

The wave-like movement of TFRs just described can be, thanks to the more abundant data available for this particular period, looked into in greater detail as to the demographic changes that assisted - and we hesitate to use the word 'caused' in this context - its taking that particular shape. Marital fertility, being its most dominant component, will be discussed first.

In 1921, of the cumulative marital fertility rate of 2,992 births per 1,000 women, almost one-quarter was contributed by women below 25 years of age, over one-half by those aged between 25 and 34 years, and another almost one-quarter by women 35 years of age and older. Close to one-half of all births within marriage occurred within the first five years of marriage duration and another 27 per cent within the sixth to tenth year after marriage. Nearly one-third of all births were the first births and one-fifth the second births to the mother. Less than one-tenth were to mothers with six or more previous confinements (Table 2.12).

During the subsequent 13 years of declining marital fertility the proportion of TFR(N) contributed by women aged less than 25 years increased to 28 per cent by 1931 while that between ages 25 and 34 years slowly increased to 52.1 per cent in 1933-34; the births to women 35 years of age dropped to 20.1 per cent of

Table 2.12

Percentage distribution of marital confinements by mother's duration of marriage and parity
Selected years 1921-1974

Duration of marriage (years)	Year														
	1921	1925	1929	1932	1934	1938	1940	1942	1946	1951	1956	1961	1966	1971	1974
Under 5	49.3	50.7	53.7	53.1	53.5	60.2	61.2	60.9	55.1	58.0	54.7	55.3	59.2	60.9	61.5
5 - 9	27.0	25.3	25.8	25.4	25.8	22.2	22.5	24.0	29.3	26.9	29.6	27.6	25.9	27.3	29.5
10-14	14.3	14.8	11.8	13.2	12.9	11.1	10.5	9.5	10.6	10.8	11.1	12.2	10.1	8.4	6.6
15-19	6.7	6.8	6.6	6.0	5.5	5.0	4.4	4.2	4.0	3.4	3.7	4.0	4.0	2.8	2.0
20+	2.7	2.4	2.1	2.3	2.3	1.5	1.4	1.4	1.0	0.9	0.9	0.9	0.9	0.6	0.4
Mother's parity															
0	32.0	29.0	31.3	30.5	33.5	38.4	39.4	40.3	37.8	33.8	31.6	31.2	36.0	38.5	39.3
1	20.7	22.8	23.7	24.3	23.9	25.8	26.9	26.7	28.8	30.5	28.9	26.6	27.5	30.1	34.6
2	14.7	16.4	15.4	16.0	15.3	14.2	14.2	14.5	16.1	18.2	19.3	19.1	17.4	16.9	15.8
3	10.8	10.7	10.4	10.2	9.8	8.1	7.7	7.7	8.0	8.8	10.3	11.3	9.3	7.8	6.1
4	7.3	7.1	6.8	6.6	6.1	5.0	4.4	4.2	4.0	4.1	4.9	5.8	4.7	3.4	2.2
5	5.2	4.9	4.4	4.5	4.1	3.2	2.8	2.4	2.2	2.0	2.4	2.9	2.4	1.6	1.0
6+	9.3	9.1	8.0	7.9	7.3	5.3	4.6	4.2	3.1	2.6	2.6	3.1	2.8	1.7	1.0

the total cumulative marital fertility by 1934.

This downward movement of TFR(N) was accompanied by a steady decline in the percentage of nuptial confinements occurring at marriage durations of 15 years and more. At the same time, the percentage of children born to mothers of parity three and higher continued declining. Even during the Depression years the percentage of births to mothers of parity one and two slightly increased. The continuation of the Depression reduced the proportion of births of parities three and higher even further by 1934.

The period of fertility increase after 1934 exhibited a continuation of the earlier trend towards a further reduction of the importance of childbearing after 35 years of age. The trend was temporarily arrested in 1944-46 only. Similarly, births during marriage duration less than ten years formed an ever increasing proportion of all marital births. Consequently, the proportion of births of low birth order went on increasing as well, before the period of the 'baby boom' reversed the trend to a modest extent.

From the end of the war to 1973 the percentage of the annual cumulative marital fertility achieved by women less than 25 years old went on increasing: from 28.6 per cent in 1946 to 38.7 per cent in 1973. On the other hand, the contribution of older women (35 years and older) to the annual TFR(N) declined from 17.4 to 8.6 per cent.

The period of the 'baby boom' in a small way increased the percentage of all nuptial confinements that occurred at marriage durations of more than ten years: from 9.5 per cent of all confinements in 1942 to 12.2 per cent in 1961 for marriage durations 10-14 years and from 3.4 per cent (1951) to 4.0 per cent in 1961 for marriage durations 15-19 years. Similarly, the percentage of births to mothers of parities two and higher rose as well: 14.2 per cent of all confinements in 1938 and 1940 were to women of parity two, but this rose to 19.1 per cent in

1961: while 12.1 per cent of all confinements in 1940 were to women of parities three and four, 17.1 per cent were in 1961. However, neither of these changes - that is distribution by marriage duration or by mother's parity - was powerful enough to cause a return to the distributional characteristics prevailing in the 1920s.

From 1961 the decline in annual fertility was, once again, marked by an increasing weight of childbearing during the first ten years of marriage and a strong preponderance of first and second children in the total number of nuptial confinements. By 1974, 91 per cent of all nuptial confinements occurred within the first ten years of marriage and nearly 74 per cent of all confinements were to childless mothers or couples with one child only.

The impression we get from the changes in the proportionate distribution of the total fertility rate by mothers' ages is that they only in a very moderate way reflect the deferment of births at one time followed by a catching-up phase later in time. The only instance where such a course of events can be clearly noticed seems to have been the Depression period when, for a brief spell in 1932-34, the otherwise continuous growth of the percentage of TFR(N) accomplished by women before the age of 25 years was arrested. This was followed by a similar increase in the proportion of TFR(N) contributed by women aged 25-34 years about ten years later - in 1943-46. The same period also experienced a slight rise in the contribution to TFR(N) by women aged 35 years and over.

It thus appears that the dominant factor determining over most of the past fifty years how annual total fertility rate (that is its nuptial component) was accomplished was the changing pattern of childbearing and marriage formation. Early marriage and early childbearing were probably the two strongest determinants, overcoming temporary setbacks of economic circumstances and war. At first the years of the 'baby boom' raised somewhat

the percentage of childbirths later in marriage as well as the percentage of births of higher order than three - but not to such an extent as to return to the distributional pattern of the 1920s.

The time has come to look back over the subject matter of this chapter and to evaluate our findings by linking the marital fertility and marriage formation patterns. A series of indices that will serve this purpose is a modification of age-specific marital fertility rates. From the series of annual data by single ages of women, namely age-specific marital fertility rates and proportions of currently married women, we calculated rates of fertility within each quinquennial age period related to 1,000 woman-years spent in marriage during that age span.[9] The results are presented in Figure 2.1.

The largest fluctuations in marital fertility occurred at ages 15-19 years, as might be expected; the rates varied between about 600 births per 1,000 woman-years of married life in 1925 and 350 in 1944 and 1973. A part of the fluctuations was undoubtedly caused by relatively small numbers at risk, in particular during the period before the marriage boom of the 1940s and 1950s. Some of the young marriages were advanced because of the pre-marital pregnancy of the bride, and the incidence of such pregnancies also changed over time. In more recent years childbearing at the youngest ages, that is 20 years or less, cannot be viewed in isolation from ex-nuptial fertility. Pregnancies of non-married women carried to term may result either in a confinement early in marriage (pre-marital pregnancies) or outside of marriage - ex-nuptial births. If a society changes its attitudes toward ex-nuptial childbearing from rejection towards toleration, ex-nuptial fertility may be expected to increase and fewer women, while pregnant, will be 'forced' into undesirable marriages.

Marital fertility at the ages when marriage most often takes place in Australia, that is in the 20-24 years age range, appears

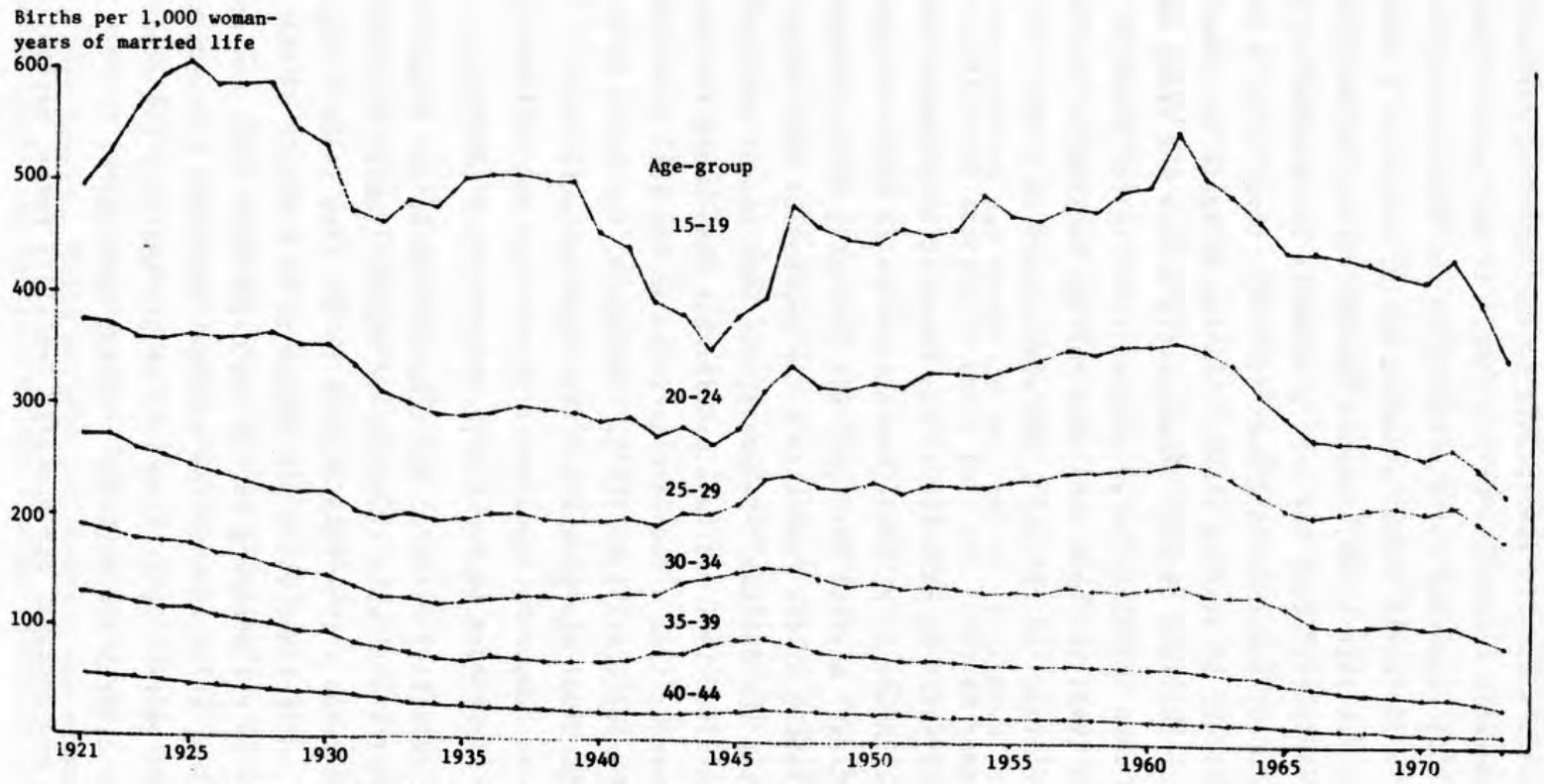

Figure 2.1 Marital fertility rates 1921-1973. Live births per 1,000 woman-years of marital life within a given age group.

to have been similarly susceptible to the impact of favourable or unfavourable conditions of the time. It was rather steady before 1930, responded quite promptly to the downturn of the economy in the early 1930s, steadied again, though at a lower level, in the late 1930s, dropped further during the war, only to rise violently after the war, presumably in response to the marriage boom, and reached a peak in 1947; then, after a short-lived decline, it started slowly climbing up again to a new high plateau in the late 1950s; subsequently sudden and steep decline followed when fertility rates dropped first to the level of the trough of 1944, but then continued further decline to the lowest, so far recorded, of 225 per 1,000 woman-years in 1973.

In many respects the time trend of marital fertility at ages 25-29 years is parallel to the trend of 20-24 years old. There are, however, at least two exceptions to this statement worth noting: marital fertility was declining already before the Depression of the 'thirties - the Depression only slightly accelerated the decline. Secondly, the more recent downturn of fertility after 1961 was less precipitous than among the younger women, turning into a moderate increase in the late 1960s only to be reversed again after 1971. Obviously, the trend in this and the previous age groups carries signs not only of a response to temporary impediments of marriage and childbearing, but also of changes in the timing and spacing of births.

The fertility rates of the remaining three age groups bear evidence of the secular trend toward smaller family size and only on one occasion - from 1943 through to the late 1940s - showed signs of an increase which was likely to be a result of the deferment of childbearing during the Depression years and possibly, in addition, a reaction to the abnormal emotional circumstances of the war years. Apart from this single instance the secular trend was clearly and markedly a steady decline.

The conventional age-specific fertility rates, marital and

ex-nuptial, for quinquennial age groups for the census years 1921-1971 provide a convenient way of summarizing the path of fertility during the past five decades. Marital fertility has been steadily declining, not only during the Depression period, but throughout the five decades 1921-1971 (Table 2.13). The economic recession only accentuated the trend by exerting more pressure on the rates than the secular decline would have achieved. By 1971 at the younger ages (below 20 years) the rates were about 20 per cent below the 1921 level; at the ages 30 and over, fertility rates deviated from the 1921 level even more; in general, the decline was a function of age. At 30-34 years of age the fertility rate in 1971 was about half its 1921 level, but at 45-49 years of age merely 14 per cent of the former level.

Ex-nuptial fertility, on the other hand, was increasing for most of the time above the 1921 level, with the exception of the Depression years, when the rates dropped on average by one-third. From 1947, the rates were increased steadily, at first mainly at ages 25-39 years, but already by 1961 the upward trend extended over the whole reproductive life span. By 1971, the ex-nuptial general fertility rate was 2.6 times that of 1921 and age-specific rates at ages 25-34 years outstripped the earlier ones by almost four times; at ages below 25 years the increase was just over 2.5 times.

The fluctuations of the cross-sectional fertility rates were superimposed on the general, secular trend which appeared to tend towards gradual reduction of childbearing at older ages, at higher parities, and at longer marriage durations. In other words, a secular movement towards limitation of family size. Shifting of the gravity of marital childbearing towards mothers' ages below 30 years coupled with the increasing proportion of women married at the younger ages resulted in maintaining annual fertility indices (particularly total fertility rates) at relatively high levels. While marital childbearing was gradually brought under deliberate control, mainly through effective use

Table 2.13

Age-specific fertility rates by marital status, Australia 1921-1971

Age	Confinements per 1,000 women													
	Marital							Ex-nuptial						
	1921	1933	1947	1954	1961	1966	1971	1921	1933	1947	1954	1961	1966	1971
15-19	550	522	486	489	557	448	434	7	5	6	6	10	14	20
20-24	373	301	341	327	360	276	267	15	9	15	19	28	28	42
25-29	264	194	243	297	250	207	217	13	8	19	39	49	48	52
30-34	188	125	158	136	142	112	108	11	9	15	23	48	48	43
35-39	129	74	89	72	68	53	46	10	7	10	15	29	30	24
40-44	56	31	29	23	21	15	12	4	3	3	5	8	10	7
45-49	6	3	2	2	2	1	1	0.5	0.4	0.1	0.3	0.6	0.5	0.7
GFR+	169	111	145	128	134	112	119	10	7	10	12	17	20	26

+ General fertility rate is the number of nuptial (ex-nuptial) confinements resulting in live births per 1,000 married (non-married) women aged 15-49 years.

of the available contraception and, presumably, to some extent by married women having recourse to induced abortion in extreme cases, fertility outside marriage started increasing. The fact that this increase occurred among women in their twenties and older may signal change in individual as well as societal attitudes and moral views concerning unwed motherhood.

Summary

The discussion of the time-period changes in Australian fertility was considered a necessary preliminary to provide a background for a study of generational changes in reproduction. The development of techniques of fertility analysis over the past thirty years or so has clearly demonstrated that time-period (cross-sectional) data can provide only a partial picture of the true course of fertility trends and even then such trends have to be interpreted with caution. In particular some of the aggregate indices sometimes lead to a misinterpretation of the reality, particularly at times when the patterns of marriage formation and reproduction within marriage are rapidly changing. Because our concern is precisely with such changes and the role they played in the demographic transition of fertility, we place more emphasis on the generational aspects of the processes that changed reproductive behaviour. This will be the subject of Chapters 3 and 4.

To sum up, it appears that marital fertility during the half century after 1921 continued its generally declining trend that had started in the 1880s particularly when assessed by the chance of conceiving during each year of marriage. The true extent of the decline was, however, largely masked by the steadily rising exposure of women to the risk of childbearing because of increasing proportions married at continuously younger ages and an increasing proportion of potentially reproductive years spent in marriage. Reduced mortality prolonged the duration of undisrupted marital unions. On the other hand, an increased incidence of divorce acted in the opposite

direction, although in this latter instance the high probability of remarriage of divorcees moderated the full impact of such marriage disruption on the total woman-years spent 'at risk' within the reproductive life span. Similar to divorce was the effect of separation that became now significantly more frequent among women of childbearing ages than divorce. According to the 1971 census, 2.8 per cent of ever married women aged 15-44 years were separated from their husbands, 1.6 per cent divorced, and 1.2 per cent widowed.

The reduction of fertility within marriage was obviously achieved by the effective use of conventional contraceptives and resort to induced abortion. Since the early 1960s more effective and acceptable contraceptives have become available in Australia. In addition, induced abortion, though still not 'on demand', became relatively more easily available in most States of Australia and, in particular, in the metropolitan and other urban areas.

Contrary to this, fertility outside marriage has been rising since the 1940s and, particularly at ages 25-34 years, since the 1950s quite steeply. The rise of ex-nuptial fertility at the same time as nuptial fertility was declining may have a different causation from the latter. It may be that contraceptives are not as readily available to unmarried as to married persons, or that they are not as well informed about ways and means of pregnancy control. While the former does not generally apply in Australia and, in particular, not during the most recent years, the latter may be the case for younger women in particular. That does not, however, explain why the rates increased steeply among women 25-34 years old. There does not exist any evidence based on hard data to explain this. To venture a conjecture, one might presume that attitudes in the society at large toward formal marriage as a pre-condition of childbearing relaxed and motherhood of non-married women became less objectionable socially than it used to be. In addition, a drift away from formal marriage as the

only acceptable form of family seems to be indicated in recent years, although there is no way of proving this with the help of available statistics.

Footnotes

1. The estimates of population size were based on enumerations called 'musters' conducted at least annually during the period 1788-1825 to assess the food and other requirements of the settlements. Their reliability is questionable.

2. The measures of fertility mentioned above and in the subsequent sections of this chapter are defined in Annex I.

3. Macarthy (1970, p.73) suggested that in the whole period 1891-1914 the 'working class did not enjoy any substantial or permanent improvements in its standards of living.'

4. In 1976, according to the provisional figure released by the Australian Bureau of Statistics, the birth rate dropped to 16.4 per 1,000 population. The total fertility rate may be estimated to lie between 2.22 and 2.23 and the net reproduction rate to be about 1.04.

5. Currently married women only, and restricted to the number of children born to the existing marriage.

6. This group is known as a birth cohort or generation. An alternative grouping would be by identical year of marriage (marriage cohorts) but in this case our data do not permit such arrangement.

7. It is most likely that some slight decline of marital fertility of this generation started when they were 35-39 years of age; however, there are no data to support this conjecture other than such as can be obtained from interpolation between the values given in Table 2.6 for the years 1876, 1886 and 1896.

8. At the time of writing the 1974 birth statistics were released by the Australian Bureau of Statistics. The estimates of nuptial and ex-nuptial cumulative fertility we are using here are based on estimates of the age distribution of the population by marital status as at mid-1974 and mid-1975 obtained by simple extrapolation of the 1971 distributions.

9. This index is more sensitive to the actual pattern of nuptiality at ages below about 25 years than the conventional marital age-specific-fertility rate.

CHAPTER 3

FERTILITY TRANSITION AND THE REPLACEMENT OF GENERATIONS

During the seven decades from the early 1860s to the 1930s birth rates in Australia plunged from over 40 to less than 17 births per 1,000 population. A secular trend of this type in fertility was not unique to Australia but occurred in most other Western countries, though not at the same time nor at the same pace. It was associated with and formed a part of a more widespread process that, for want of a better term, is generally called modernization. The process involved not only economic development and industrialization, but also changes in formal education (in systems as well as in content), increasing concentration of populations in urban centres, social and cultural changes that evolved from the technological revolution, and the transformation of social institutions. One such institution that in every society, regardless of its social, cultural and economic setting, bears the responsibility for population replacement - the family - is the focus of the demographer's interest. In the course of the modernization process both the role and the form of the family changed. The latter, in particular as it is reflected in declining family size, is to be the central area of analysis in this chapter.

The transition from the predominance of families with a large number of children to a situation where the majority of married couples have only two or three children cannot be adequately traced from cross-sectional data. This aspect of reproductive behaviour can be more adequately assessed by rearranging the time-period data so that they reflect the experience of new aggregates, the cohorts.[1] Two types of cohorts are generally used in demographic analysis of fertility: birth cohorts (generations)or aggregates of women born in the same year or small number of sequential years; and marriage cohorts or aggregates

of women married in the same year or sequential years.

In each instance, cumulative measures of marital fertility may be derived; although the distinction between the two types of cohorts leads to important differences between the measures. The cumulative marital fertility of a birth cohort (generation) is an aggregate measure reflecting the reproductive experience of a group of women who were ageing at the same pace but who varied with respect to their age at marriage and, consequently, had experienced different marriage durations when they reached a specified age. Comparisons of achieved family size between birth cohorts thus necessarily call for some 'control' for marriage duration (Ruzicka: 1974).

The cumulative marital fertility of a marriage cohort, conversely, measures the achieved fertility of women after the same period spent in marriage; however, because their ages at marriage varied, so did their physiological fecundity at the time of marriage. Consequently, comparisons between marriage cohorts as to achieved family size have to allow for differences in the ages at marriage.

The sources of data for calculation of cohort measures of fertility are of two types: retrospective data on the number of children ever born to ever married or currently married women obtained from census returns or sample surveys, tabulated either by age at the time of census (or survey) or year of birth - thus leading to birth cohort measures; or by year of marriage or duration of marriage at the time of census (or survey) - thus generating marriage cohort measures. Such data are available in Australia from each census since 1911 (in New South Wales since 1901) with the exception of the 1933 census which did not ask this fertility question. The question was phrased in almost identical terms at each of the censuses held in 1947, 1954, 1961, and 1966. Numbers of children born to the existing marriage were recorded for all currently married women. However, information was not sought from women who were divorced or widowed

or who had never married at the time of the census.

Unlike the four censuses mentioned above, the 1911, 1921 and 1971 censuses asked, in addition, a question about the number of children ever born to all ever married women. This means that for re-married women with issue from previous marriages the record shows their total fertility as well as the fertility arising from the existing marriage. Unfortunately this is completely true for only the 1911 census returns and, hopefully, will turn out to be the case for the 1971 census when the data become available.[2] When the returns of the 1921 census were processed, women who were not enumerated with their husbands in the same dwelling on census night were dropped from the tabulations (leaving out widowed, divorced and separated women as well as those where the husband was temporarily absent); for the rest the issue both of existing marriage and of all marriages was tabulated.

These limitations to the data have to be kept in mind when drawing comparisons between the average issue of the same birth cohort of women as recorded at different dates.

The second type of data from which cohort fertility can be derived is that accumulated by the vital registration system coupled with annual mid-year estimates of population by age and marital status. Such information was used in the last chapter and its origin and nature were described there. Because it covers the period from 1921, it can be used to follow the pattern of marital and ex-nuptial child-bearing of generations born since 1906 (that is of women who reached the age of 15 years by the 1921 census). This evidence, however, is incomplete in the data being employed (up to 1973) for generations born after 1928 since those women have yet to reach the upper age limit (that of 45 years).

Age-specific marital fertility rates, weighted at each age by the proportion of women currently married, may be summed up starting with age 15 years and proceeding year by year thereafter

in terms of time and age to obtain the cumulative marital fertility of each particular generation. An identical procedure may be followed with ex-nuptial fertility using proportions non-married (that is single, widowed and divorced). The cumulative fertility of a birth cohort G will then consist of two components, that is births contributed by marital and ex-nuptial fertility per 1,000 women of a given generation. This measure, CF(G), will be formally similar to the total fertility rate of a period, TFR, with the reference group being in the former case a birth cohort, followed over 30 years, in the latter case a snapshot of 30 different generations at one point of time.

The component of CF(G) containing the nuptial births, CF(G-N), can be further adjusted to provide an estimate of the average issue per married woman, that is a measure conceptually similar to one obtained retrospectively from census returns. For that purpose CF(G-N), has to be divided by the proportion of married women at the end of the reproductive period, which in this case is taken to be 45 years of age. Obviously, two estimates are possible. One employs the proportion of currently married women aged 45 years as the denominator. Such an estimate will obviously overstate the actual average issue because it will eliminate from the denominator women who were married for some time during their reproductive life cycle and thus contributed at some stage to the size of the numerator (that is the number of vital births ever born to the generation). The second possibility is the use of the proportion of ever married women aged 45 years as denominator. Conversely, this estimate will understate the real average issue because it does not make allowance for the fact that some of the ever married women spent only some part of their reproductive life cycle 'at risk' of marital child-bearing.[3] In practice, however, the two procedures lead to measures that differ only marginally from one another. In the forthcoming analysis, the average issue derived from vital registration will be based on the former procedure using the currently married women unless otherwise stated.

Family Size before the Commencement of Fertility Transition

The census of 1911 has retrospective data on the average issue of currently as well as of ever married women by five-year age groups. The oldest women, surviving to ages 75-79 years, 70-74 years, and 65-69 years, that is belonging to generations born in 1831-36, 1836-41, and 1841-46 respectively,[4] reveal average issues that are not only the highest on record but also remarkably stable: 6.98, 7.02, and 7.03 children ever born (from all marriages) per wife respectively. If the issue of only the existing marriages is considered, the averages drop to 6.36, 6.48 and 6.53 children per wife respectively (Table 3.1).

Women of those three birth cohorts reached the age of 15 years - by convention the lower age limit of the reproductive life span - between 1846 and 1851, that is during a period when birth rates in Australia were still at a very high level and were not displaying any signs of decline. They reached the age of 45 years - conventionally the upper age limit of reproduction - during 1876-1891; thus, the oldest terminated their reproductive life cycle before time period data showed any significant decline of marital fertility, while some women of the 1841-46 generations might have started limiting their family size in the late 1880s. However, neither the remarkable stability of the average issue of married women of all three generational groups reviewed here nor the statistical evidence discussed in the last chapter gives support to that conjecture.

Clearly, the birth cohorts 1831-1846 are in their reproductive behaviour best described as pre-transitional generations. Who were they?

The number of women surviving to the 1911 census out of those born in 1831-36 was 16,609; out of them 4.5 per cent were never married and less than one out of every thousand was divorced at the time of the census. Only 25.6 per cent of them still had their husbands alive and 69.8 per cent were widows. Only nine out of every hundred had been born in Australia

Table 3.1

Average issue and the number of children ever born of generations 1831-1846

Birth cohort (generation)	Age at 1911 census	Average issue from all marriages	Average issue from existing marriage	Percentage of families with the number of children* 0	1	2	3	4	5	6+
1831-1836	75-79	6.98	6.36	14.25	4.16	5.24	4.87	5.31	7.12	59.05
1836-1841	70-74	7.02	6.48	14.08	4.17	4.20	4.98	5.59	6.81	60.17
1841-1846	65-69	7.03	6.53	13.53	4.15	4.16	5.08	5.81	6.17	61.10

* Children born to the existing marriage only.

Source: Census 1911, Statistician's Report, p.280

Note : Wives who did not state their issue were excluded entirely from the calculation of averages and proportions shown in the table.

Table 3.2.

Country of birth of women born in the period 1831-1846, surviving to 1911

Birth cohort (generation)	Australia	New Zealand	England	Wales	Scotland	Ireland	Other Europe
1831-1836	1,530	3	6,603	202	2,275	5,011	840
1836-1841	4,073	20	9,312	289	2,926	8,082	1,194
1841-1846	11,001	101	11,316	348	3,349	8,532	1,653

Birth cohort (generation)	Total Europe	Asia	Africa	America	Polynesia	At sea	Total
1831-1836	14,931	34	16	70	1	24	16,609
1836-1841	21,803	65	23	104	5	83	26,176
1841-1846	25,198	100	40	160	12	88	36,700

Source: Census 1911, Statistician's Report,pp.121 and 148.

(Table 3.2), the rest having arrived mainly from Europe. Out of the 14,931 European-born women almost half came originally from England (6,603) together with a few from Wales (202); the number of English immigrants was closely matched by the Irish (5,011) while those born in Scotland amounted to just less than half that number (2,275). In addition, there were 840 women who had been born in other parts of Europe, mainly in Germany.

As we progress to the more recently born generations of 1836-41 and 1841-46, the proportion of women born in Australia rises rapidly: 15 per cent and 30 per cent in those two generational groups respectively. The distribution of immigrants by country of birth remained, however, almost stable: Europeans dominated the scene and among them close to 45 per cent arrived from England, one-third from Ireland, one-eighth from Scotland, and a small fraction from Wales. Only about 5 per cent of European immigrants came from outside the United Kingdom.

The 1911 census does not provide detailed information about when those women arrived in Australia. It indicates, however, that, out of all women born before 1846, more than 80 per cent had lived in Australia for 40 years and more at the time of the census. Only 2.6 per cent had lived in the country for less than 20 years while 11.3 per cent had done so for less than 30 years. Thus, the majority of women of those generations with which we are concerned here arrived in Australia at an early age and clearly most of their children must have been born in Australia.

As a measure of total marital fertility, the number of children ever born to all marriages is obviously superior to the issue of existing marriages. As mentioned earlier, the 1911 census provided such information (Table 3.3). It appears that only about eight women out of every hundred remained childless and it may be assumed that this figure is an over-estimate of true physiological sterility. As the information was obtained from women 65-79 years old, there may have been some errors of

Table 3.3

Percentage distribution of married women of generations 1831-1846 by the number of children ever born to all marriages

Number of children ever born	Mother's year of birth		
	1831-1836	1836-1841	1841-1846
0	8.16	8.34	8.37
1	3.68	3.97	3.77
2	5.10	3.97	4.06
3	4.63	5.13	4.84
4	5.41	5.70	5.72
5	7.30	7.03	7.04
6	8.81	7.93	8.49
7	8.33	9.22	9.19
8	9.67	9.21	10.00
9	10.05	10.20	9.26
10	10.11	9.77	9.52
0-10	81.25	80.47	80.26
11	6.15	7.13	6.97
12	5.97	5.17	5.71
13	3.34	3.65	3.33
14	1.81	1.88	1.79
15+	1.48	1.70	1.94
11+	18.75	19.53	19.74
Total	100.00	100.00	100.00
Total women	5,809	12,681	22,855

Source: G.H. Knibbs, The mathematical theory of population .. p.322.

omission, particularly those due to the failure to report children who had died. Voluntary childlessness in those days may be considered of even less consequence than it is among married women nowadays.[5] At the other extreme of the distribution, we find one out of five women having eleven children or more. A number of live births ranging from seven to ten was

Table 3.4

Average issue of married women by birthplace. Generations 1831-1846

Generation	Birthplace of mother								
	Australia	New Zealand	United Kingdom	Other Europe	Asia	Africa	America	Poly-nesia	At sea
	Average number of live births to all marriages								
1831-1836	7.72	-	6.96	6.38	7.29	2.50	8.55	-	3.25
1836-1841	7.88	8.88	6.90	6.68	8.93	5.71	6.24	2.00	7.10
1841-1846	7.75	7.69	6.70	6.94	6.45	5.50	5.64	7.50	8.74

Source: Census 1911, Statistician's Report, p.282.

the most frequent (modal) family size in all three generational groups.

The average number of children ever born did vary to some extent between women of different birthplaces,[6] although the differences did not remain constant between generations. It appears that Australian-born women had, on the average, the highest average issue: from 7.72 to 7.88 children per married woman. Women born in the United Kingdom followed with 6.70 to 6.96 children, only slightly more than the 6.38 to 6.94 recorded for women born in other parts of Europe. The differences between women of different birthplaces are not very large and could have easily originated from different marriage patterns.

The remaining birthplace groups were too small to allow any firm conclusions about differential fertility, particularly in view of the absence of any information about marriage patterns.

Marriage patterns are not directly available from the 1911 census tabulations. However, one table gives the age of respondents at the 1911 census and average issue by marriage duration and so we can indirectly obtain some information on age at marriage although unfortunately only in ten-year groupings that overlap (Table 3.5). As could be expected the average issue of women marrying very young and still living in unbroken marriage at the time of the Census was the highest one: ten to eleven children for the generations born in 1851-61. As the age at marriage increased, the average issue declined to about eight children for women born in 1836-41 marrying at ages 20-29 years. The issue and marriage duration as stated refer to the existing marriage only. Thus, for some of the women who married at ages 20-29 years, the present marriage might have been the second one and the issue recorded would not have included the children from the previous marriage; in other words, lifetime fertility is truncated.

We have another piece of valuable information about the association between age at marriage and number of children ever

Table 3.5

Average issue of existing marriage by current age and approximate age at marriage. Australia, generations 1836-1861

Generation	Age at 1911 Census	Range of ages at marriage (years) below 15	below 20	15-24	20-29
1836-1841	70-74				8.18
1841-1846	65-69			8.82	6.88
1846-1851	60-64		9.52	8.25	6.42
1851-1856	55-59	10.00	9.19	7.80	6.17
1856-1861	50-54	11.22	8.65	7.17	5.54

Source: Derived from 1911 Census, Statistician's Report, p.285.

born, this time from the 1901 Census of New South Wales. Coghlan (1903) presented a table in which he calculated the average issue of women aged 45 years and over in 1901 (that is women born in the years before 1856 and thus belonging to the generations reviewed here) who were married between 1859 and 1870. For those who were married at ages 15-19 years, the average number of children ever born was 9.67, in contrast to 8.28 for women marrying at ages 20-24 years. The average issue declined gradually to 4.57 for women marrying at ages 30-34 years (Table 3.6).

Table 3.6

Average issue of women aged 45 years and over who were married between 1859 and 1870. New South Wales, Census 1901

Age at marriage	Number of women	Number of children ever born	Average issue
15-19	7,889	72,264	9.67
20-24	10,021	83,026	8.28
25-29	3,239	20,943	6.47
30-34	838	3,826	4.57

Source: Coghlan (1903, 36-37).

The average number of children ever born to women who married young and lived in an unbroken marriage for all their reproductive life cycle is of the same order as the highest marital fertility on record, that of the Hutterite communities in the United States. Eaton and Mayer (1953) estimated the median issue of the Hutterite women aged 45-54 years in 1950 (generations born between 1895 and 1905) as 10.6 children (average 9.4 children) and of those who were between 55 and 74 years old as 9.9 children (average 8.6 children). The median age at marriage of the Hutterite women married between 1880 and 1905 was 19.5 years. Married Hutterite couples, as Eaton and Mayer report, are rarely separated after marriage, the death of the spouse being the only cause of marriage dissolution.

Thus, the average issue of the Hutterite women can be compared with the Australian data for unbroken marriages of a long duration. It appears that, among the generations of Australian women born around the middle of the nineteenth century and earlier, those who married early and whose marriages were not broken by the death of the husband before the women reached 45 or 50 years of age, levels of fertility must have been as high as the 'natural' fertility of the Hutterite women. Pregnancy control and birth control were obviously not practised to any significant extent. The factor that might to some extent have limited fertility, at least of some couples, was temporary absence of husbands, particularly during the period of gold rushes. Coghlan (1903, p.40), commenting on his findings cited earlier, suggested that

> "they may be taken as illustrating the natural fertility of women ... unimpaired by resort to any form of artificial restriction".

The term 'natural fertility' thus appears in Coghlan's work some fifty years before it found its way into the modern demographer's vocabulary and was employed in very much the same sense as we use it today.

Under conditions of 'natural' fertility, differentials in

average issue between different sub-groups of population are likely to reflect, apart from differential fecundity, mainly variations in the age at marriage and differential incidence of marriage dissolution by death of the spouse. The use of retrospective data to detect differential fertility has well-known limitations that are even enhanced in this case by the long gap between the end of the child-bearing period and the time the women of the three generational groups examined above were enumerated in 1901 or 1911. This gap was at least 20 years and thus some of the characteristics of the women, when they were recorded, were likely to have been acquired after the end of the child-bearing life cycle rather than during it. One significant characteristic is free of such limitations: the country of birth. The other one, that may be subject to some change though probably not very much in those days, is religion.

The census of 1911 published a very detailed tabulation of the religious denominations of the population enumerated, but unfortunately did not sub-divide them into age groups so as to enable us to identify the generations we are dealing with here. Although we possess one table giving the average issue of women by age and religion, we do not know how many there were in each of the cells of the table and how they were distributed in terms of the duration of their marriage (Table 3.7). Thus, we are not in a position to judge what significance, at least notional if not statistical, the differences in average issue of women of various religious denominations may have. It is certain, however, that women belonging to the Church of England, Methodists, Presbyterians, Lutherans and Roman Catholics represent large enough groups for analysis because of the association of those religions with country or area of birth, and we have already examined the numbers by the latter characteristic. We cannot be sure as to the numbers involved in the smaller denominations, such as Salvation Army, Judaist, Church of Christ, or others.

In any case, however, there appears to be no certain trend

Table 3.7

Average issue (children ever born to all marriages) of married women born in 1831-1846 by religion as recorded in 1911 Census

Religion	1831-1836	1836-1841	1841-1846
Church of England	6.92	7.05	7.00
Presbyterian	6.82	7.12	7.04
Methodist	7.92	7.40	7.38
Roman Catholic	6.75	6.76	6.96
Lutheran	6.78	6.69	7.17
Hebrew	7.33	6.16	6.72
Baptist	6.69	6.68	7.10
Congregational	6.48	6.27	6.68
Church of Christ	6.62	7.77	7.18
Protestant (undefined)	5.92	7.14	6.90
Catholic (undefined)	5.98	7.83	6.56
Salvation Army	8.92	8.56	7.45

Source: Census 1911, Statistician's Report, p.284.

in any of the three generations among women of the same denomination, and neither are there any clearly marked differentials between the various religions among women of the same generation. The average number of children ever born to women of various religious denominations ranged between 5.92 (Protestant, undefined) and 8.92 (Salvation Army) in the 1831-36 generation; between 6.16 (Judaist) and 8.56 (Salvation Army) in the 1836-41 generation; and between 6.56 (Catholic, undefined) and 7.45 (Salvation Army) in the 1841-46 generation. However, the ranges between the larger groups are less striking: 6.75 (Roman Catholics) to 6.92 (Church of England) in the 1831-36 generation, 6.69 (Lutheran) to 7.12 (Presbyterian) in the 1836-41 generation, and 6.96 (Roman Catholic) to 7.17 (Lutheran) in the 1841-46 generation.

As stated earlier, some of the differentials may be due to variations in the age at marriage. No tabulations are available

from the 1911 census, but we can get a glimpse of the impact of the age at which women married on their fertility from the 1901 census of New South Wales. Coghlan (1903) has a table giving the average issue of women who had terminated their child-bearing by 1901 (and, although he did not state it explicitly, from the context it can be understood that they are women aged 45 and over at that date) by religion and age at marriage (Table 3.8). The table combines together all generations born before 1856. Here some interesting observations can be made: in all groups taken separately by age at marriage it is the women of Judaist religion that exhibit the lowest fertility; again with surprising consistency, the highest fertility appears to characterize the women of Roman Catholic religion in all three groups subdivided by age at marriage.[7] The difference between

Table 3.8

Average issue of married women who terminated child-bearing by 1901. Census of New South Wales, 1901

Age at marriage	Mother's religion					
	Church of England	Roman Catholic	Methodist	Presby-terian	Hebrew	Others
Under 20	9.54	9.66	9.62	9.43	8.38	9.18
20-24	7.69	8.11	7.83	7.80	7.50	7.19
25-29	5.56	5.99	5.83	5.79	4.71	5.46

Source: Coghlan (1903).

these two religious groups, 1.28 children among women marrying under the age of 20 years and at age 25-29 years and 0.61 children for those marrying at ages 20-24 years, appears to be large enough to suggest that some attempts might have been made among the Jewish families to limit, however moderately, their fertility.

The social characteristics that in the course of fertility transition started differentiating the 'innovators' from the rest of the population were occupation, education, and urban

versus rural residence. There are no data on the educational levels of women in the 1911 census; the only information sought was on literacy[8] and, for those receiving instruction at the time of the census, the kind of school attended. For the other two characteristics, the limitations pointed out earlier apply to their full extent; the wife's residence or husband's occupation at the time of the census was not likely to be identical with those at the time the women were in their child-bearing ages (and even at those ages there may have been change in these characteristics). Therefore, we introduce data on differential fertility by place of residence and occupation of husbands here only to demonstrate that for those generations neither characteristic was of real significance.

The average issue (children ever born) of women residing in 1911 in the rural areas[9] ranged between 7.21 and 7.48 childen per married woman of the generations 1831-46, whereas for those residing in the capital cities and their suburbs the range was 6.36 to 6.59 children. Although the difference between the city-dwellers and the others rose to 1.12 children in the 1841-46 generation, it would be probably an exaggeration to give it too much importance in terms of claiming an earlier start of fertility transition in the cities. The women of this generation, when recorded as city-dwellers in the 1911 census, were 65-69 years of age and thus at least 20 years past their childbearing - and there is no way of finding what their residence had been two to three decades earlier. Moreover, similar differences of the same magnitude as those between the city and other areas can be found between cities as well: thus women residing in Hobart and its suburbs had, on average, 7.16 children whereas those of Melbourne and suburbs bore only 6.37 children (generation 1831-36). A similar magnitude of difference existed for other generations as well (Table 3.9).

The 1911 census presented some tabulations on the number of children ever born by occupation of husbands; however, unlike the previous instances, the issue here is related to husbands

Table 3.9

Average issue of women born in 1831-1846 by place of residence at 1911 census

Generation	Sydney	Melbourne	Adelaide	Hobart	Brisbane	Perth	Metropolitan cities and their suburbs	Other areas
1831-1836	6.60	6.37	7.10	7.16	6.44	6.53	6.58	7.21
1836-1841	6.64	6.38	6.82	6.96	6.66	6.92	6.59	7.30
1841-1846	6.49	6.09	6.52	6.64	6.31	6.75	6.36	7.48

Source: Census 1911, Statistician's Report, pp.291-292.

rather than wives. Moreover, we have data only for husbands aged 65 years and over and then in only one age category. Thus, the information covers all men born in 1846 and before. The average issue (per husband and comprising children born to all their marriages) was 7.13. The census divided occupations into eight main classes:[10] I. professional; II. domestic; III. commercial; IV. transport and communication; V. industrial; VI. agricultural, pastoral, mineral and other primary producers; VII. independent; VIII. dependants. Moreover, all 'breadwinners' were further distinguished by the 'grade' of the occupation, as E - employer; O - person in business on his own account not employing others; A - person assisting the head of the household in his business but not receiving salary or wages; W - salaried or wage earner; N - unemployed at the time of census for more than a week.

Table 3.10 gives in some detail the average issue of husbands in the main occupational categories and in some of the grades listed above.

Table 3.10

Average issue of husbands aged 65 years and over in 1911 by their occupational category as recorded in 1911

	Occupational category					
Occupational status	Profess-ional	Dom-estic	Comm-ercial	Trans. & Commun.	Indus-trial	Primary industry
Total	6.50	5.93	6.58	6.66	6.98	7.76
Employer	6.50	6.52	6.95	7.37	7.36	8.13
Working on own account without paid labour	5.79	5.94	6.28	7.52	6.97	7.79
Working for salary or wage	6.50	5.85	6.54	6.28	6.92	7.12

Source: Census 1911, Statistician's Report, pp.287-290.

Obviously many of the differences observed could have been caused by differential marriage patterns as well as by shifting from one occupation to another during a lifetime. The main feature of the table is probably the very high average issue of the husbands in agriculture and primary industries (7.76 children) in contrast to the lowest average of 5.93 children of the persons in domestic services. Among those engaged in primary industries four sub-groups (not shown in Table 3.10) stand out: persons of agricultural pursuits (7.92 children), pastoral pursuits (7.85 children), the capture of wild animals and their produce (7.81 children), and forestry (7.62 children). The primary producers, classified as employers, had, on average, 8.13 children in contrast to those working on own account (7.79 children) and those receiving wages or salaries (7.12 children).

The gradation of average issue according to the occupation status category (the 'grade' of occupation as the census called it) was from 7.76 children for employers to 7.38 children for assisting members of the household followed by 7.29 children for husbands working on their own account without employees to 6.78 children among wage and salary earners.

The largest gap between the various occupational groups and their sub-categories is of the order of two children, this being the difference between an average of eight and six children ever born per husband aged 65 years and over. As before in respect of other characteristics there seems no strong indication that any of the occupational groups or sub-categories were aiming deliberately at achieving smaller family size; the variations could be attributed without an extreme stretch of the argument to the likely differences in age at marriage between the occupations.

To complete the picture, we have to give some consideration to how many children were likely to survive infancy and early childhood out of those live born. None of the tabulations of the 1911 census provides such information and thus it will be

necessary to employ data on general mortality for that period.

The earliest life tables for Australia were constructed by M.B. Pell (1867, 1879) for New South Wales covering the periods 1856-66 and 1860-75. Later on, two sets of life tables were presented by A.F. Burridge (1882, 1884), the earlier one using deaths registered in Victoria in 1871 along with the census population of the same year, and the later one for the period 1870-81 covering the population of New South Wales, Victoria, and Queensland. Those four life tables broadly depict the mortality situation in the country during the period when the women of our three birth cohorts were passing through their childbearing period. For decennial periods starting from 1881, life tables were subsequently prepared by the Commonwealth Statistician.

Although Pell's and Burridge's life tables might have been based on incomplete data, particularly for the earlier periods, it seems likely that the life expectation in the 1860-80 period was in excess of 46 years for males and at least 49 years for females (Table 3.11). Infant and child mortality of the generations born in the 1860s and 1870s was at a level which compared favourably with the low levels recorded for instance at that time in Denmark (Table 3.12). If that were so, it would appear that the longevity of Australians at that time was at least as high as the highest life expectations recorded in contemporary Europe, and considerably higher than those in the United Kingdom whence most of the immigrants came. Better climatic conditions, but also higher standards of living, particularly better housing and nutrition, are often mentioned as the leading factors that have generally put Australians at advantage over their European contemporaries. Selection might have been another factor contributing to lower mortality as one would assume that persons of impaired health would have not risked the hazards of the long passage.

If we take as an approximation of the mortality affecting

Table 3.11

Life expectation at birth in Australian Colonies and selected European countries in the 19th century

Country	Period and life expectation (M=males; F=females)			
Australia				1881-1890
New South Wales	1856-1866 M 44.0 F 47.3	1860-1875 M 47.09 F 49.70		M 47.20 F 50.84
Victoria		1871 M 49.08 F 52.31		
N.S.W., Vic., Q'land			1870-1881 M 46.44 F 49.62	
United Kingdom				
England & Wales	1838-1854 M 39.91 F 41.85		1871-1880 M 41.35 F 44.62	1881-1890 M 43.66 F 47.18
Scotland			M 40.95 F 43.80	M 43.92 F 46.33
France		1861-1865 M 39.10 F 40.55	1877-1881 M 40.83 F 43.42	
Germany			1871-1881 M 35.58 F 38.45	M 37.17 F 40.25
Netherlands	1840-1851 M 34.94 F 37.76	1860-1869 M 37.2 F 39.1	1870-1879 M 38.4 F 40.7	1880-1889 M 42.5 F 45.0
Norway	1846-1855 M 44.9 F 47.9	1856-1865 M 47.4 F 49.95	1871-1881 M 48.33 F 51.30	1881-1891 M 48.73 F 51.21
Sweden	1846-1850 M 41.38 F 45-59	1856-1860 M 40.48 F 44.15	1871-1880 M 45.3 F 48.6	1881-1890 M 48.55 F 51.47

Sources: Australia - Census 1911, Statistician's Report, part XX.; Pell M.B. (1867, 1879); Burridge A.F. (1882, 1884).
European countries: Dublin, Lotka, Spiegelman (1949; Appendix).

Table 3.12

Infant and child mortality in Australia and in Denmark. Generations born between 1864-68 and 1879-83 (Females)

Mortality index	Australia				Denmark		
	1864-68	1869-73	1874-78	1879-83	1860-64	1865-69	1870-74
q_0	118.4	104.0	120.7	114.1	122.5	124.9	120.0
$_4q_1$	90.0	75.6	78.6	64.7	104.7	89.2	80.3

Sources: Matthiessen (1970) Table III.2; Lancaster (1959) Table 28.

the children born to women of the generations 1831-46, level 13 in the 'West' model (life expectation for females of 5.0 years) and assume the average age of child-bearing to be about 32 years, with 95 per cent of women marrying and an average issue of married women of seven children, we may estimate how the generation of mothers was replaced by a generation of daughters in quantitative terms. Assuming a fixed sex ratio at birth (live births only) of 1.05 boys for each live born girl, we obtain an average of 3.41 girls among the live born children of ever married women. With 95 per cent of women marrying, this would yield a gross reproduction rate[11] of 3.24 girls per woman and, allowing for mortality, a net reproduction rate of 2.3 Such level of reproduction would imply that the generation of mothers (born in 1831-46) was replaced by a subsequent generation of daughters 2.3-times larger, thus leading to a population growth rate of about 2.6 per cent a year.

It is worth noting that during the early 1860s the natural growth of the Australian population fluctuated around 25 to 26 per 1,000 persons, that is close to the generational replacement rate. One has, however, to emphasize that the former estimate was based on generational data whereas the latter reflects time-period experience; in addition, the intrinsic rate of population growth derived from the net reproduction rate implies a stable age distribution which condition certainly did not apply in

Australia. To conclude, it appears from the retrospective evidence available that the generations of women born before the middle of the 1840s did not do anything to effectively control their family size. Smaller families were likely to result from delayed marriage or secondary sterility, or less frequently from marriage dissolution following the death of a husband. This latter case, particularly if widowhood occurred rather early in the reproductive period, might have significantly reduced the average issue of women even if they remarried later in life. Early marriages that were not disrupted by premature death of the spouse ended up, on average, with a number of children comparable with the highest marital fertility on record, that of the Hutterites.

Mothers, daughters and grand-daughters

Differences in knowledge and types of innovational behaviour are likely to distinguish one generation from another. The succession of generations is how social change and modernization take place. The practices of pregnancy control and birth control are no exception. The measurable impact of such practices and the evidence of their gradual spreading among ever widening strata of the population, as recorded in statistical data, support the proposition. We have already noted that the generations of women born before the middle of the nineteenth century had fertility levels so high as to preclude any possibility of the widespread use of pregnancy controls. From then on, however, as we proceed from one generation to the next, the average number of children ever born starts gradually and steadily to decline. In Figure 3.1 the course of that decline is depicted; generations born during the late 1840s show a small reduction in the average issue by 0.28 live births per wife; generations born in 1851-56 reduced their completed family size by another 0.31 children; those of 1856-61 ended their fertility with an average issue of 0.52 children less than the preceding group; and women born in 1861-66 proceeded even further having 0.67 less live birth per married woman than the previous quinquennial generation.

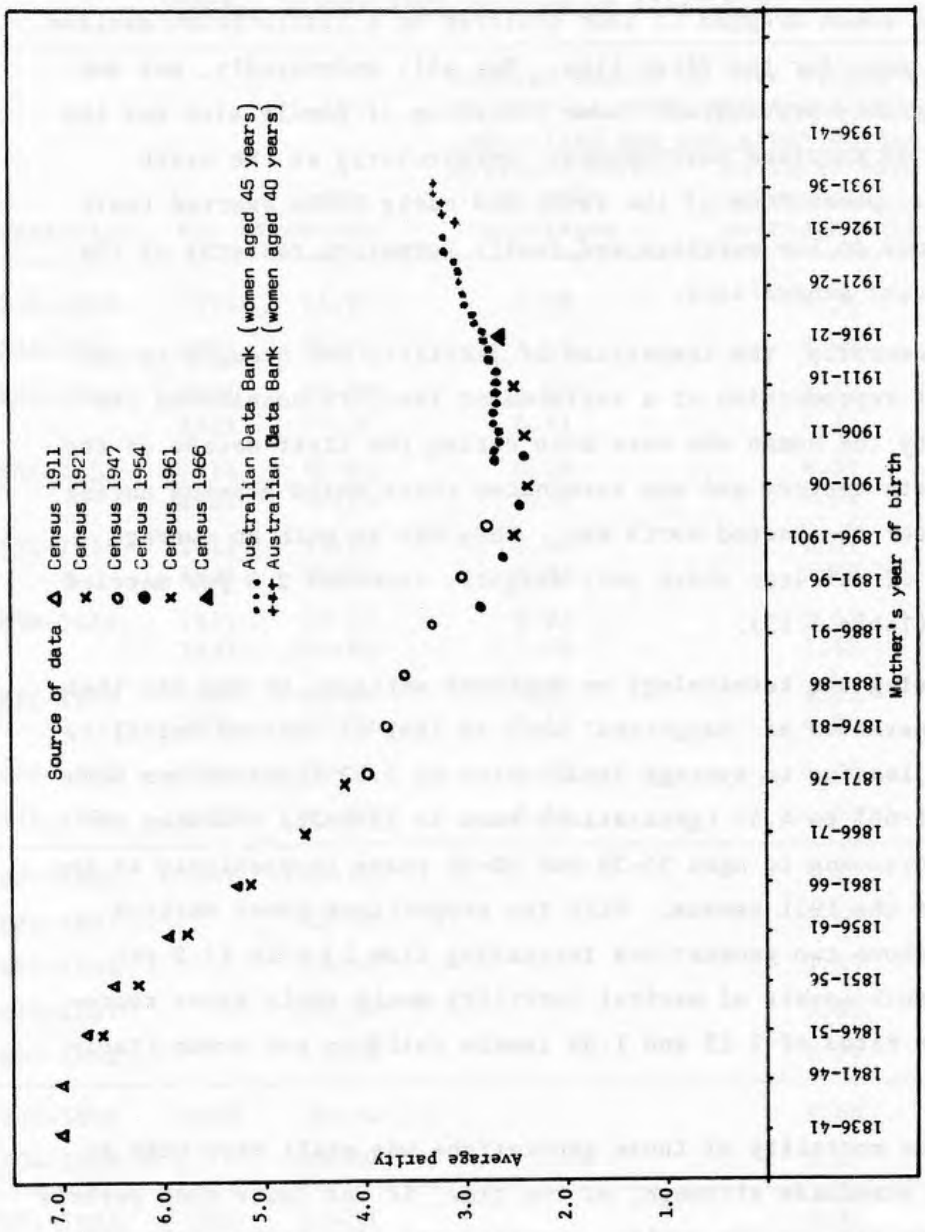

Figure 3.1 The course of demographic transition. Average issue of the wives born in 1836-41 to 1931-36.

The pace of fertility decline accelerated as one generation was followed by the next. When the average issue of currently married women dropped to four children or a little below decline slowed down for the first time. Not all, undoubtedly, was due to pregnancy prevention; some reduction of family size was the result of marriage postponement, particularly as the harsh economic conditions of the 1890s and early 1900s exerted their influence on the marriage and family formation patterns of the subsequent generations.

Generally, the transition of fertility was brought to an end, if reproduction at a replacement level is considered the goal, by the women who were born during the first decade of the twentieth century and who terminated their child-bearing during and after the Second World War. They did so with an average number of children which only slightly exceeded 2.3 per married woman (Table 3.13).

Using the terminology we employed earlier, we may say that the generation of 'daughters' born in 1861-71 reached fertility levels leading to average family size of 5.12 (generations born in 1861-66) to 4.57 (generations born in 1866-71) children per wife surviving to ages 55-59 and 50-54 years respectively at the time of the 1921 census. With the proportions never married among those two generations increasing from 13.4 to 15.2 per cent, such levels of marital fertility would imply gross reproduction rates of 2.12 and 1.89 female children per woman (Table 3.15).

The mortality of those generations was still very high by modern standards although, at the time, it was lower than perhaps anywhere else in the world; generational life tables calculated by Lancaster (1959) imply life expectancies at birth of 51.2 years (generations born around 1851) gradually and very slowly rising to 51.4 years for the generations born around 1861. Then the improvement began to accelerate so that the women born around 1871-76 reached a life expectancy at birth of 54.9 years and the

Table 3.13

Demographic transition and the average issue of married women. Generations 1831-36 to 1911-1916.

Generation	Age at census		Average number of live births to a married woman surviving to specified age and given census: children born to all marriages	children born to existing marriage only
1831-1836	1911	75-79	6.98	6.36
1836-1841	1911	70-74	7.02	6.48
1841-1846	1911	65-69	7.03	6.53
	1921	75-79	6.77	6.25
1846-1851	1911	60-64	6.75	6.31
	1921	70-74	6.51	6.08
1851-1856	1911	55-59	6.44	6.07
	1921	65-69	6.25	5.83
1856-1861	1911	50-54	5.92	5.62
	1921	60-64	5.74	5.40
1861-1866	1911	45-49	5.25	5.02
	1921	55-59	5.12	4.84
1866-1871	1921	50-54	4.57	4.36
1871-1876	1921	45-49	4.19	4.02
1877-1882	1947	65-69		3.82
1882-1887		60-64		3.60
1887-1892		55-59		3.33
1892-1897		50-54		3.03
1897-1902		45-49		2.77
1899-1904	1954	50-54		2.46
1904-1909		45-49		2.43
1901-1906	1961	55-59		2.37
1906-1911		50-54		2.40
1911-1916		45-49		2.50

Sources: Statistician's Report, 1911 Census; 1921 Census; 1947 Census; 1954 Census; 1961 Census.

generation born around 1891 one of 59.5 years.

Taking average age of child-bearing as 30 years, generational net reproduction rates can be calculated. The estimated value of generational replacement is of the order 1.4 to 1.5 for the generations born in 1861-71. In other words, the marital fertility of those generations was still high enough to augment the size of the subsequent generations by 40 to 50 per cent in comparison with the size of the maternal generation. Nevertheless, this level demonstrates a significant decline from the replacement rate of 2.3 that was the characteristic of the pre-transition cohorts.

The average issue of married women dropped by almost one-third between the generation of 'mothers' and 'daughters'. The gross reproduction rate, however, was reduced even further, by almost 40 per cent, because among the latter a significant proportion was still single when 45-49 years old. Thus, with mortality only slowly improving, the index of generational replacement was actually reduced more than the decline of marital fertility itself would imply.

The evidence available on the continuation and the course of fertility transition from here on is limited and fragmentary. There are two reasons for this: firstly, only one census was taken in Australia between 1921 and 1947, namely in 1933, and on that occasion the question on issue was omitted from the census schedule for reasons of "economy and the abnormal conditions existing at the time" (Census 1947, Statistician's Report, p.306). Secondly, and adding to the demographer's frustration, when the question was asked in the 1947 census, it was restricted to currently married women only and to the number of children born within the existing marriage. This practice was subsequently maintained in all censuses from 1947 until 1966.

As may be seen from Table 3.13, the gap between the number of children ever born and children born to the existing marriage was never a very large one. Moreover, it decreased between 1911

and 1921 and was lowest among the youngest women. However, this may not have been the case in the 1947-66 censuses, as the dominant cause of marriage dissolution before the end of the reproductive period had changed: with improving mortality widowhood became less likely and divorce began dominating the scene. Since 1954, permanent separation has been recorded and proved to be even more prevalent than divorce.

The information collected in 1947 on the average issue of the existing marriage indicated that the completed family size had declined further: from 4.55 children born to married women of the generation 1862-67 to 4.27 children of the birth cohorts of 1867-72, that is the generations that we labelled as 'daughters' in the preceding paragraphs. The generations born in 1892-97 and 1897-1902, the 'grand-daughters' of the pre-transition women, eventually reached an average family size of 3.03 and 2.77 children respectively on the completion of their reproduction.

The next census in 1954 revealed a further decline to 2.43 children per wife born in 1904-09.

To assess the demographic impact of this emerging pattern of family formation in terms of generation replacement, we shall first adjust the average issue recorded to overcome the effect of the elimination of children born to earlier marriages. From the 1921 census the difference between the average number of children ever born and children born to existing marriages was about 0.2 for wives aged 45-54 years. Adding this figure to the average issue of wives recorded by the 1947 and 1954 censuses, we obtained the estimates in Table 3.14. Then, the gross reproduction rates of the generations born between 1892 and 1902 were estimated and they revealed a decline from 1.38 to 1.15 female children per woman. Employing the mortality levels for the three generations estimated in the generational life tables and an average age for the fertility schedule of 30 years, it was found that generational replacement had declined from 1.10 to 1.03 and then to 0.98 between the three generations. Although these estimates are

Table 3.14

Generational replacement: values of generational net reproduction rate and its components for selected generations

Components	Generation (year of birth)					
	1831-1846	1861-1866	1866-1871	1892-1897	1897-1902	1904-1909
Average issue of married women[a]	7.00	5.02	4.57	3.23	2.97	2.63
Proportion ever married among surviving women	0.95	0.866	0.848	0.876	0.874	0.896
Gross reproduction rate[b]	3.24	2.12	1.89	1.38	1.27	1.15
Proportion of women surviving from birth to age 30 years[c]	0.723	0.709	0.728	0.799	0.815	0.855
Generational net reproduction rate	2.34	1.50	1.38	1.10	1.03	0.98

[a] Children ever born to a married woman for generations 1831-46 to 1866-71; children born to existing marriage only for the remaining generations but adjusted for the exclusion of children born to earlier marriages by adding 0.2 to average issue (see text p.155);

[b] Assuming sex ratio at birth 1.05;

[c] Mortality according to generational life tables calculated by Lancaster (1959) assuming the average age of fertility schedule $\overline{m}$ = 30 years.

approximations, they indicate that the transition of fertility had reached its end, if that end is defined as reproduction at replacement level, with the generations of wives born during the first decade of the twentieth century.[12]

The estimates developed so far have not taken into consideration the fact that some children were born outside of marriage but contributed to the replacement of the maternal generation. The proportion that ex-nuptial births formed of all births was, however, relatively low, not exceeding five per cent in the generation we are concerned with. Moreover, some of the births

registered as ex-nuptial were later legitimized by the subsequent marriage of the parents (or of the mother) and were recorded in the censuses as the product of their existing marriages. It thus appears that the underestimate of the generational replacement on this account could not have been very high, and was certainly less than five per cent.

The Australian Bureau of Statistics (1970) has estimated cumulative fertility rates of women born between 1893 and 1953 based on single-age-specific fertility rates of the years 1908 to 1968. This set of data contains both nuptial and ex-nuptial births and is also free of the limitations imposed on the estimation of fertility by the retrospective approach of the census. In Table 3.15 we present the Bureau's data and, using Lancaster's (1959) generational mortality, we estimated the net reproduction rate of each single generation of women born between 1893 and 1913. Because the accuracy of the estimates is limited, one would not attach undue importance to minor fluctuations of the generational net reproduction rates. The general impression is unequivocal: at least ten and possibly as many as seventeen annual generations of women born between the end of the nineteenth and the first decade of the twentieth centuries had just about the number of children that was needed, on the mortality level prevailing among those generations, to replace their own numbers by an adequate number of offspring, or even failed to achieve that level by a small margin.

The lowest number of children was borne by women of the generations 1902-03 and that fell short of replacement by seven per cent.

To assess the extent of intra-generational variations of infertility during the transition process and, in the end, within the generations that reached the levels of fertility at about generational replacement we shall once again turn to the retrospective evidence of the censuses.

Table 3.15

Reproduction of female generations 1893-1922. Australia

Generation	Total fertility rate	Net reproduction rate+
	per 1,000 women	
1893	2,787	1,086
1894	2,743	1,069
1895	2,689	1,061
1896	2,580	1,018
1897	2,522	995
1898	2,505	996
1899	2,434	968
1900	2,561	1,026
1901	2,509	1,005
1902	2,306	924
1903	2,297	939
1904	2,358	964
1905	2,328	971
1906	2,336	974
1907	2,322	968
1908	2,296	966
1909	2,327	979
1910	2,371	1,006
1911	2,378	1,009
1912	2,358	1,000
1913	2,389	1,022

+ Estimated using TFR and the number of females surviving to exact age 30 years (1_{30} of the generational life table); sex ratio at birth assumed 1.05.

Fertility differentials during the transition

Women born in 1846-51 were the last generations still dominated by immigrants (Table 3.16). Only 37 per cent of them were born in Australia; out of the rest, 97.6 per cent were born in Europe, and out of those 53 per cent came from England and Wales, 27 per cent from Ireland, 13 per cent from Scotland and about seven per

cent from the European continent. From then on, each subsequent generation had a rapidly increasing majority of Australian-born women; in the 1861-66 generations, Australian-born women already constituted three-quarters. In terms of the country of birth, the structure of the overseas-born group remained almost stable: the non-Europeans represented about three per cent of all overseas-born women and among those born in Europe about half came from England and Wales, less than one-third from Ireland, and about one-eighth from Scotland. The women born in the rest of Europe amounted to about seven per cent of all European-born immigrants.

The overseas-born women of the 1846-51 generations, who, when enumerated in 1911, had less than 30 years of residence in Australia, were aged 30 years or more at arrival and presumably the majority of them were at that time married and with children. They represented about one-fifth of all overseas-born women in that generation. In contrast, two-fifths had lived in Australia for 50 years or more in 1911 and thus must have arrived as young girls, and subsequently married and had all their children in this country (Table 3.17).

In the same generation, 8.1 per cent of women never married. This is somewhat more than we noted in the previous section for the generations born before 1846. As we proceed further on in time, in each subsequent generation the proportion of never married women increases constantly until in the generation 1861-66 it reaches 13.7 per cent, and increases still further up to 16.6 per cent for the generation of 1871-76, which is three to four times the level found in the generations of their 'mothers' (Table 3.18).

Two limitations have to be mentioned in the context of those figures. Firstly, we are dealing with retrospective data. If there had been differential mortality between never married and ever married women (as may have been the case, for, among the causes of spinsterhood, health impairment is an important one)

Table 3.16

Country of birth of women born from 1846-51 to 1866-71*

Generation	Australia	New Zealand	England	Wales	Scotland	Ireland	Other Europe
1846-1851	16,239	148	13,855	409	3,634	7,308	2,002
1851-1856	29,844	209	14,066	550	3,817	5,888	1,904
1856-1861	58,535	350	12,638	542	3,456	7,080	1,829
1861-1866	81,130	953	12,726	523	3,264	7,905	1,783
1866-1871	92,716	1,495	14,021	408	3,178	5,526	1,643
1871-1876	106,348	1,861	16,149	505	3,687	4,209	1,721

Generation	Total Europe	Asia	Africa	America	Polynesia	At sea	Total
1846-1851	27,208	153	71	245	17	181	44,262
1851-1856	26,225	133	100	335	17	427	57,290
1856-1861	25,545	180	85	337	40	264	85,336
1861-1866	26,201	279	144	243	48	244	109,242
1866-1871	25,776	339	107	301	75	107	119,916
1871-1876	26,271	405	111	437	88	137	135,658

* Generations 1846-51 to 1861-66 are survivors to 1911; generations 1866-71 are women who survived to 1921 census.

Source: Census 1911, Statistician's Report, pp.121, 143, 148.
Census 1921, Statistician's Report, pp.65, 86, 91.

Table 3.17

Duration of residence in Australia of foreign-born women
Generations born between 1846 and 1866 surviving to 1911 census and generations born between 1861-1876 surviving to 1921 census

Duration of residence (years)	Survivors to 1911 census				Survivors to 1921 census	
		Year of birth				
	Period of arrival	Before 1846	1846-1851	1851-1866	Period of arrival	Year of birth 1861-76
0-9	1901-1911	732	586	4,206	1911-1921	15,925
10-19	1891-1901	1,144	649	4,557	1901-1911	7,796
20-29	1881-1891	6,363	4,602	32,664	1891-1901	8,325
30-39	1871-1881	6,094	4,689	18,350	1881-1891	31,881
40-49	1861-1871	16,299	6,731	12,666	1871-1881	14,331
50-59	1851-1861	31,837	9,140	9,916	1861-1871	5,757
60+	Before 1851	11,048	1,626	-		-
Total		73,517	28,023	82,359		84,015
		Percentage distribution				
0-9	1901-1911	1.00	2.09	5.11	1911-1921	18.95
10-19	1891-1901	1.56	2.32	5.53	1901-1911	9.28
20-29	1881-1891	8.65	16.42	39.66	1891-1901	9.91
30-39	1871-1881	8.29	16.73	22.28	1881-1891	37.95
40-49	1861-1871	22.17	24.02	15.38	1871-1881	17.06
50-59	1851-1861	43.31	32.62	12.04	1861-1871	6.85
60+	Before 1851	15.02	5.80			
Total		100.00	100.00	100.00		100.0

Table 3.18

Distribution of women surviving to 1911 and 1921 censuses of generations born in 1846-51 to 1871-76 by marital status

Generation	Age at 1911 census	Age at 1921 census	Percentage			
			Never married	married	widowed	divorced
1846-1851	60-64		8.10	56.55	35.22	0.13
		70-74	8.34	36.16	55.42	0.08
1851-1856	55-59		9.60	66.07	24.19	0.14
		65-69	9.76	48.34	41.76	0.14
1856-1861	50-54		11.67	71.94	16.12	0.27
		60-64	11.96	57.71	30.05	0.28
1861-1866	45-49		13.67	75.20	10.84	0.29
		55-59	13.38	65.53	20.81	0.28
1866-1871		50-54	15.20	70.53	13.93	0.34
1871-1876		45-49	16.60	74.00	9.03	0.37

Source: Census 1911, Statistician's Report, p.245; Census 1921, Statistician's Report, p.173.

we might expect a lower proportion of single women to survive to very high ages. Thus there would be relatively fewer single women surviving to ages 75-79 years than to ages 45-49 years. Secondly, if the economic depression of the 1890s and early 1900s reduced the marriage rates during that period, then some of the women who had deferred marriage while in their late twenties and early thirties might have found it difficult to find a husband later in life. It appears that the doubling of the percentage of never married women between the generations born in 1846-51 and 1871-76 was due to the latter cause. The percentage single among the women of the same birth cohort, as they aged between the 1911 and 1921 censuses, did not change considerably. Thus among the women born in 1846-51 the percentage single increased from 8.1 when they were 60-64 years old in 1911 to 8.3 when they reached the age 70-74 years in 1921. Similarly, among the women born in 1861-66 the percentage single dropped from 13.7 when they were 45-49 years of age to 13.4 when they reached ages 55-59 years.

Divorce as the cause of marriage dissolution was very rare among all the generations born between 1846 and 1876. The 1911 census recorded at the most three women out of 1,000 as divorced among the survivors of these generations and so did the 1921 census.

The differences between generations in achieved total parity can be assessed in two ways. The first, which aims at avoiding the problems of comparability of the data on average issue of mothers between the 1911 and 1921 censuses, is to draw comparisons from one census only. However, by this approach, we shall be comparing women at different ages. If the chances of survival are associated with parity - that is frequent child-bearing reduced the wife's chances of survival, as is often suggested - older women with very large families will be under-represented and in a given age group the average issue of that generation will be understated. A part of the difference between average issues of two generations will be thus spurious in the sense that it will be due to differential mortality and not to differential fertility. This possibility is to be taken into consideration when evaluating and interpreting data in Table 3.19 that were based on the 1921 census. The other possibility is to compare average issue of women at the same age reached in 1911 and 1921. We shall obtain differentials for generations whose years of birth are ten years apart. This time, however, a part of the observed difference of average issue between generations will be due to the procedures adopted in each of the censuses in the processing of the returns and not to differential fertility of the birth cohorts. Such limitation is to be kept in mind when interpreting the results presented in Table 3.20.

In view of both limiting factors the results of the comparisons presented in the two tables can be only expressed in terms of rather broad tendencies. It appears that the intergenerational differences in the average issue were associated with the age at marriage.[13] They were larger if the wives

Table 3.19

Average issue of existing marriage by wife's age at marriage
Generations 1846-51 to 1871-76 surviving to 1921 census

Generation	Approximate age at marriage							
	Less than 15	Less than 20	15-24	20-29	25-34	30-39	35-44	40-49
	Average number of children born to the existing marriage							
1846-1851	———	7.76	———		4.93	2.84	1.28	0.64
1851-1856	——	8.28	———	6.40	4.48	2.71	1.32	0.42
1856-1861	—	8.98	—	7.50	5.82	4.00	2.45	0.98	0.36
1861-1866	8.34	8.18	6.69	5.07	3.61	2.13	0.92	0.29
1866-1871	6.76	7.37	6.02	4.70	3.31	2.04	0.83	0.21
1871-1876	7.73	6.78	5.68	4.34	3.10	1.82	0.71	0.12
	Difference between the generations specified							
1846-51 and 1856-61					-0.93	-0.39	-0.30	-0.28
1856-61 and 1866-71			-1.48	-1.12	-0.69	-0.41	-0.15	-0.15
1861-66 and 1871-76	-0.61	-1.40	-1.01	-0.73	-0.51	-0.31	-0.21	-0.17

married young, say below the age 30 years, than if they married at higher ages. Among the women who married at higher ages, presumably a higher proportion consisted of re-marriages, particularly of widows, some of them having children from a previous marriage. In the 1911 census, widows aged 25-29 years had on average 1.9 children and the issue increased with the age of the widow to 2.5 children (30-34 years), 3.1 children (35-39 years) and 3.9 children (40-44 years). If re-married widows represent a sizeable proportion of women at higher ages, average issue will not represent their lifetime fertility but only the fertility of the current marriage. In addition, as we noted earlier, the 1921 census excluded from the tabulations of issue women whose husbands on census night were not enumerated in the

Table 3.20

Average issue of existing marriage by wife's age at marriage
Birth cohorts 1836-41 to 1871-76 surviving to 1911 and 1921 census

Generation	Age at census		Age at marriage: less than 15	less than 20	15-24	20-29	25-34	30-39	35-44	40-49
1836-41	70-74	1911			8.18		4.95	2.93	1.27	0.10
1846-51		1921			7.76		4.93	2.84	1.28	0.64
		Dif.			-0.42		-0.02	-0.09	+0.01	+0.54
1841-46	65-69	1911		8.82		6.88	4.78	2.82	0.90	0.12
1851-56		1921		8.28		6.40	4.48	2.71	1.32	0.42
		Dif.		-0.54		-0.48	-0.30	-0.11	+0.42	+0.30
1846-51	60-64	1911	9.52		8.25	6.42	4.68	2.70	0.93	0.07
1856-61		1921	8.98		7.50	5.82	4.00	2.45	0.98	0.36
		Dif.	-0.54		-0.75	-0.60	-0.68	-0.25	+0.05	+0.29
1851-56	55-59	1911	10.00	9.19	7.80	6.17	4.32	2.52	0.90	0.14
1861-66		1921	8.34	8.18	6.69	5.07	3.61	2.13	0.92	0.29
		Dif.	-1.66	-1.01	-1.11	-1.10	-0.71	-0.39	+0.02	+0.15
1856-61	50-54	1911	11.22	8.65	7.17	5.54	3.84	2.25	0.80	0.09
1866-71		1921	6.72	7.37	6.02	4.70	3.31	2.04	0.83	0.21
		Dif.	-4.50	-1.28	-1.05	-0.84	-0.53	-0.21	+0.03	+0.12
1861-66	45-49	1911	7.57	7.69	6.37	4.85	3.37	1.96	0.66	0.07
1871-76		1921	7.73	6.78	5.68	4.34	3.10	1.82	0.71	0.12
		Dif.	+0.16	-0.91	-0.69	-0.51	-0.27	-0.14	+0.05	+0.05

same dwelling. The husbands' absences must have been only temporary in some cases, while in others the women must have been deserted or permanently separated. For all those reasons it is difficult to offer a plausible explanation of the differences in average issue of women who married late in life, say at ages over 35 years.

At the other extreme, the very low ages at marriage, particularly among the older generations, given in the table as open-ended intervals (less than 15 or 20 years) present a different problem. The estimate of the age at marriage is based on marriage duration and wife's age at the time of the census. For the lowest ages at marriage, the marriage duration was more than 40 years, and it is likely that misstatements at such very long durations were rather frequent. Moreover, it can be expected that the number of women was also relatively small and thus any misstatement is weighted more than in the more numerous categories. For all those reasons it may be safer not to attach undue importance to differentials at the extreme ends of the ages at marriage.

On balance it appears from both tables that women who married in their twenties, and thus were more likely to have eventually a large number of children, were also more determined to avoid this happening. As we progress from one generation to another they appear to be the group that achieved the largest reduction in completed family size. This reduction was in most instances close to one child less between pairs of generations separated by a decade. Differences of such magnitude are noticeable among women born in 1861-71 in contrast to those born in 1851-61. To what extent the economic harshness of the 1890s and early 1900s contributed to the stronger determination of the more recent generations is, of course, a matter of conjecture.

To try to identify among these generations the specific groups that started the process of fertility transition is our

next goal. The problems involved in doing so from retrospective data were mentioned earlier. However, as before, country of birth and religion are likely to be the two characteristics that do not change over time and therefore it is appropriate to start with them.

Australian-born women maintained their position as having the highest number of live births per married woman in the generations from 1831-36 to 1846-51; starting with the generation of 1851-56 and in all subsequent ones until 1871-76, this place was taken over by European-born women from other parts of Europe than the United Kingdom. Those women, although their number was never very large (see Table 3.16) obviously were the last ones to start reducing their family size and even as late as in the generation of 1851-56 recorded, on average, about seven children ever born to a married mother, one child more than the women born in the United Kingdom (Figure 3.2). The progress of fertility decline among the women born in other parts of Europe than the United Kingdom was, at the beginning, much slower than among both Australian-born and U.K.-born women of the same generations.

Unfortunately, the 1911 and 1921 census tabulations do not give any further details about the countries from which those women came. Neither of the censuses provides details about the women born in the United Kingdom. However, from the 1911 tabulations of average issue by mother's religion,[14] we can assume that women born in England, Wales and Scotland - the majority of them presumably being members of the Church of England and of the Presbyterian Church - were the first ones to start limiting the number of their children. Roman Catholics started doing so considerably later (about the generation born in 1856-61) and so did the Lutherans, presumably the majority group among the other Europeans and most likely to be born in Germany. A striking trend is that of the average issue of the Methodists; among women born in 1831-36, the average issue reached almost eight children, remaining over seven in the generation of 1846-51.

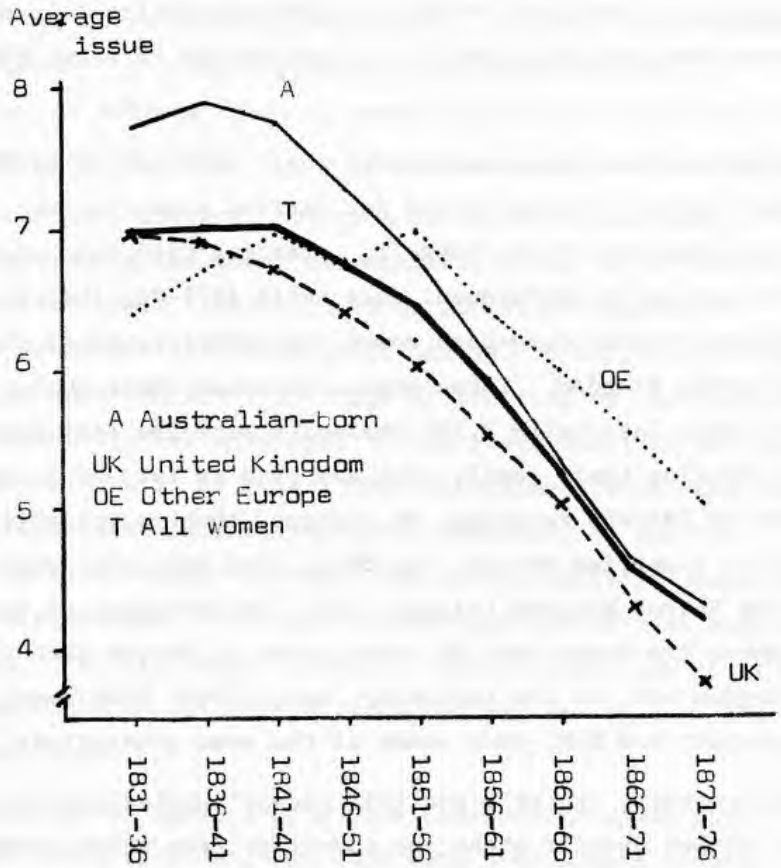

Figure 3.2 Average issue of married women by year and country of birth.

In those generations it was the highest issue on record for any religion of significant representation in Australia. Subsequently, family limitation must have been adopted by Methodists at about the same pace as by Presbyterian and Anglican families because the trends are almost parallel for all three groups (Figure 3.3).

The pace of family size limitation could be expected to be faster among urban than rural dwellers. The classical formulation of the theory of demographic transition associates its early stages with urbanization quite explicitly. As noted earlier, we have

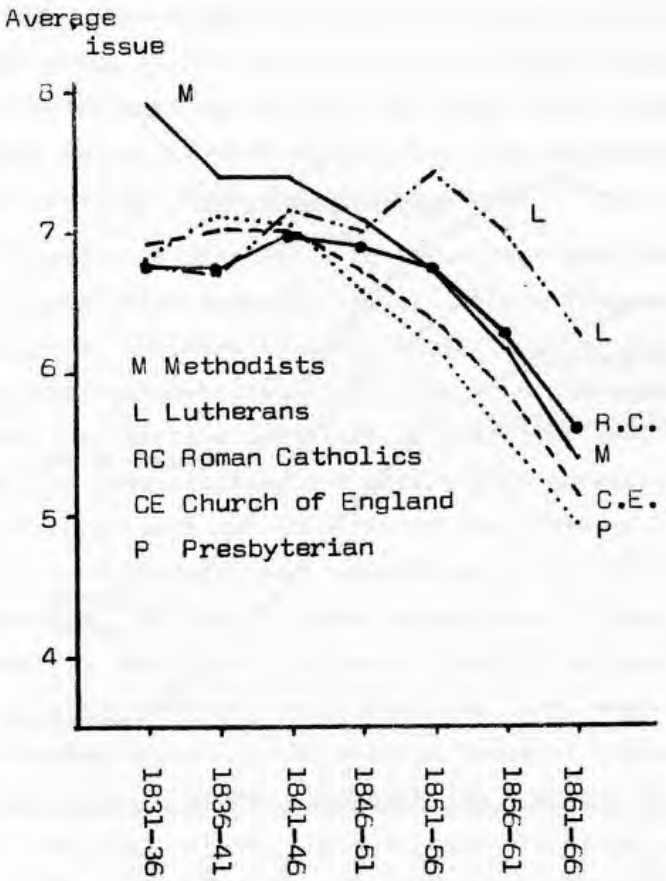

Figure 3.3 Average issue of married women by year of birth and religion.

data on the wives' place of residence only at the time of census - and that might have been very different from where they lived during their child-bearing period. In Figure 3.4 the number of children ever born to women enumerated in 1911 and 1921 in the metropolitan cities (and their suburbs), in other urban areas, and in rural areas[15] is presented for women born between 1831 and 1876.

It appears from the three sets of data that the decline in the average number of children ever born progressed in all three residential areas at about the same rate. The three trends are

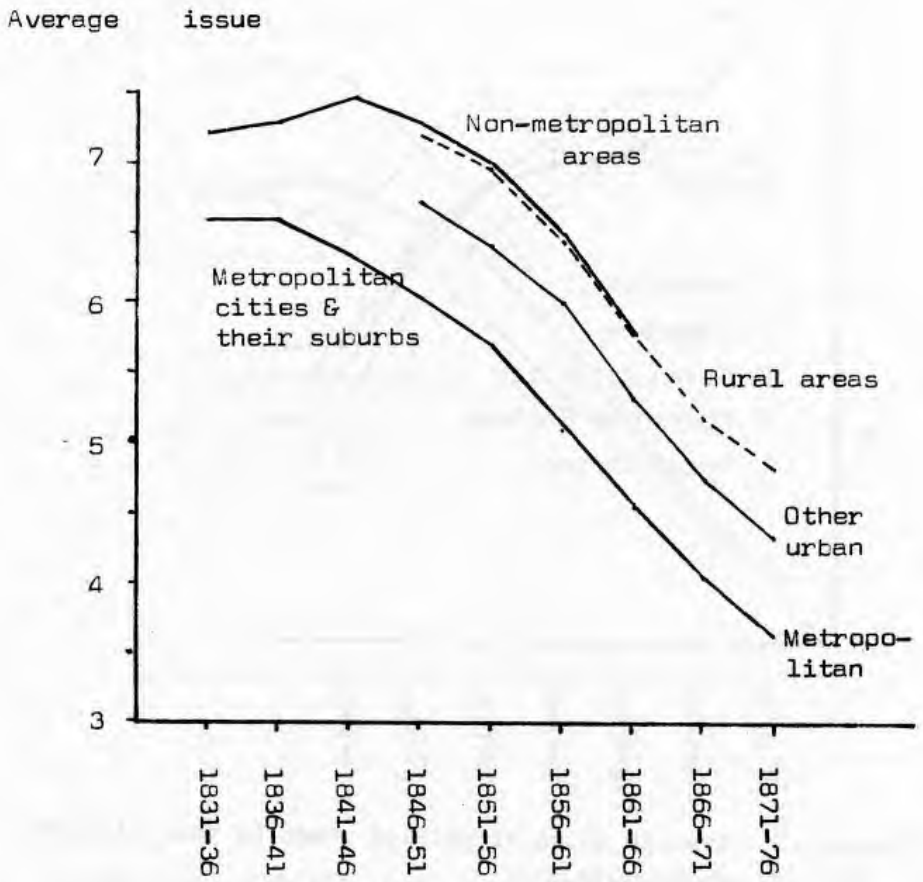

Figure 3.4 Average issue of married women by year of birth and residence in 1911 and 1921 census.

almost parallel, and, as expected, for all generations maintain the identical rank order, with metropolitan cities displaying the lowest, and rural areas the highest, levels of lifetime fertility. The transition of fertility probably started somewhat earlier in the metropolitan cities than in the rest of the country.[16] Between the last two generations, those of 1866-71 and 1871-76, one can glimpse a slight indication of a slowdown

in the decline of fertility of rural women. However, because of the uncertainty as to the actual residence during the child-bearing stage of the life cycle, as well as because of the differential marriage patterns between urban and rural dwellers, it would be hazardous to attach too much significance to this slight departure from the earlier trend.

Hazards not dissimilar to those just mentioned also confuse the retrospective analysis of fertility differentials between occupations. We have to adopt some rather strong assumptions as to occupational mobility to be able to venture such comparisons between the lifetime fertility of different generations. The assumption that mobility was confined to movements within a broad occupational category rather than between categories may justify intergenerational comparisons of fertility between occupations. Within the same occupational category, however, movement is more likely to occur from one economic status (say, wage or salary earner) to another one (say, employer). We have depicted in Figure 3.5 the average issue of husbands by their year of birth. Assuming husbands, on average, to be five years older than their wives, the data refer to wives aged over 50 years. The upper section of the Figure represents the average issue of husbands by occupational categories and the lower section by occupational status. The discontinuation of the trend lines is partly due to the differences between the 1911 and 1921 censuses in processing the data on children ever born, and partly to the fact that persons of the same year of birth in 1921 are survivors of those enumerated in 1911 but ten years older. Thus, among other things, differential mortality by family size may affect the average issue of the same generation at two points of time. In most instances such differences were very small indeed; the largest gap in average issue between 1911 and 1921 for the same generation was observed for husbands recorded as in domestic occupations,[17] and it may be presumed that in this particular category occupational mobility was the dominant cause of the discrepancy.

Primary producers, persons working in transport and communication, and those in industrial occupations had the highest average issue and maintained this position in all the generations depicted in Figure 3.5a. The trend of the decline in family size was parallel in all three categories if we disregard the somewhat erratic movement of the transport and communication workers in the two oldest generations.

The average issue of husbands in professional[18] occupations and in commerce has, once again, a close similarity both in terms of level as well as changes between generations. It also appears that, among the oldest generations, the decline in lifetime fertility progressed at a faster pace than among any other occupational category.

Starting with the generations born in 1846-51, a marked segregation of occupational categories by average issue starts appearing and becomes even more pronounced as we proceed toward the younger (more recently born) ones. Primary producers keep their position at the top of the range, separated from husbands in industrial occupations and in transport and communication by having about 0.5 children more than the latter. The third group, separated from the former one by a difference in average issue of the order of about one child, was formed by husbands in professional and commercial occupations with which gradually husbands in domestic occupations merged.

Also of interest is the progress of fertility transition between the three categories by what the census used to call 'grade' of occupation. Between the two occupational status categories whose completed family size was separated by the largest gap of more than one child among the earlier generations, namely employers (E) and wage and salary earners (W), we can hardly notice any difference in average issue when we reach generations born in the 1860s. The third group in Figure 3.5b, husbands working on own account, occupied a position half way between the two former, before or at the early stages of the

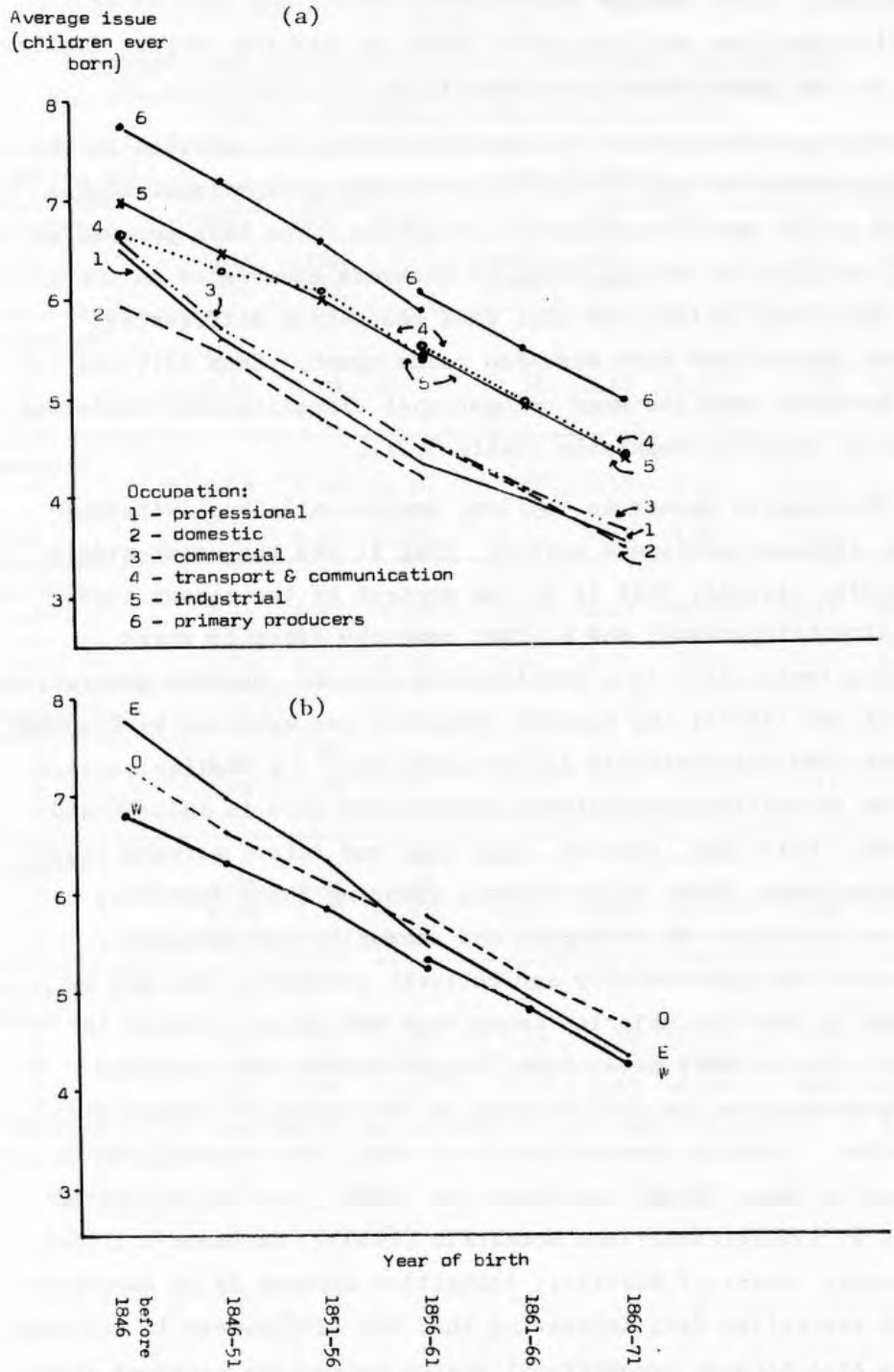

Figure 3.5 Average issue of husband by year of birth and a) occupation, b) economic status.

transition. This changed considerably during the process of fertility decline and this group ended up with the largest family size in the generations born after 1856.

One more tabulation is worth considering in addition to the data presented so far: differences between occupational status groups in the main occupational categories. For this purpose we shall use data on average issue of husbands enumerated in the same age group in 1911 and 1921 thus generating differences between generations that were ten years apart. Both 1911 and 1921 censuses used the same occupational classification rendering the data formally comparable (Table 3.21).

The results appear to confirm, despite all the limitations of the approach mentioned earlier, that it was the upper-middle and middle classes, that is in the context of the census classification categories E and O, that were the first to start limiting family size to a considerable extent. Between generations 1846-51 and 1856-61 the highest reduction was achieved by husbands of those two categories in all occupations.[19] A similar pattern applied for differences between generations born in 1851-56 and 1861-66; this time, however, some wage and salary earners start appearing among those significantly reducing their fertility (see for instance the transport and communication category). Industrial and particularly agricultural labourers, who may be assumed to form the majority among wage and salary earners in industry and primary production, lagged behind the upper and middle classes in the rate as well as the extent of family size reduction. Similar observations were made, for instance, in England by Innes (1938) and Stevenson (1920), and in the United States by Sydenstricker and Notestein (1930). Carlsson's (1966) adjustment theory of fertility transition appears to be supported by the Australian data indicating that the differences in achieved family size between occupational status categories narrowed during the transition period.

Although from the statistical evidence not much more than a

Table 3.21

Average issue (children ever born) of husbands by occupation and occupational status. Generations born in 1846-51 to 1861-71 surviving to 1911 and 1921 census

Occupation and occupational status	Age at census								
	60-64			55-59			50-54		
	1911	1921	Dif.	1911	1921	Dif.	1911	1921	Dif.
Generation	1846-1851	1856-1861		1851-1856	1861-1866		1856-1861	1866 1871	
Professional									
E	5.21	4.07	-1.14	4.39	3.32	-1.07	3.82	3.12	-0.70
O	4.95	3.93	-1.02	4.26	3.47	-0.79	3.73	3.07	-0.66
W	5.85	4.49	-1.36	5.23	4.16	-1.07	4.55	3.72	-0.83
Commercial									
E	6.12	4.76	-1.36	5.40	4.15	-1.25	4.62	3.84	-0.78
O	5.58	4.66	-0.92	5.05	4.10	-0.95	4.45	3.78	-0.67
W	5.66	4.61	-1.05	5.22	4.13	-1.09	4.50	3.61	-0.89
Domestic									
E	5.71	4.91	-0.80	5.20	4.47	-0.73	4.37	3.68	-0.69
O	6.23	4.62	-1.61	4.58	4.24	-0.34	5.02	3.60	-1.62
W	5.23	4.55	-0.68	4.47	3.79	-0.68	3.94	3.35	-0.59
Transport and Communication									
E	6.97	5.85	-1.12	6.35	5.37	-0.98	5.91	4.45	-1.46
O	6.69	5.90	-0.79	6.54	5.23	-1.31	5.97	4.82	-1.15
W	6.12	5.57	-0.55	6.05	4.92	-1.13	5.33	4.33	-1.00
Industrial									
E	6.90	5.41	-1.49	6.34	4.83	-1.51	5.51	4.28	-1.23
O	6.38	5.45	-0.93	5.93	4.83	-1.10	5.34	4.43	-0.91
W	6.43	5.51	-0.92	5.94	4.96	-0.98	5.42	4.37	-1.05
Primary Producers									
E	7.44	6.18	-1.26	6.88	5.56	-1.32	5.93	4.87	-1.06
O	7.25	6.26	-0.99	6.69	5.63	-1.06	6.21	5.06	-1.15
W	6.81	6.04	-0.77	6.27	5.43	-0.84	5.60	4.92	-0.68

E = employers; O = working on own account without employing labour; W = wage and salary earners.

general impression can be gained about the occupational differences in family size and the course of fertility transition in various occupational categories, the assertions which have been made here on the basis of that evidence are corroborated by the non-statistical contemporary evidence.

Fertility differentials at the end of the transition

Unlike those of the preceding censuses, the 1947 and 1954 tabulations contain only very restricted information on the average issue of married women. Apart from differentials by demographic variables such as the age at marriage and marriage duration, there is only one tabulation available for each census and that is on differentials between women residing in metropolitan cities and other, non-metropolitan areas of the country. Data on average issue were not processed by husband's occupation or wife's country of birth as in the previous census. In 1954, however, differentials between the issue of the existing marriage of Australian-born wives, those born in the United Kingdom, and those born elsewhere were published; in addition, separate tabulations were prepared for post-war immigrants by country of birth. This census report for the first time also contained tabulations of average issue of working wives.

The extent and pattern of the decline in completed family size between generations 1892-97 and 1899-1904 (wives aged 50-54 years in 1947 and 1954 respectively) and between generations 1897-1902 and 1904-09 (wives aged 45-49 years in 1947 and 1954 respectively) can be assessed from the distribution of wives by achieved parity. Although the number of children born to any preceding marriage is disregarded, this need not seriously affect the comparisons. The gap between the two pairs of generations is relatively short, being only seven years, and thus, even if the distribution by parity is biased, overstating the proportion of wives of low parity and, conversely, understating the proportion of those of high parity, the differences between two generations only seven years apart will be little affected.[20]

The most striking inter-generational differentials between the distribution of wives by parity are at parities zero and five and higher. The proportion of childless women increased by more than five and eight percentage points respectively between the generations born in 1904-09 and those born 1897-1902 and 1899-1904 in contrast to 1892-97. The percentage of childless women in the more recent generations approached 20, and, although this is undoubtedly an over-estimate for reasons mentioned earlier, there is no doubt that more women among those born in 1899-1904 and 1904-09 remained childless by choice, not infecundity, than among any previous generations. Even post-ponement of marriage could not have produced such a dramatic effect. Santow (1976) obtained in a micro-simulation model using Hutterite marital fertility rates on average 7.2 per cent women with no conceptions leading to live births during the potential reproductive span for women marrying at age 16.5 years and this increased to only 8.2 per cent for women marrying at age 23.5 years. Therefore the reduction of completed family size among women of those generations was at least partly achieved by the voluntary childlessness of a considerable proportion of them (Table 3.22).

At the other end of the distribution the percentage of women with five and more children dropped considerably: from 21 per cent (generations 1892-97) to 15 per cent (generations 1899-1904) and from just under 18 per cent (1897-1902) to 13 per cent (1904-09). This was undoubtedly achieved by birth control.

If we take into consideration mothers only (wives with issue), the percentage with two or three children rose from 45 per cent (1892-97) to 50 per cent (1904-09), while the proportion with four or five children dropped from 22 to 19 per cent and with six or more children from 15 to 10 per cent. A slight increase, from 18 to 21 per cent, occurred in the frequency of one child families.

The prevalence of two or three child families along with a

Table 3.22

Average issue of existing marriage and distribution of wives by the number of children born to the existing marriage. Generations 1892-7 to 1904-9

Generation	1892-1897		1899-1902	1897-1902		1904-1909
Wives surviving to the age	50-54			45-49		
Census year	1947		1954	1947		1954
Average issue of the existing marriage	3.03		2.46	2.77		2.43
Difference		-0.57			-0.34	
Percentage of wives with number of children						
0	11.79		20.44	13.15		18.54
Difference		+8.65			+5.39	
1	15.45		16.61	17.27		17.17
Difference		+1.16			-0.10	
2	21.82		22.16	23.33		23.65
Difference		+0.34			+0.32	
3	17.47		16.15	17.41		16.93
Difference		-1.32			-0.48	
4	12.19		9.64	11.21		10.36
Difference		-2.55			-0.85	
5	7.61		5.81	6.67		5.51
Difference		-1.80			-1.16	
6+	13.67		9.19	10.96		7.84
Difference		-4.48			-3.12	
Percentage of women never married	12.37		11.29	12.63		10.40
Difference		-1.08			-2.23	

Source: Statistician's Report, 1947 and 1954 Censuses.

high proportion of childless families were the typical characteristics of the generations that completed the transition. Later, we shall see that subsequent generations altered this pattern to some extent. It may be presumed that a sequence of two temporary events exerted some influence on the decision of married couples to remain childless or to limit their family size: a prolonged period of economic depression and uncertainty followed by a short recovery soon interrupted by the Second World War. It may be conjectured that without their intervention generational replacement would have been higher than that actually recorded. However, the small family remained a dominant feature of the reproductive behaviour of the subsequent generations as well. In the light of this evidence, the transient circumstances, unfavourable to marriage and family formation, cannot be considered as a major cause of the decline in fertility, but merely as accidental factors that possibly depressed the level of reproduction slightly below what it would have otherwise been. The social acceptability of a small family itself was increasingly established, doubtless partly by the experience of hard times, and was accepted by the majority of married couples born in the early twentieth century.

One more aspect of the inter-generational change in marriage and family formation should be mentioned here, namely the postponement of marriage. The generations of women analysed here contained, when they turned 45-49 years of age, somewhat higher proportions of ever married women than those born in the last three decades of the nineteenth century.[21] Some minor changes, however, had occurred in the age pattern of the marriages and they somewhat shortened the potential reproductive lifetime spent in marriage. McDonald (1974a, p.186) produced a table showing, for each generation of women, the ages at which 25, 50, and 75 per cent had ever married.

Among women born in 1900, one-quarter had married by the time they reached the age 21.5 years, one-half by 24.4 years and

three-quarters by 29.5 years. The age span needed to increase the proportion ever married from 25 to 50 per cent was 2.9 years, and from there to 75 per cent a further 5.1 years. The former figure remained almost constant over the next five generations who were born between 1901 and 1905; however, the latter rose to a peak of 6.7 years for the generation 1903 and declined gradually thereafter. Thus the marriages being somewhat postponed were those of women aged 24 years and over.

For the generations born between 1905 and 1910 the opposite applied. Marriages were postponed slightly more at younger ages than after 25 years of age. In both instances it appears that the impact of the economic depression of the 1930s, affecting each subsequent generation at a somewhat younger age, was operating. Although a slightly higher proportion of women ever married in those generations, some of those who married did so at a somewhat higher age. The differences were, however, not very great.

Marital fertility between generations declined, as in the pattern observed earlier, again more markedly among those who had married early and among those who were married for the longest period. In Table 3.23 the upper section presents the average issue of the existing marriage of wives aged 50-54 and 45-49 years in 1947 and 1954 by the age at marriage; because wives of the same age are being compared, marriage duration is implicitly 'controlled' for. In the lower part of the same table, average issue is presented by marriage durations; again, because comparisons are drawn between women of the same age, age at marriage is 'controlled' for.

In both instances, the already low levels of marital fertility and thus the small completed family size of the generations 1892-97 and 1897-1902 was further depressed by women born in 1899-1904 and 1904-09 if they married while less than 30 years of age, or if married for more than 15 or 20 years.

It was noted earlier in this chapter that the decline in marital

Table 3.23

Average issue of existing marriage by wives' age at marriage and by marriage duration, generations born 1892-97 to 1904-09

Generation	1892-1897	1899-1904	Differ.[a]	1897-1902	1904-1909	Differ.[b]
Age at marriage						
Below 20	4.88	4.24	-0.64	4.48	3.94	-0.54
20-24	3.66	3.06	-0.60	3.35	2.95	-0.40
25-29	2.80	2.27	-0.53	2.54	2.30	-0.24
30-34	2.08	1.57	-0.51	1.67	1.64	-0.03
35-39	0.94	0.78	-0.16	0.76	0.80	+0.04
40-44	0.23	0.22	-0.01	0.19	0.23	+0.04
Duration of marriage (years)						
Below 5	0.02	0.07	+0.05	0.08	0.08	0.00
5 - 9	0.09	0.09	0.00	0.39	0.50	+0.11
10-14	0.45	0.43	-0.02	1.13	1.17	+0.04
15-19	1.49	1.17	-0.32	2.15	2.00	-0.15
20-24	2.41	1.89	-0.52	2.85	2.56	-0.29
25-29	3.11	2.55	-0.56	3.74	3.26	-0.48
30-34	4.08	3.44	-0.64	4.72	4.12	-0.60
35-39	5.20	4.55	-0.65	5.13	3.64	-1.49
40-44				7.27	4.91	-2.36

[a] Wives aged 50-54 years at 1947 and 1954 censuses respectively.

[b] Wives aged 45-49 years at 1947 and 1954 censuses respectively.

fertility started considerably earlier in the metropolitan cities than in other urban and, particularly, rural areas of Australia. The subsequent trend of fertility decline appeared, however, to be almost parallel for several generations, suggesting that the rate of the decline was about the same in each of the three sub-groups of population. The rural wives of the generations born in 1846-61 maintained on average a completed family size which was

about 1.3 children larger than that of wives residing in metropolitan cities. This gap started to narrow slowly and gradually, first among wives born in 1861-71, and was reduced to about 0.9 children for wives born in 1895-1901. It remained constant at about that level among all subsequent generations until those born in 1911-16, that is until the final stages of the fertility transition.

It is unfortunate that when the data of the 1947 and 1954 censuses were tabulated the issue of wives by the place of residence was once again split only into those residing in metropolitan and non-metropolitan areas, the latter including not only rural dwellers but those of non-metropolitan towns as well.

The difference in average issue between the two sub-groups of wives could be explained, of course, by different marriage patterns as well as differential fertility. Standardization of the data by marriage duration and duration-specific average issue reveals, however, that differences in the distribution of wives by marriage duration explained only about one-sixth of the total difference between the completed family size of metropolitan and non-metropolitan wives; the non-metropolitan wives had only slightly higher proportions of those married for very long periods (and thus marrying early in life). Thus the somewhat younger age at marriage of the non-metropolitan wives accounted for only about 16 per cent of the excess of their completed family size over that of their metropolitan contemporaries. The main cause of the difference was the higher marital fertility of the former.

The average issue of non-metropolitan wives was most above that of metropolitan residents in long marriage duration categories: between 0.9 and 1.3 children if the marriage lasted for more than 30 years (Table 3.24). However, the reduction of marital fertility between generations was about the same for wives residing in cities and in the rest of the country at each marriage duration level.[22]

Differences between the completed family size of the Australian

Table 3.24

Average issue of existing marriage, wives residing in metropolitan and extra-metropolitan areas in 1947 and 1954, generations born 1892-1897 to 1904-1909

Marriage duration (years)	Approximate age at marriage	1897-1902		1904-1909		Difference between generations	
		Metrop.	Extra-metrop.	Metrop.	Extra-metrop.	Metrop.	Extra-metrop.
10-14	30-39	0.94	1.35	1.03	1.38	+0.09	+0.03
15-19	25-34	1.88	2.46	1.78	2.29	-0.10	-0.17
20-24	20-29	2.50	3.26	2.25	2.98	-0.25	-0.28
25-29	15-24	3.27	4.24	2.86	3.70	-0.41	-0.54
30-34	Under 20	4.06	5.35	3.60	4.70	-0.46	-0.65
35-39	Under 15	3.67	6.07	3.86	3.25	+0.19	-2.82

Marriage duration (years)	Approximate age at marriage	1892-1897		1899-1904		Difference between generations	
		Metrop.	Extra-metrop.	Metrop.	Extra-metrop.	Metrop.	Extra-metrop.
10-14	35-44	0.36	0.55	0.36	0.53	0.00	-0.02
15-19	30-39	1.28	1.72	0.99	1.45	-0.29	-0.27
20-24	25-34	2.14	2.73	1.68	2.18	-0.46	-0.55
25-29	20-29	2.78	3.53	2.27	2.97	-0.51	-0.56
30-34	15-24	3.60	4.61	3.03	3.94	-0.57	-0.67
35-39	Under 20	4.56	5.83	3.90	5.31	-0.66	-0.52
40-44	Under 15	7.00	7.50	5.00	4.67	-2.00	-2.83

Marriage duration (years)	Difference between average issue of wives residing in Metropolitan and Extra-metropolitan areas; generation			
	1892-1897	1897-1902	1899-1904	1904-1909
10-14	+ 0.19	+ 0.41	+ 0.17	+ 0.35
15-19	+ 0.44	+ 0.58	+ 0.46	+ 0.51
20-24	+ 0.59	+ 0.76	+ 0.50	+ 0.73
25-29	+ 0.75	+ 0.97	+ 0.70	+ 0.84
30-34	+ 1.01	+ 1.29	+ 0.91	+ 1.10
35-39	+ 1.27	+ 2.40	+ 1.41	- 0.61
40-44	+ 0.50	-	- 0.33	-

and foreign-born wives practically disappeared as the fertility transition neared its end. It appears (Table 3.25) that wives born in the United Kingdom had, on average, slightly smaller families. The difference was somewhat larger among non-metropolitan residents and only marginal among the city dwellers. The difference between the family size of other immigrants and that of Australian-born wives was inconclusive.

Table 3.25

Average issue of wives by country of birth, generations born 1899-1904 and 1904-1909, by residence in 1954

Generation	Residence	Country of birth		
		Australia	United Kingdom	Elsewhere
1899-1904	Metropolitan	2.14	2.04	2.12
	Non-metropolitan	2.95	2.61	3.19
	Difference	+0.81	+0.57	+1.07
1904-1909	Metropolitan	2.09	2.02	2.12
	Non-metropolitan	2.91	2.52	2.81
	Difference	+0.82	+0.50	+0.69

The period between 1947 and 1954 brought two significant changes to the structure of the Australian population because of immigration. First, a striking increase of immigration after the Second World War contributed about 45 per cent to the total population increase in the intercensal period. The net gain of overseas migration increased rapidly from 10,600 in 1947 to 55,100 in 1948 and culminated at 152,500 in 1950. The large increase was partly due to the arrival of the so-called 'displaced persons' from Europe. This latter feature of the post-war immigration brought with it significant changes in the structure of the immigrants by birthplace. In contrast to the residents who in 1954 had lived in Australia for 15 years or more (pre-war immigrants) and who were dominated by the three-quarters born in the United Kingdom, post-war immigrants in their majority came from Central and Eastern

Europe (32 per cent), and from Southern Europe (18 per cent). The British-born represented about 32 per cent of post-war immigrants.

Unlike the Australian-born population, immigrants were always heavily concentrated in the metropolitan cities, and the post-war immigrants were no exception to this (Table 3.26).

Table 3.26

Percentage distribution of the Australian-born and overseas-born population in Australia in 1954, by place of residence

	Place of residence			
	Metropolitan cities	Other urban areas	Rural areas	Total
Australian-born	54.0	25.9	20.1	100.0
Immigrants:				
pre-war	69.5	18.6	11.9	100.0
post-war	65.9	20.0	14.1	100.0

Among the post-war immigrants, there were 286,000 women (sex ratio 1.38 males per 1.0 females), and, out of them, 216,000 were aged 15 years and over; 73 per cent of these were currently married at the time of the 1954 census. Their average issue is available cross-tabulated by marriage duration, though unfortunately not by age, and by country of birth.

In all, the difference between the average issue of women born in Australia and of post-war immigrants was not very large: 2.47 children for Australian-born wives in contrast to 2.18 children for immigrants if both were born between 1904 and 1909; and 2.49 and 2.30 children respectively for wives born in 1899-1904. In each instance about half the difference was explained by the earlier marriage and half by the higher marital fertility of the Australian-born women.

If we take marriage durations of 25-29 and 30-34 years as virtually the end of marital child-bearing, we can compare the family size of post-war immigrants with those of the Australian

population in general (Table 3.27). From this comparison, four groups stand out as having markedly larger families and three as having considerably smaller families than the Australian average. In the former group are the Maltese with an average issue of more than seven children after 25-34 years of marriage, followed by the Dutch with more than 4.2 children per wife. The Italians and Yugoslavs with 3.4 to 3.8 children closely followed the former.

Table 3.27

Average issue of post war immigrants, wives married for 25-34 years in 1954

Country of birth	Average issue of wives after marriage duration: 25-29 years	30-34 years
All wives (Australian and all foreign-born)	2.73	2.94
Post-war immigrants*	2.88	2.86
England	2.45	2.67
Scotland	3.09	2.85
Other U.K. (incl. Ireland)	3.05	2.83
Malta	7.00	7.31
Greece	2.58	2.78
Italy	3.82	3.51
Netherlands	4.58	4.17
Baltic Countries	2.23	2.14
Poland	2.91	3.26
Germany	2.09	2.04
U.S.S.R.	2.16	2.47
Yugoslavia	3.46	3.39

* Wives with duration of residence in Australia less than seven years in 1954.

At the other extreme, the German-born wives and those arriving from the Baltic countries and the U.S.S.R. had the smallest family size.

There is no way of finding out how many of those children were born after the parents' arrival in Australia and how many were born while still overseas. It is likely, however, that births prior to arrival would predominate among wives married for more than 25 to 34 years in 1954, or more than 18 to 27 years at the time of arrival.

The average issue of the post-war immigrant wives by their country of birth can be compared to that of all women enumerated in 1954, allowing for differences in their marriage durations by standardization.[23] In Table 3.28 the results are presented by the country of wife's birth. Because of the relatively small numbers in certain sub-groups of marriage duration in some countries of birth it is advisable not to consider as important differences between the observed and expected value of the order of ten per cent below or above the expected value (last column in the table).

Only wives born in Malta and the Netherlands stand out as having significantly larger families than the Australian average. On the other hand, immigrants from the Baltic countries, Germany, U.S.S.R., England, and unspecified other parts of Europe, all had smaller families than prevailed in Australia at that time.

Table 3.28

Average issue of wives by residence and country of birth of post-war immigrants

Residence/Country of birth	Average issue of wives		Difference R - A	Percentage $(1 - \frac{R}{A})$
	recorded R	adjusted A		
All Australia	2.25	2.25	0.00	0.0
Metropolitan areas	2.00	2.26	- .26	-11.5
Non-metropolitan areas	2.56	2.24	+ .32	+14.3
All post-war immigrants*	1.76	1.92	- .16	- 8.3
Born in England	1.77	2.09	- .32	-15.3
Scotland	1.87	1.99	- .12	- 6.0
other U.K. (incl. Ireland)	1.76	1.87	- .11	- 5.9
Malta	3.61	1.93	+1.68	+87.0
Greece	1.76	1.81	- .05	- 2.8
Italy	1.84	1.76	+ .08	+ 4.5
Netherlands	2.30	1.85	+ .45	+24.3
Baltic countries	1.31	1.91	- .60	-31.4
Poland	1.72	1.94	- .22	-11.3
Germany	1.34	1.64	- .30	-18.3
U.S.S.R.	1.75	2.12	- .37	-17.5
Yugoslavia	1.72	1.84	- .12	- 6.5
Other Europe	1.28	1.88	- .60	-31.9
Other countries (outside Europe)	1.83	1.89	- .06	- 3.2

* Wives with duration of residence in Australia less than seven years in 1954.

Footnotes

1. It is evident that some time-specific events impose a distinctive mark on reproductive behaviour of the population irrespective of the cohort affiliation of its members. Obvious examples are wars and economic depressions, but the category can also include legislation making access to pregnancy interruption easier or legal on a wider range of grounds as well as technological innovations in contraception such as the introduction of a new contraceptive of a high effectiveness. Some events of this type make the achievement of specific socially endorsed reproductive goals easier while others may initiate a process of social adjustment that may lead to a change in the reproductive goals themselves (for instance a prolonged economic depression).

2. At the time of writing only the tabulations showing issue of currently married women from existing marriages were available.

3. The use of the proportion 'ever married' contains an implicit assumption that all ever married women spent, on the average, the same time 'at risk' of marital child-bearing. Generally, however, marriages dissolved by either death of the spouse or divorce or separation are of shorter duration and, even if the break-up was followed by re-marriage, the period 'at risk' is shorter than that of unbroken marriages.

4. The identification of the generations by the year of birth leads to overlaps. The 1911 census was taken as of midnight 2 April 1911 and thus the generation 1831-1836 comprises women born between 3 April 1831 and 2 April 1836; the next generation, 1836-1841, comprises women born between 3 April 1836 and 2 April 1841. Similar division applies for all other generations.

5. In the Melbourne Survey (1971) only about one out of 100 women indicated that they wanted to remain childless when first decided on family size or would remain childless if reproduction repeated (Ware: 1973, p.311). Accidentally, eight per cent of respondents aged 45-49 years were also found in the survey to be childless. But in both instances the percentages may be biased by the selection of the sample (only once married women under the age of 60 years still living in the unbroken marriage).

6. In the discussion we did not consider such birthplaces that contained less than a hundred women.

7. We have disregarded the 'catch-all' group of 'others' for the obvious reason of heterogeneity.

8. Only persons with university degrees were instructed to state the degree as well as the university and the country in which the degree was obtained.

9. Actually, areas outside the main cities and their suburbs; thus 'rural' here means small rural towns as well.

10. Details are given in Annex II.

11. Reproduction rates are based on female births only. The generation net reproduction rate is defined as the average number of live daughters that were born to the female birth cohort (generation) according to its marital fertility rates and assumed level of mortality. The gross reproduction rate of a given generation is computed similarly on the assumption that mortality before the end of reproductive period is zero. In both instances ex-nuptial fertility was assumed to be zero.

12. The Statistician's Report summarizing the results of the 1947 census attributed reproduction <u>below</u> replacement level to the women born in 1897-1902. It stated "... it is clear that even if allowance were made for the children so omitted" (that is, because of no account being taken of the issue of women who had never married nor of children of any former marriages) "those women who had reached the ages 45-49 years in 1947, and are, therefore, the latest generation whose completed fertility can be measured, had probably not replaced themselves" (p.325). The report estimated that 100 women of the maternal generation were replaced by 81 or 94 female children only, depending whether proportion currently married or ever married is considered. These estimates underestimated the net reproduction rate through considering mortality up to mother's age 45-49 years (the end of reproductive period) rather than to the average age of the fertility schedule.

13. A similar conclusion was reached by Innes (1938, p.35) when he surveyed trends in fertility during the transition in England and Wales. The earlier women married the faster was the decline in their fertility.

14. The census of 1921 has no tabulation of average issue by mother's religion.

15. The census of 1911 distinguished only between metropolitan cities and their suburbs on one hand and non-metropolitan areas on the other. The more refined classification separating other than metropolitan towns from rural areas was introduced by the 1921 census.

16. As Hicks (1975, p.568) observed "the 'wicked city' theme was vigorously rehearsed during Australia's fin de siècle population crisis".

17. This category comprises persons rendering personal services, but also those engaged in the supply of board and lodging.

18. By a rather pompous census definition "persons ... mainly engaged in government and defence of the country, and in satisfying the moral, intellectual and social wants of its inhabitants".

19. This statement appears to be contradicted for the husbands in professional occupations where the highest decline in average issue was for wage and salary earning husbands; however, these were mainly government employees, ministers of religion, teachers, defence personnel etc.

20. This statement would be invalidated by a very marked difference in re-marriage frequency and pattern between the two generations. There is no indication that such changes had occurred.

21. The women born in 1871-76, when 45-49 years of age, recorded 83.4 per cent ever married; those born in 1883-88 reached at the same age 85.7 per cent, and the 1897-1902 generation 87.4 per cent. Eventually, in the 1904-09 generation, 89.6 per cent of women were ever married when 45-49 years old.

22. Too much significance should not be given to the statements of wives married for 35-39 or 40-44 years as they may contain some error. Some of those wives married at ages below 15 years, and there could not have been many of them in either of the generations reviewed here.

23. The duration-specific average issue of all wives enumerated in Australia in 1954 was used as a standard. The 'expected' issue thus derived can be compared with the actual one and the difference between them is accounted for by differentials in marital fertility.

CHAPTER 4

THE BABY BOOM: FACTS AND CAUSES

When, after World War Two, birth rates in the majority of Western countries began to rise from the trough into which the war had depressed them, the most commonly expressed view was that the upturn was a temporary one, caused primarily by revived nuptiality and only partly by increased marital fertility. It was believed that it could not be sustained, being essentially a compensation for the deferred marriages and child-bearing that would 'normally' have already taken place but for the war. Bogue (1969, p.72) wrote

> "The 'baby boom' in the industrialized countries appears to have been a reaction to the war: demobilization of armies resulted in the reunion of couples and in a large number of weddings that had been postponed. The unprecedented economic prosperity that the war had brought to many countries may also have served to accelerate fertility during this period above what it otherwise would have been. But, once this phase of 'catching up' was completed, the rates began to drift down slowly to the present point".

Bogue's view, held as late as 1969, found support in the trends in the birth rates not only after 1945 but after 1918 as well. In Australia, the annual number of births in the period 1920-1922 jumped suddenly to 136,000 in 1920 from 122,000 registered in the preceding year and then climbed to a peak of 137,000 births in 1922 before beginning a very slow decline. Again, in 1946, the number of registered births rose to 176,000 from the 161,000 of the previous year and increased further to 182,000 in 1947. However, unlike the preceding baby boom of 1920-1922, this latter one was followed by only a slight decline in the next year, and, from 1949, the annual number of births continued to rise until 1961.

This unprecedented, and largely unexpected, turn of events gave rise to controversy among demographers, who have continued

to seek an explanation until the present day.

Hajnal, as early as 1953 (1953b:p.123), suggested that the post-World War Two baby boom in the industrialized countries had been caused in part by the preceding 'marriage boom' that amounted to more than a mere catching up of deferred marriages. A marriage boom was certainly experienced in Australia during and shortly after the war when marriage rates skyrocketed to 11.99 per 1,000 population in 1942 and again to a second peak of 10.65 in 1946 in contrast to the pre-war level of between eight and nine in the late 1930s.

The birth rates remained at a high level for all or most of the 1950s in the Western industrialized countries despite the fact that by then they were to an increasing extent attributable to mothers born in the early 'thirties, whose numbers were relatively small because of the reduced number of births during the Depression. Because of the significant changes in the age structure of the population occasioned first by the low birth rate of the 1930s and then by the large increase of births in the 1946-1947 period,[1] the crude birth rates did not accurately reflect the changes in the pattern of reproduction. A better description of the rise in fertility was obtained from annual total fertility rates (TFR) which, despite some inconvenient limitations, more adequately reflected the underlying changes in the child-bearing pattern and brought them to light. Those rates in many Western countries continued rising through the 1950s, reaching their peak in Australia and New Zealand as late as 1961. Campbell (1974) identified 18 developed countries with populations over two million that recorded such a sustained elevation of period fertility rates following World War Two. Those with the highest level of TFR (and the year in which the peak was reached) were: (ibid.: p.550)

United States	3,767	births	per	1,000	women[2]	in	1957
Canada	3,935	"	"	"	"	"	1959
Australia	3,512	"	"	"	"	"	1961
New Zealand	4,111	"	"	"	"	"	1961
Ireland	3,918	"	"	"	"	"	1966

To explain this continuation of high fertility in the United States, Whelpton (1963) tried to separate the effect of the deferment of marriage and child-bearing from the effect of a new phenomenon in marriage and family formation, namely the tendency to marry at an earlier age and to start child-bearing soon after marriage. On his calculations, the babies born in 1950-1954 included about 1.6 million that could be regarded as postponement from the 1940s or earlier, and 0.9 million that were added from 1955 and later because of the tendency for women to marry and have their children at younger ages. In addition, Whelpton suggested that a real increase in the average size of the family helped to keep the number of births high in the 1950s.

The contention that the baby boom was in part caused by higher lifetime marital fertility arising from the desire of married couples to have a larger family was buttressed in several papers by Blake (most recently jointly with Das Gupta, 1975). They raised an issue that is central to the discussion, namely whether or not American family size preferences have been constant since the Depression. Using the results of the interviews with 21-24 year olds from 26 National Gallup Surveys over the period, 1936 to 1975, they concluded that

> "the two-child family was never a norm for young people during this (1936-1975) period ... family size preferences rose during the time of the baby boom to over three children on the average and declined quite distinctly since then" (op.cit.: p.233).

Two national sample surveys of white American college students again conducted by Gallup, the first one at the end of the baby boom in 1961 and the second in 1971, indicated a rapid fall in preference for larger families among both male and female respondents: the average desired family size dropped from 3.1 to 2.4 children among males and from 3.6 to 2.5 among females (ibid.: p.234).

The contention of increased family size preferences during the baby boom period received support independent of the demographic evidence from new economic explanations[3] suggested mainly

by Easterlin (1961). The analytical viewpoint underlying Easterlin's approach is that

> "variations in the fertility of a given population group are caused primarily by changes in two classes of factors - economic conditions and demographic composition" (op.cit.: pp.881-2).

Both economic conditions and demographic composition may affect the overall fertility of a population group by influencing either marriage behaviour, marital fertility, or both. The economic conditions favourable to marriage and fertility during the 1950s were created by "unprecedented concurrence of ... three circumstances - a Kuznets-cycle expansion in the economy, restricted immigration, and a low rate of labour-force entry from the native population resulting from demographic processes", that is from the low number of births in the 1930s. This created exceptionally favourable labour-market conditions for young persons in the 1950s and 1960s. In addition, the young entrants into the labour force had an educational advantage over those already in the labour force thus enjoying a more favourable competitive position over the latter.

Easterlin further suggested as 'one hypothetical possibility' that one might imagine

> "a more or less self-generating mechanism, by which in one period a decline in the rate of labor-market entry causes a concurrent rise in the rate of change of fertility, and this in turn leads, with a lag of around two decades, to a rise in the rate of labor market entry and a consequent decline in the rate of change of fertility" (ibid.: p.900).

Ryder and Westoff (1972) and Ryder (1973, 1974) suggested another cause of the baby boom. They argued that throughout the twentieth century a desire for a two-child family prevailed among married couples in the United States. The baby boom was, then, simply the inevitable result of earlier marriage and the onset of child-bearing in conditions of imperfect contraception in the period prior to the advent of the pill and IUD when abortion was still illegal and socially unacceptable, with the

inevitable increased risk of unintended pregnancy and high order births.[4] When the pill and IUD became available and, more recently, abortion was legalized, it was possible to realize the intrinsic desire to restrict family size to only two children while retaining an early marriage age. The change of preferences toward smaller family size in the most recent polls is, Ryder suggested, a reflection of the real possibility now existing of keeping family size at a desired level, and therefore fewer couples end up with unintended children to rationalize.

Variations in fertility, and particularly in the baby boom, obviously involve a complex intermingling of both short-term changes and long-term trends. Inter-generational differences in fertility and family size preferences are, in part, explicable in terms of economic variables (Ben-Porath: 1975); 'economic condition' in Easterlin's terms assists in understanding variations in time-period fertility, even if such conditions are not the primary cause but merely an important conditioning influence (Kirk: 1960, p.254). In addition, demographic composition - the demographic history of the population as well as the prevailing patterns of marriage timing and birth spacing - intertwined with the social environment within which family formation takes place and its changes over time render an isolated time-period based analysis of fertility of limited value and the interpretation based on such analysis dubious if not totally meaningless.[5]

The research strategy in the rest of this chapter will focus on the fertility of generations. Initially, we shall discuss total fertility irrespective of marital status and changes in the child-bearing pattern. Marital fertility, along with the marriage formation and changes therein between generations that created the baby boom as well as the subsequent slump in annual fertility, will be discussed in the latter part of this chapter.

The baby boom and generational fertility

The period of continuously increasing births extended in Australia from 1948 to 1961. Annual total fertility rates followed the same trend as noted in Chapter 2: they increased from 2,973 children per 1,000 women in 1949 to 3,584 in 1961.[6] The generations of women who produced those births were born between the years 1904 and 1946 if the reproductive life span is taken as between ages 15 and 45 years. Considering, however, that the peak of child-bearing is between ages 20 and 35 years we may narrow the generational field without significant loss of precision to those women who were born between 1914 and 1941.

An overall picture of the main trends in the generational building of completed families is presented in Figure 4.1. The upper part of the graph shows the number of children borne by the women to exact age 25, 30, and so on up to 45 years.

At age 25 years, cumulated fertility declined from the generations born in 1906 to those born in 1915; the 1915 generation recorded the lowest number of 640 children ever born per 1,000 women aged 25 years. From then on, each subsequent generation produced more children by that age until the figure almost doubled, culminating with 1,336 children ever born per 1,000 women of the 1938 generation.

The generations of 1906-1913 were also the last ones to exhibit very low cumulated fertility at 30 years of age: between 1,330 and 1,400 children ever born per 1,000 women. From then on, each successive generation's cumulative fertility at that age steeply ascended to a peak of 2,380 children per 1,000 women born in 1935. Thus, women of this latter generation had, on the average, one child more when turning 30 years than those born during the first decade of the century.

Almost exactly the same pattern of inter-generational change applied for the average parities achieved at 35 years of age. In this instance, the highest cumulative fertility of 2,924 children per 1,000 women was achieved by the generation born in 1934.

Child-bearing between ages 35 and 45 years was not sufficiently frequent in any cohort to change the general pattern determined by 35 years of age; the highest number of children ever born per 1,000 women aged 45 years rose to almost 3,000 for the latest generation on record, that of 1928.[7] The subsequent five generations will eventually reach a higher number of children ever born, but none is likely to exceed 3,200 children per 1,000 women.

From the overall picture, it would appear that the generations born from about 1912 were gradually dismissing the idea of a small family and aiming at somewhat larger family size than their predecessors. Furthermore, it would also appear that the more recently born generations may be changing again and turning back to a smaller family norm. Although the evidence is incomplete, it is likely that the generations born in the late 1930s will end their child-bearing with, on average, fewer children per woman when they reach the age 45 years in the early 1980s than did the immediately older women. However, this appearance may be deceptive: the rates presented in Figure 4.1 do not take into consideration the changing marriage patterns between the subsequent generations and we will defer final judgement on this point to a later section of this chapter.

Apart from the influence of the marriage pattern, changes in the timing and spacing of births after marriage also played a decisive role in the baby boom. This aspect is very clearly brought out by the varying numbers of children borne by the women of the specified generations within each quinquennial age period of the reproductive life cycle. This is depicted in the lower part of Figure 4.1.

Two distinctive features of the inter-generational differences stand out. The first is the almost continuous decline in the importance of child-bearing between 35 and 45 years of age. Women born until about 1910 were still adding on average more than 370 and 100 live births respectively per 1,000 women to their cumulative fertility rate between ages 35-40 and 40-45.

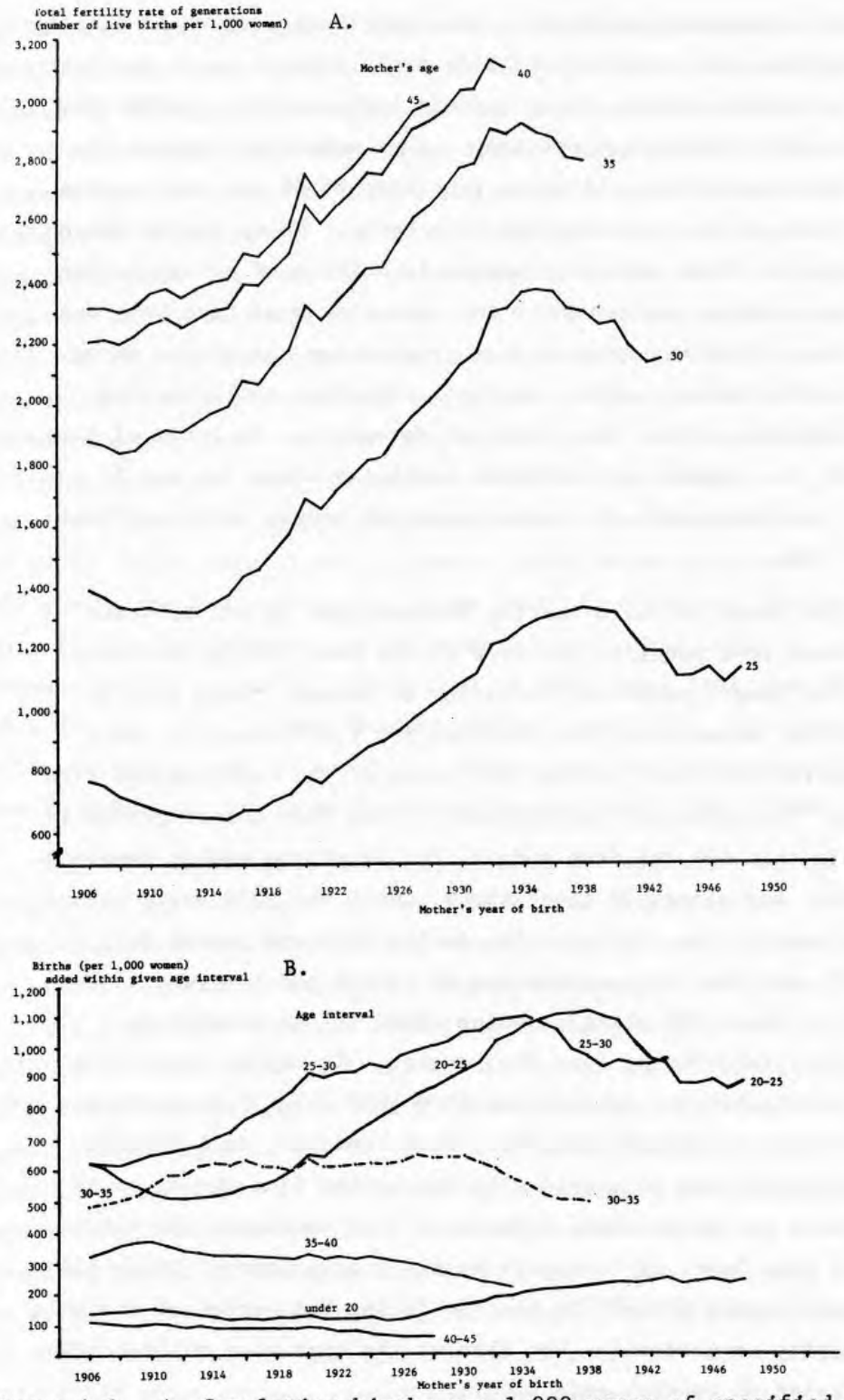

Figure 4.1 A. Cumulative births per 1,000 women of specified age and year of birth. B. Births added during the specified age interval by mothers' year of birth.

In each subsequent generation, the contribution of child-bearing during this late stage of the life cycle dropped until the last ones on record, namely those born in 1928 and 1933, added only 220 and 60 children respectively - thus women had reduced the contribution to their lifetime fertility by 40 per cent during this stage of the reproductive life cycle. Those births which occurred at those ages were mainly to mothers of a higher than average parity; consequently the reduction must have been due to a more effective control over pregnancies and births among high-parity women terminating their effective child-bearing considerably earlier than their predecessors. In terms of time period, the reduced generational fertility after the age 35 years coincides with the introduction of modern contraceptives after 1961.

The trend in child-bearing between ages 30 and 35 years exhibited some peculiar features of its own: the generations with the lowest completed fertility on record, those born in 1906-1908, added about 500 children per 1,000 women to their cumulative fertility during this stage of the reproductive life cycle. The subsequent generations lifted this number gradually to more than 600 children and at that level the number remained constant for almost 20 generations, until the 1932 birth cohort. Subsequently, the child-bearing during this age period fell rapidly and the last generations on record had returned to the level of about 500 children being added to the cumulative fertility rate during ages 30-35 years. It may be recalled at this point that the generations 1906-1908 were 30-35 years of age during the period 1936-1943, when fertility in Australia was still low and only gradually recovering from the slump of the years of the economic depression. In contrast, the return to the same level of fertility by the generations of 1936-1938 occurred during 1966-1973, that is during the period of economic prosperity in Australia, but also at the time when child-bearing was easier to control effectively.

Child-bearing at the youngest ages of women, that is before

age 20 years, was low and at almost a constant level of about 120-150 children per 1,000 women born in 1906-1926. It started increasing only gradually thereafter and reached a plateau of 250 children among women born since 1940. Child-bearing at the youngest ages of women has always had rather complex causes: a considerable component of the total number of births to the youngest mothers has been due to ex-nuptial births and to births conceived before marriage (Ruzicka: 1975, 1976a; Prioux-Marchal: 1974) not only in Australia but in all Western countries. The proportion of ex-nuptial births was almost 25 per cent of all births to women aged less than 20 years born in 1906, gradually declining to 20 per cent (generation of 1916) and finally reaching a trough of 15 per cent among women born between 1936 and 1939. Since then it has increased again and women of the 1948 generation had once again 25 per cent of ex-nuptial births among all births occurring by 20 years of age. Thus, the increase in the number of live births to women aged less than 20 years did not arise solely from ex-nuptial fertility. Fertility within marriage, even if resulting from pre-marital pregnancies, clearly rose even faster at least among women born before 1940.

The most significant phenomenon, from the viewpoint of the demographic explanation of the baby boom, was obviously the changing pattern of child-bearing between ages 20 and 30 years. The trends depicted in Figure 4.1 bear unmistakable evidence of it. The generation that was clearly exhibiting fertility below replacement level, that of 1906, had about 620-630 children per 1,000 women between ages 20 and 25 years and about the same number between ages 25 and 30 years. In each subsequent generation the number of births during the women's early twenties somewhat declined but the 'loss' was compensated for by an increased number of children born during their late twenties. The women of the 1912 generation, for example, had 510 children per 1,000 women between the ages 20 and 25 years but 660 children while 25-30 years of age. Among the next generations, child-bearing during both periods of the reproductive life cycle

gradually increased, but considerably faster at ages 25-30 years than during the earlier age. Women born in 1920, for instance, had about 650 children during their early twenties (only marginally more than the 1906 generation) but over 900 children while 25-30 years old, or roughly 50 per cent more children than the 1906 generation.

Thereafter, the early twenties became, at an ever increasing pace, an ever more important period of family formation; the generation born in 1935 had about the same number of children during this stage as during their late twenties, but, in contrast to the 1906 generation, this number was almost twice as large: about 1,100 children per 1,000 women were contributed to the generational completed fertility during each of the two periods of the life cycle.

For a relatively brief period, that of the generations of 1935 to 1942, more children were being added to the average generational fertility while the women were 20-25 years of age than during their late twenties. It seems, however, that a change is again under way: women born in 1943 appear likely to have again altered the child-bearing and child-spacing pattern with the ages 25-30 years once more becoming the dominant period of reproduction. This may well be linked with the deferment of child-bearing observed during the late 1960s and early 1970s and will be discussed in Chapter 6.

The cumulative fertility rates indicate a profound change in the child-bearing pattern between generations in which both the timing and spacing of births before the women's age 30, as well as the relative magnitude of the lifetime reproduction reached by that age were the most significant components. By themselves, however, they provide only a fragmentary and incomplete picture of the inter-generational change in reproductive behaviour; as the analyses of the baby boom elsewhere in developed countries has shown,[8] and as was also concluded, with respect to Australia, by Borrie (1973) and, most recently, by the Report of the National Population Inquiry (1975), the

'marriage boom' of the post-World War Two period contributed significantly to the baby boom of the 1950s. Before we analyse the two components of the baby boom separately, the characteristics of the marriage boom and its extent will be outlined.[9]

The marriage boom

"The marriage boom in Australia", argues McDonald (1974a, p.204), "commenced in 1940 as also appears to have been the case in New Zealand and England and Wales". It was probably a continuation of the previously slow decline in age at marriage and in the proportions ultimately never marrying that had begun in the first decade of the twentieth century, but had been partially checked and forced off the trend line by the First World War, the Depression, and the changes in the balance of the sexes up to 1939 (ibid.: p.203). The median age at marriage of spinsters marrying during 1921-1925 was 23.9 years but among those marrying in 1946-1950 it had fallen to only 22.4 years; it dropped by another 1.1 year among women marrying in 1961-1965 and started levelling off at 21.0 years among those marrying in 1972-1974.[10] As the age at first marriage declined the proportions of never married women at each age fell simultaneously: among women aged 30-34 years, from 22.5 per cent at the time of the 1933 census to 13.8 per cent when the 1947 census was taken and to 6.5 per cent at the 1971 census (Table 4.1). The proportion of never married women aged 20-24 years halved between the 1933 census, when they constituted 68.8 per cent of the women of that age, to 35.7 per cent in the 1971 census. An idea of the importance of this dual change in the marriage pattern may be gained by considering the following model: if we assume that all women married at age 15 years and lived in an unbroken marriage to their fiftieth birthday, they would have spent 35 years at the 'risk' of marital child-bearing. According to the proportions never married recorded in 1933 (and thus representing the marriage formation pattern of the preceding about 35 years) the time spent 'at risk' would have been only 22.5 years or 65 per cent of the total potential period. According to the proportions

Table 4.1

Proportion never married at specified ages
Australia, 1933 to 1971

Age (last birthday)	1933	1947	1954	1961	1966	1971
	percentage never married in the age group					
	A. MALES					
15-19	99.6	99.3	99.2	99.1	98.7	98.6
20-24	87.2	76.5	74.5	72.8	70.0	63.9
25-29	56.1	37.9	36.5	33.2	29.3	25.7
30-34	32.6	21.7	19.6	19.2	16.2	13.9
35-39	21.3	16.4	14.0	13.3	12.7	10.9
40-44	16.3	14.5	12.4	10.9	10.6	10.0
45-49	14.7	13.9	11.6	10.0	9.5	9.0
	B. FEMALES					
15-19	96.1	94.4	93.1	93.0	91.8	91.2
20-24	68.8	51.4	41.0	39.5	40.3	35.7
25-29	37.6	21.0	15.0	12.4	12.2	11.6
30-34	22.5	13.8	9.6	7.7	6.8	6.5
35-39	17.0	12.6	8.6	6.5	5.6	5.0
40-44	15.1	12.9	9.2	6.6	5.4	4.8
45-49	14.3	12.6	10.4	7.4	5.9	4.9

Sources: Census 1961, Statistician's Report,
Census 1966, Bulletin No. 9.3: Population by Age and Marital Status.
Census 1971, Bulletin No.3, Part 9: Demographic Characteristics, Australia.

never married in the 1971 census, women would have been exposed to 25.9 years of married life or 75 per cent of the potential child-bearing period. This simple model has two main drawbacks. First, it is based on cross-sectional data and thus does not apply to any particular birth cohort. Second, it does not allow for marriage breakdown - either due to husband's death or divorce. There is a third problem, but it is not very important in a low mortality country, namely that it assumes that all women survive from 15 to 50 years of age.

The Australian Data Bank provided information on proportions of married women at each year of age and for each calendar year

and from this were derived the proportions of married women by year of birth (generations). It should be noted that the proportions refer to existing marriages or, in other words, to currently married women. The change in the proportions married of the same generation between ages x and x+1 thus represents net gain, that is to say a balance of new marriages (first marriages + remarriages) and marriage dissolutions.[11] How the change in marriage patterns (earlier marriages) and the trend towards universality of marriage (increasing proportions of ever married women as well as currently married women) affected the female generations born between 1906 and 1955 can be seen from Figure 4.2.

The percentage of married women aged 18 years increased from about 5 to 13 per cent; when they reached age 20 years only 16 per cent of women born in 1906 were married but 42 per cent of those born in 1953 were. The lowest proportion of women married when 23 years of age was among those born in 1909 (these marriages would have been celebrated in the heart of the Depression). Only about 37 per cent of women of that age were married; but among those born in 1950 the proportion of married 23-year-olds rose to 76 per cent. The curves of the proportions married at each age at different dates start levelling off as we move towards the higher ages. When 35 years of age, about 80 per cent of the women of the 1906 generation were married; this proportion rose constantly thereafter and reached almost 92 per cent for women born in the early 1930s. Since then it has remained at about the same level, fluctuating only within a very narrow margin.

The marriage revolution extended considerably the time spent at the risk of child-bearing within marriage. Those women who were married before they reached 30 years of age, had, on average, 6.4 years of married life (about 43 per cent of the potential 15 years between ages 15 and 30 years), if they were born between 1906 and 1912. Gradually this figure rose and eventually levelled off at around 8.1 years or about 54 per cent of the potential for

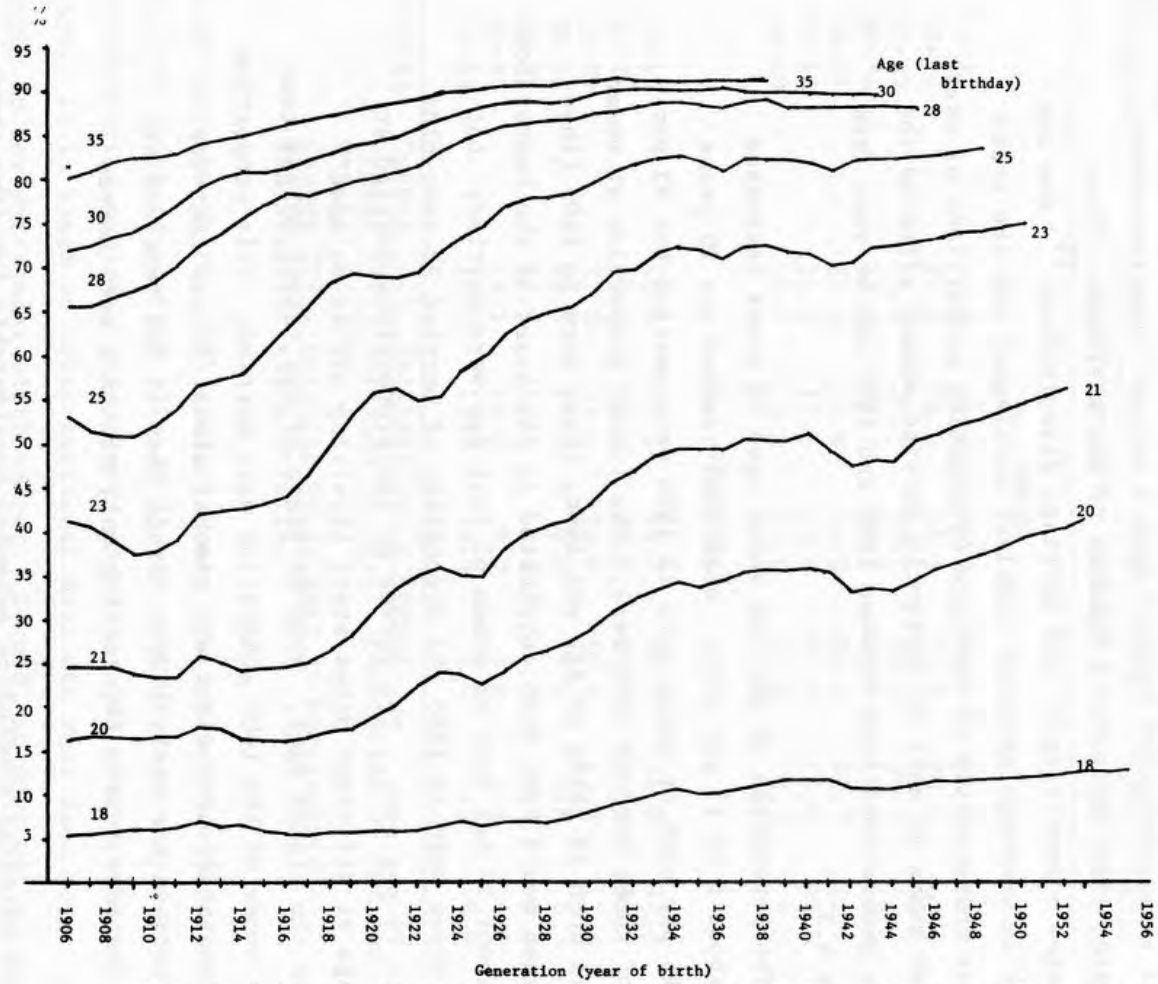

Figure 4.2 Percentage of currently married women at a given age. Generations born between 1906 and 1955.

the generations born between 1938 and 1943. Similarly, for married women aged 45 years, the total number of years spent in marriage until that time was 19.9 years if the women were born in 1909 (and 20.1 years if born in 1906) but it eventually reached 22.7 years for those born in 1927 and 1928. This represents an increase from 66 per cent of the potential to 76 per cent (Figure 4.3, solid lines).

However, those figures tell only a part of the story - the effect of the declining age at marriage. The other, and more significant element of the baby boom was the ever-increasing proportions of women living in marriage. Assuming no deaths between ages 15 and 30 or 15 and 45 years, a cohort of 100 women aged 15 years would have a potential of 1,500 and 3,000 woman-years of married life. By their marriage patterns before the age 30 years the women born in 1906-1910 realized slightly over 32 per cent of this potential and, before the age 45 years, between 56 and 57.5 per cent. For each subsequent generation this effective utilization of the potential rapidly increased, and, most importantly, at a somewhat faster pace up to the age 30 years, or in the prime ages of child-bearing. Figure 4.3 (broken lines) shows an increase from between 32 and 33 per cent of the potential period under 30 years of age spent in marriage among the generations born in 1906-1910 to between 51 and 52 per cent among women born in the years 1933 to 1943. This constitutes a rise of almost three-fifths in the time spent 'at risk' of marital child-bearing.

The proportion of time spent married between ages 15 and 45 years increased from 56 per cent (women born in 1906) to 69 per cent for women born in 1928 (the latest generation for which data are available), a rise of almost one-quarter.

Thus, the changes in marriage pattern of the generations that participated in the baby boom were profound and occurred over a relatively short period of time. In the light of these changes, the data on generational fertility discussed in the

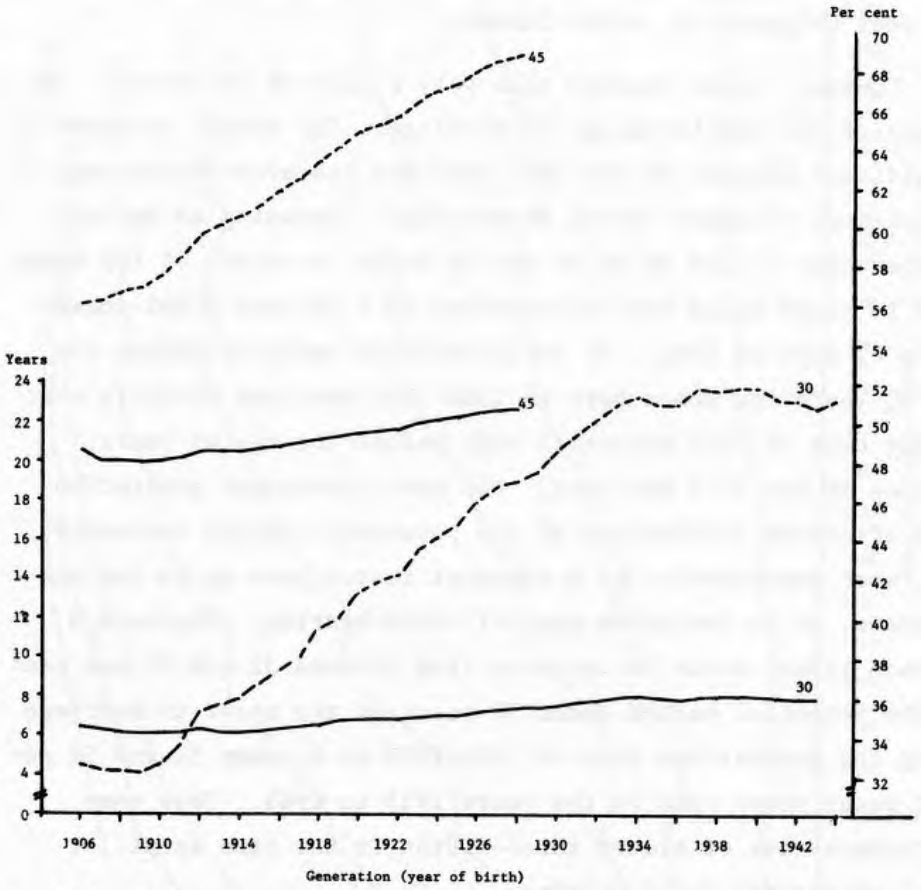

Figure 4.3 Effects of the changing patterns of nuptiality on a) the average number of years spent in marriage before reached age 30 and 45 years respectively (solid lines, left-hand scale); b) the proportion (per cent) of the potential life span within the range of 15 to 30 years and 15 to 45 years respectively spent in marriage (broken lines, right-hand scale).

preceding section of this chapter must be reviewed. It is quite obvious that, even if marital fertility by age had remained constant, the total fertility of those generations who married earlier and had a larger proportion of women living in marriage during the reproductive life cycle must have been higher than that of earlier generations who married late in life or, in a much higher proportion of cases, never married at all.

Fertility of married women

To allow for the effects of the marriage revolution on the aggregate measures of fertility, let us first examine the fertility rates adjusted for the number of woman-years spent in marriage during a specified age. The rates in Table 4.2 represent the total number of nuptial live births during a given age of wives divided by total number of person-years of married life lived at that age and expressed per 1,000. In addition, the last two columns present an estimate of the average issue of wives aged 30 and 45 years respectively. These two estimates somewhat overstate the actual issue as the numerator includes all marital live births but the denominator only those to women who were currently married while 30 or 45 years of age. Thus marriages that broke down because of divorce or the husband's death contributed some marital births to the numerator while the divorced and widowed mothers were excluded from the denominator. However, the effect of this discrepancy is very small.

Two observations may be made at the start. First, the rates of marital fertility fluctuated widely from one generation to another, partly as a reflection of the period during which most of the child-bearing took place. War and Depression, for obvious reasons, depressed the levels of reproduction, and only some deferred child-bearing compensated for this by increased fertility when the generation affected became older. Second, marital fertility at ages beyond 40 years declined continuously and that at ages 35-39 years, after a peak of 87 live births per 1,000 woman-years of married life recorded by the generations

Table 4.2

Marital fertility rates per 1,000 person-years of married life, generations born 1906 to 1953

Generation (year of birth)	Age interval						Average issue per wife aged	
	15-19	20-24	25-29	30-34	35-39	40-44	30	45
1906	587	360	200	126	78	27	1.86	2.70
1907	590	354	199	127	82	26	1.81	2.69
1908	589	339	197	128	85	24	1.75	2.65
1909	583	335	200	130	87	24	1.72	2.66
1910	589	324	201	137	87	24	1.69	2.69
1911	559	307	200	142	85	23	1.66	2.70
1912	487	284	195	140	79	22	1.61	2.65
1913	459	287	193	146	77	22	1.58	2.66
1914	475	292	196	148	75	21	1.60	2.68
1915	471	292	198	145	74	21	1.62	2.68
1916	507	296	205	147	72	21	1.69	2.75
1917	498	288	207	141	71	20	1.70	2.73
1918	512	282	212	140	70	19	1.75	2.78
1919	493	281	218	137	69	19	1.81	2.82
1920	509	287	232	144	72	20	1.93	3.00
1921	473	277	227	137	68	19	1.88	2.90
1922	456	291	229	136	68	18	1.92	2.96
1923	409	297	225	136	67	17	1.94	3.00
1924	399	307	227	136	67	16	1.99	3.07
1925	373	313	222	135	65	15	1.98	3.05
1926	361	313	227	136	63	13	2.05	3.12
1927	376	317	230	139	61	13	2.11	3.19
1928	447	319	231	137	58	12	2.16	3.21
1929	450	325	235	137	54		2.22	
1930	461	325	239	138	52		2.28	
1931	439	323	237	132	50		2.30	
1932	463	342	245	128	48		2.44	
1933	441	336	244	121	46		2.45	
1934	449	344	245	116			2.51	
1935	473	352	242	110			2.51	
1936	477	356	238	107			2.50	
1937	470	350	221	106			2.43	
1938	478	353	216	105			2.44	
1939	471	349	209				2.39	
1940	475	343	213				2.40	
1941	465	328	212				2.31	
1942	522	310	212				2.25	
1943	519	302	214				2.26	
1944	495	278						
1945	474	272						
1946	464	273						
1947	428	260						
1948	434	263						
1949	432							
1950	424							
1951	417							
1952	419							
1953	399							

1909-1910 during the mainly post-war period of 1944-1949, followed suit. When the generations of 1933 reached that age between 1968 and 1972, the number of births had dropped to 46 per 1,000 woman-years.

The generations that reached the lowest completed family size, those of 1906-1910, had the highest fertility at the youngest ages 15-19 years: around 590 births per 1,000 woman-years of married life. This high level of reproduction occurred in the years of economic prosperity after World War One, mainly 1922-1926. In contrast, the lowest rates of about 361 per 1,000 woman-years experienced by women born in 1926 were affected by the War: those children were born during 1941-1945 when marriage cohorts were relatively large, but child-bearing was deferred.

Fertility rates at ages 20-24 years fluctuated considerably less between the generations than one would have anticipated on the basis of the previous discussion. They were relatively high, 350 to 360 births per 1,000 woman-years, among women born in 1906 and 1936. The former represents child-bearing mainly during the years preceding the Depression (1926-1930), the latter coincides with the period of the baby boom (1956-1960). At the other end, the lowest rates of 260 and 277 births per 1,000 woman-years of married life were for generations 1947 and 1921 in that order. The low fertility rates are associated with two totally different situations: that of the generation 1921 with War and its aftermath; while the other trough, which was even slightly deeper, characterized the generations of 1944-1948 and is one of the evidences of decline in Australian fertility during the late 1960s and early 1970s (Ruzicka: 1976a).

At ages 25-29 years, the fertility of married women fluctuated even less: from a peak of 245 births per 1,000 woman-years of the generations 1932-1934 to 193-197 births of the generations 1908 and 1912-1914. The peak of marital fertility in the former case contributed to the baby boom, coinciding with the years 1957-1963. The trough in the latter cases occurred

in the late Thirties and early Forties.

Married women in their early thirties had until quite recently relatively stable fertility of the order of 126-148 births per 1,000 woman-years of married life. The peak occurred in the post-war years when women born in 1913-1916 were presumably compensating for the deferment of child-bearing during the War. However, the generations born since 1933 have fertility levels of about 120 or less and this again coincides with the slump in the birth rates during the late 1960s and early 1970s.

The changes in timing of child-bearing are further documented by the changing average number of live births per wife when aged 30 and 45 years. Taking the latter measure as an index of completed family size, it may be noted that the generations 1906-1915 ended their child-bearing with, on average, 2.7 children and this figure fluctuated only within a very narrow margin from one generation to another. It may be recalled that, given the high proportion of never-married women in those generations, this number of ever-born children was just about equivalent to a generational replacement or slightly below it. The subsequent generations each ended up with a considerably higher average issue, the maximum being so far 3.2 children of the generations 1927-1928 and likely to be surpassed by a few subsequent ones when they reach the age 45 years during the late 1970s.

With respect to the spacing of births, a simple index may be used at this stage, namely the percentage of total issue at age 45 years achieved by the wives when they were 30 years of age. Obviously, this can be calculated only for women who have completed their fertility, that is for generations 1906-1928. The women born in 1906 had 69 per cent of their completed family size by age 30 years; this percentage dropped to 59 for the women born in 1913, because of the interference of the Depression and War. Subsequently, the proportion of total births delivered before the age 30 years gradually rose, reaching 67 per cent

with the generation 1928, but still remaining below the earlier level.

In Australia, no official data are available about the length of birth intervals apart from that between marriage and the first birth. Data from the Melbourne Survey analysed by Young (1977) suggest that child-bearing, at least until 1971, has been progressively starting at earlier ages (parallel to the declining age at marriage) and that births had been spaced ever more closely.

How much did the marriage boom contribute to the baby boom of the 1950s? How much did the fertility of the subsequent generations depart from that of the 1901-1911 generations - those whose marital fertility was below replacement level?

Taking 1901-1906 fertility and mortality as standard we can decompose each subsequent generation's reproduction into four components: increments (or decrements) due to changes in marital fertility, ex-nuptial fertility, nuptiality, and generational mortality. Such disaggregation has been performed and the results are in Table 4.3. As a suitable measure the net reproduction rates of the generations grouped into quinquennial groups were used.[12]

The 1901-1906 generations fell about five per cent short of replacement. The subsequent ones, those born in 1906-1911, reached a net reproduction rate slightly above unity and achieved that partly by increased marital fertility, but mainly because of reduced generational mortality. The women born in 1911-1916 had a net reproduction rate of six per cent above the replacement level; but, compared to generations 1901-1906, their fertility within marriage was slightly lower, and the favourable replacement index was explained by increased proportions married and lower generational mortality.

Each subsequent generation reveals the same picture: in comparison to the reproduction of 1901-1906 generations the component due to marital fertility declines slightly, that contributed to generational replacement by ex-nuptial fertility

increases and since the 1916-1921 generations more than compensates for the decline in marital fertility. The two most significant components contributing to generational replacement were, however, increasing proportions married and declining mortality. The last generation for which data are available to 45 years of age, namely those women born in 1926-1931,[13] had a net reproduction rate 36 per cent above replacement level. This was due to 417 children more being born to 1,000 women than in the 1901-1906 generations. The additional births were, however, not obtained because of marital fertility - that by itself would have

Table 4.3

Disaggregation of the net reproduction rate of the generations born in 1906-11 to 1931-36 using the pattern of family formation of the 1901-06 generation as standard

Measures	Generation (year of birth)						
	1901-06	1906-11	1911-16	1916-21	1921-26	1926-31	1931-36
Net reproduction rate	948	1,007	1,061	1,171	1,253	1,365	1,468
Difference from 1901-06		+59	+113	+223	+305	+417	+520
Due to the effect of changes in							
(i) marital fertility		+24	-13	-7	-28	-36	-48
(ii) ex-nuptial fertility		0	+3	+15	+37	+60	+79
(iii) nuptiality i.e. proportions currently married		-4	+64	+132	+195	+263	+329
(iv) mortality		+39	+59	+83	+101	+130	+160

produced a slight deficit of 36 births. Ex-nuptial fertility more than compensated for that, leaving a slight surplus of 24 births. More favourable mortality which those generations enjoyed in contrast to the experience of the 1901-1906 generations resulted in more live-born female children surviving to and through the

child-bearing ages, thus improving the replacement index by an equivalent of an additional 130 children per 1,000 women. But the largest single component contributing to the high generational replacement index was the increased proportions married in those generations: by itself, this nuptiality effect raised the replacement index by an equivalent of 263 children per 1,000 women.

In other words, if patterns and levels of nuptiality of the generations born after 1911 had remained the same as those of the 1901-1906 generations, there would have been no increase in generational replacement other than that caused by improved mortality and health.

The high number of births after World War Two and, particularly, the continuation of high birth rates through the 1950s to the beginning of the 1960s was, in Australia, the consequence of the marriage boom and of changes in the timing and spacing of births within marriage. It did not, and this point must be emphasized, result from any increase in the fertility of marriages. Generation after generation, age at marriage, particularly of women, was declining; furthermore, when women of each subsequent generation reached a given age, relatively more were ever-married. The inter-generational change in the marriage pattern was gradual, as almost all social change is, and progressed all the time in one direction: towards the universality of marriage and the first marriage being entered into at younger ages. It is difficult to foresee how much further this is likely to proceed. From Figure 4.2 it would appear that the trend towards a younger age at marriage still continued among the generations born in the late 1940s and early 1950s if 'young' is interpreted as being the age of brides between 18 and 21 years.[14]

How this process affected the cumulated measures of fertility, particularly the average issue of married women and the cumulated (generational) fertility rate, will be demonstrated in the next section of this chapter.

The fallacy of the fertility measures

The overall measures of fertility of the 1906 generation, that is the total number of children born per 1,000 women when they reached the age 45 years, was 2,321, of whom 2,209 children were born within marriage and 112 outside. When the women of the 1928 generation reached the same age, they had on the average 2,991 births per 1,000 women, 2,854 born to married women and 137 to unmarried ones. It would thus appear that the 1928 generation was more fertile, as the average number of children per woman had increased by 29 per cent; the same rate of increase applied to births within marriage while those outside marriage rose by 22 per cent.

Before we accept this statement, let us suppose that each generation born between 1907 and 1928 had maintained the same marriage pattern as that of the 1906 generation. Further, let us assume that the married women had the same age-specific pattern of nuptial child-bearing as was actually experienced by each of the twenty-two generations.[15] The sum of the product up to a given age gives the 'expected' number of children that would be born to married women of the given generation if the marriage pattern remained constant as in the 1906 generation and marital fertility followed the pattern and level actually experienced by married women of the birth cohorts 1907-1928.

The cumulative number of marital births per 1,000 women aged 35 and 45 years, both actual and 'expected' is presented in the upper section of Figure 4.4.

The comparison between the two pairs of lines, the solid ones representing the actual cumulative number of marital births at women's ages 35 and 45 years respectively, and the broken ones indicating what that number would have been if the marriage pattern of the 1906 generation applied invariably to all the subsequent generations, suggests the importance of the marriage boom for generational reproduction. If the pattern of marriage formation had not changed, the average number of marital births in each generation of women born after 1906 would have been less

than the actual one; moreover, women born since about 1910 would have had, under the stipulated assumption, even fewer children on average than the 1906-1910 generations, when they reached age 45 years. It is worth noting, however, that this latter observation does not apply to the fertility accomplished before the age 35 years for women born in the late 1920s and the 1930s. We shall return to this deviation later.

In turn, let us assume the opposite, that the actual proportions of women married in each generation at each age were coupled with the constant marital fertility of the 1906 generation.[16] The results of the computations are depicted in the lower section of Figure 4.4 for women's ages 35 and 45 years.

This time, the 'expected' number of marital births per 1,000 women aged 45 years in each generation (the broken line) is in most instances slightly higher than the actual observed number (the solid line). This suggests that the actual level of marital fertility of women born since 1911 resulted in fewer nuptial births than might have been expected had the same level and pattern of child-bearing prevailed as that of the 1906 generation. That marital fertility, in conjunction with the nuptiality pattern, was not sufficient to replace the maternal generation by their daughters (at the mortality level and pattern to which the 1906 generation was exposed). Thus, the 1912-1928 generations fell, in terms of their fertility within marriage, further below the low levels of marital reproduction of the 1906 generation.

At the age 35 years, the two lines, the actual and the expected number of children per 1,000 women, are very close to each other. This suggests that the difference between the marital fertility of the 1906 generation and that of the subsequent ones occurred mainly between ages 35 and 45 years. As child-bearing at those ages is generally dominated by women of higher parities, one may conjecture that the limitation of family size played a significant role in the changing age pattern of marital fertility of the younger generations.

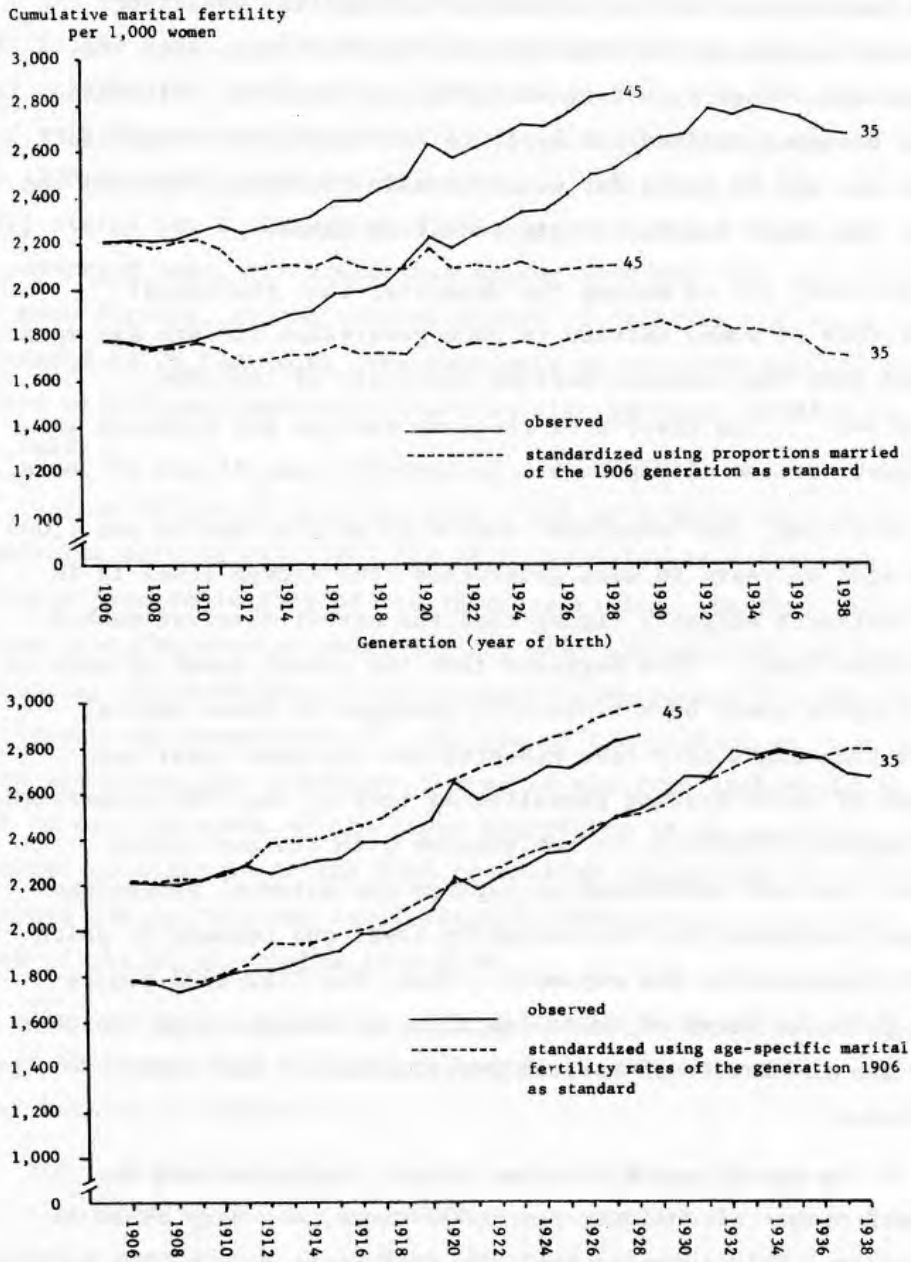

Figure 4.4 Cumulative marital fertility rates per 1,000 women aged 30 and 45 years, generations born between 1906 and 1938. Comparison between the recorded and indirectly standardized rates (standard = generation 1906).

Not only did the level of marital fertility change between the generations born in 1906 and the subsequent ones, but the timing of child-bearing underwent a change as well. In Figure 4.4 we looked at the cumulative fertility of women aged 35 and 45 years. Now, let us examine, in turn, the actual and expected numbers of births for women aged 25 and 30 years assuming again the 1906 generation's marital fertility and nuptiality as standards. Figure 4.5 presents the results.

A constant pattern of marriage formation, that of the 1906 generation, would have reduced the number of children per 1,000 women aged 25 years gradually from about 700 (generation 1906) to about 500 (generation 1948). The reduction, however, did not proceed continually; at one time, child-bearing at ages below 25 years (in conjunction with the 1906 nuptiality pattern) raised the number of children almost to the 1906 generation's level among the women born in or about the middle of the 1930s. The gap between the actual number of births per 1,000 women (solid line in Figure 4.5) and the number expected had the 1906 nuptiality pattern been sustained (broken line) gradually widened with progression from the 1906 generation to ever younger generations. It reached a maximum for the generations 1938-1940. The actual average number of marital births per 1,000 women when they reached 25 years was, for those three generations, 1,253; 1,243; and 1,232 respectively. The expected number was, however, 590 children less. That is to say, it would have remained at about the 1906 generation's level if it had not been for the significantly increased proportions married among the latter three generations. Since then, the gap has had a tendency to become narrower, and, among women born in 1948, was reduced to about 500 children.

A similar pattern applied broadly when age 30 years was reached. The gap between the actual and 'expected' number of births widened further leading to a deficit of up to 900 births per 1,000 women of the generations born in 1934-1936. By that age, the women of the three generations had on average close to

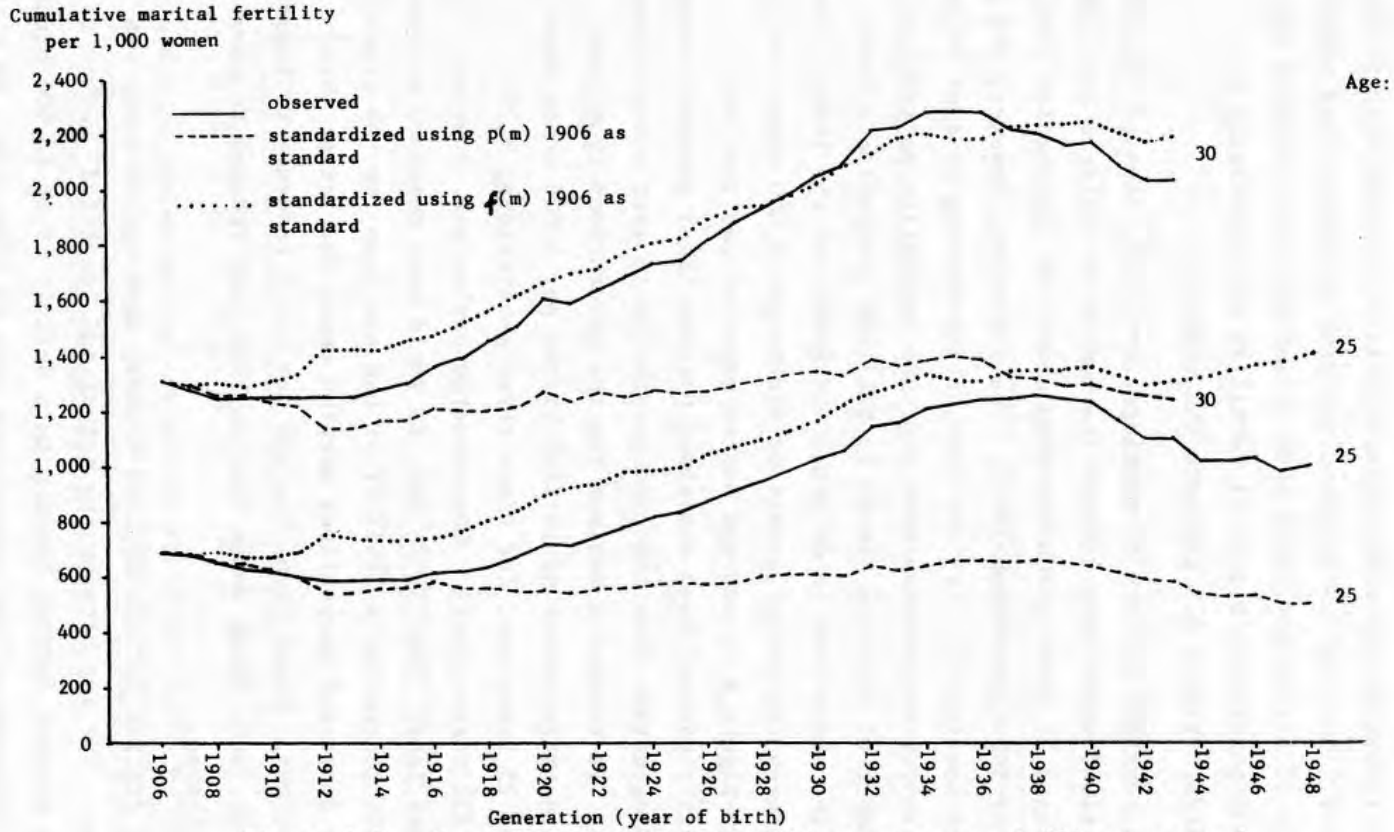

Figure 4.5 Cumulative marital fertility rates per 1,000 women aged 25 and 30 years, generations born between 1906 and 1948. Comparison between the recorded and indirectly standardized rates (standard = generation 1906).

2,300 children born within marriage in contrast to the 1,300 children of the 1906-born women. However, if there had been no change in nuptiality, then their number of children would have been about the same as that of the 1906 generation.

We turn now to the alternative procedure, that is measuring the effect of the changes in marital fertility and assuming the proportions married in each generation as being those actually observed. The dotted line in Figure 4.5 depicts what would have been the total number of marital births per 1,000 women when they reached the ages 25 and 30 years respectively, if the 1906 generation's marital fertility had remained unchanged.

In both instances, the number of children would have exceeded the actual numbers - in all generations at 25 years of age and in most generations at 30 years. The difference between the actual and expected number of births for women when they reached age 25 years reached a first peak of about 200 for the generations born in 1921-1923, then the gap between the two lines narrowed representing a loss of about 70 children for the women born in 1936, and started widening again to reach a second peak of almost 400 births for the generations born in 1947 and 1948. Thus, child-bearing at the younger ages was obviously less intensive among married women in subsequent generations than among women born in 1906. Unfortunately, the Australian census of 1933 did not ask the question on the number of children ever born and we have no way of finding out what was the distribution of married women of the 1906 generation by parity when they reached 25 years of age.

When we look at the two lines pertaining to 30 years of age, the gap between the actual and expected number of children narrowed considerably. Again, fewer children were born to women of each generation subsequent to 1906 than might have been anticipated, but the deficit was only rarely as great as 200 children (among women born in 1912-1914); moreover, when the women born in 1928-1931 reached age 30 years, it disappeared completely and the next six generations (1932-1936) had on average a higher number of children than expected had they

followed the 1906 generation's marital fertility pattern. The subsequent birth cohorts of women were less fertile in their marriages than the 1932-1936 generations and the gap between the actual number of births and the expected one started widening again. This latter development coincides with the declining time-period fertility of the late 1960s and early 1970s.

To summarize, one may use the following simple model evaluating the effect of each of the two components, proportions married and marital fertility, on the deviation of the cumulative fertility rate of each generation from that of the 1906-born women.

In Table 4.4 the operation of the model is presented schematically. The actual cumulative fertility of the 1906 generation S at a given age, say x years, is denoted as s(x), and that of the subsequent generation G as g(x). The difference, g(x) - s(x), is the number of births by which the child-bearing of the G generation exceeded that of the S base-generation of 1906 when the women reached a specified age, x years.

The cumulative fertility that would be expected if the 1906 generation's marital fertility rates applied to the actual proportions married of the generation G will be entered into the table as a(x). If the marriage formation pattern of the 1906 generation were associated with the actual marital fertility of the G generation, the expected number of children would be b(x).

Table 4.4

Schematic presentation of the decomposition of the difference between two cumulative rates into its constituent parts

Nuptiality pattern	Marital fertility pattern S = 1906	G	Difference
S = 1906	s(x)	b(x)	b(x) - s(x)
G	a(x)	g(x)	g(x) - a(x)
Difference	a(x) - s(x)	g(x) - b(x)	g(x) - s(x)

Four marginal differences may then be obtained as indicated in Table 4.4.

Total difference between the actual cumulative number of births of any generation G and the standard S (generation 1906) may be then expressed as consisting of two partial differences in two alternative forms:

$$(1) \qquad g(x) - s(x) = \left[a(x) - s(x)\right] + \left[g(x) - a(x)\right]$$

or

$$(2) \qquad g(x) - s(x) = \left[g(x) - b(x)\right] + \left[b(x) - s(x)\right]$$

Summing up and taking the average of the two equations:

$$g(x) - s(x) = \tfrac{1}{2}\left[a(x) - b(x) + g(x) - s(x)\right] + \tfrac{1}{2}\left[b(x) - a(x) + g(x) - s(x)\right]$$

The first term on the right-hand side of the equation measures the effect on the total difference between the number of nuptial births per 1,000 women of G generation and the 1906 base-generation of the change in the proportions married prior to age x years. The second term, in turn, measures the effect of the change in marital fertility between the two generations, again at all ages prior to the given age x years.

Table 4.5 shows how the number of children born to the women of each generation by the time they were 25, 35 and 45 years of age respectively differed from that of the 1906-born women (columns 1,4, 7). The difference is then split into a component due to the changes in marital fertility alone (columns 2,5, 8) and to changes in marriage formation patterns (columns 3, 6, 9).

In the table the quantitative effect increases as we move further from the 1906 generation; obviously, innovation starts progressing slowly but is gaining momentum as the subsequent generations push the new emerging pattern of behaviour further from the goal set by their predecessors. In the great majority of instances throughout the table the 'gains' due to marital

Table 4.5

Components of change in the number of children ever born in marriage to women of a given generation and to women of 1906 generation

Generation (year of birth)	Difference between the number of children ever born to 1,000 women of a given generation and those born to 1906 generation when aged: 25 years — Total change	25 years — Component of change: Marital fertility f(m)	25 years — Component of change: Proportions married p(m)	35 years — Total change	35 years — Component of change: Marital fertility f(m)	35 years — Component of change: Proportions married p(m)	45 years — Total change	45 years — Component of change: Marital fertility f(m)	45 years — Component of change: Proportions married p(m)
1907	-13	-11	-2	-12	-9	-3	+2	+1	+1
1908	-42	-37	-5	-34	-38	+4	+11	-21	+10
1909	-63	-44	-19	-27	-27	0	+7	-3	+10
1910	-76	-60	-16	+17	-11	+28	+53	+12	+41
1911	-90	-92	+2	+43	-28	+71	+71	-16	+87
1912	-98	-148	+50	+39	-111	+150	+42	-126	+168
1913	-105	-147	+42	+69	-90	+159	+68	-112	+180
1914	-103	-132	+89	+106	-59	+165	+95	-94	+189
1915	-98	-134	+36	+128	-66	+194	+113	-108	+221
1916	-77	-118	+41	+203	-19	+222	+185	-67	+252
1917	-75	-134	+59	+203	-55	+258	+179	-111	+290
1918	-48	-147	+99	+260	-56	+316	+227	-123	+350
1919	-22	-156	+134	+308	-56	+364	+272	-128	+400
1920	+29	-149	+178	+453	+28	+425	+437	-26	+463
1921	+16	-181	+197	+400	-48	+448	+362	-125	+487
1922	+52	-160	+212	+455	-21	+476	+414	-103	+517
1923	+86	-163	+249	+498	-39	+537	+450	-129	+579
1924	+117	-146	+263	+555	-13	+568	+507	-104	+611
1925	+137	-136	+273	+563	-29	+592	+499	-137	+636
1926	+174	-146	+320	+638	-17	+655	+559	-140	+699
1927	+214	-137	+351	+716	+17	+699	+627	-115	+742
1928	+249	-119	+368	+751	+32	+719	+645	-117	+762
1929	+289	-109	+398	+809	+56	+753			
1930	+326	-112	+438	+883	+73	+810			
1931	+358	-125	+483	+891	+28	+863			
1932	+447	-82	+529	+999	+81	+918			
1933	+456	-105	+561	+980	+26	+954			
1934	+505	-85	+590	+1011	+28	+983			
1935	+524	-58	+582	+986	+19	+967			
1936	+541	-49	+590	+967	0	+967			
1937	+544	-68	+612	+901	-84	+985			
1938	+560	-59	+619	+890	-98	+988			
1939	+550	-73	+623						
1940	+539	-86	+625						
1941	+464	-123	+587						
1942	+409	-142	+551						
1943	+403	-161	+564						
1944	+321	-223	+544						
1945	+317	-247	+564						
1946	+334	-251	+585						
1947	+283	-295	+578						
1948	+312	-289	+601						

f(m) marital fertility at ages below the age stated in the heading;
p(m) proportions married at ages below the age stated in the heading.

fertility were negative at all three age levels. The only noteworthy exception were generations of women born in 1927-1935 who, when 35 years of age, had slightly more children on account of higher marital fertility than might have been expected were they to maintain the same fertility pattern as the 1906 generation. For the rest, the whole difference between the 1906-born women's low number of births and the higher ones of the subsequent generations was caused by increased proportions married before turning 25, 35 or 45 years of age.

How is this linked with the baby boom and the demographic transition?

The demographic transition was brought to an end, as pointed out in the preceding chapter, by women of the generations born during the first decade of this century. Those women achieved the lowest average number of children ever born per married woman and generational reproduction that was not sufficient for replacement of one generation by another given the mortality level and pattern (particularly infant and child mortality) to which they were exposed. Since then, each subsequent generation has produced more children than would have been needed for replacement; but this was achieved not by a higher marital fertility - in most instances just the opposite was true. Fertility within marriage was still declining, though marginally, and most of the reduction concentrated at higher child-bearing ages and among mothers of higher parities. The increase in the number of children per 1,000 women of each generation subsequent to those born in the early years of the twentieth century was accomplished by many more getting married than ever before and those who married doing so at ever declining ages at first marriage. The continuing decline in marital fertility was achieved <u>before</u> modern contraceptives became available (the pill and IUD) and while induced abortion was a criminal act and difficult to procure. When, in 1961 and 1970-1971 respectively, the two circumstances changed, the fertility decline of the youngest generations (born since about 1940) gained a new

momentum. By the time the 1945 generation reached 25 years of age (before the relaxation of the interpretation of the law relating to induced abortion) they had on average over 300 children more than the 1906-born women; however, if their marital fertility alone is considered, this increment would have been wiped out totally and turned into a loss of about 250 children. It was the different marriage pattern of the 1945 generation compared with the 1906 one that was the actual cause of the increased cumulative fertility index over that of the 1906 generation.

The baby boom of the 1950s and its continuation into the early 1960s was at least a partial reflection of the rapidly changing new marriage pattern, which occurred at a time when fertility within marriage was undergoing a significant change in terms of the spacing of births. Evidence to this effect has been presented earlier in this book. However, from the generational aspect, those changes were not large enough to contribute a counterbalancing increment to generational replacement. Only the women born between 1927 and 1935 achieved a larger number of children when 35 years old than did the 1906 generation, because of higher marital fertility; and even that was a slight increment of two to eight per cent of the total gain, the rest being due to changed nuptiality.

Footnotes

1. The large birth cohorts born immediately after the war caused a very rapid increase in the number of children under 15 years of age in the population during the 1950s and hence depressed the birth rates without at that time adding to the number of women in the child-bearing ages.

2. As noted earlier, TFR measures fertility in a somewhat peculiar way; it indicates what would be the number of children per 1,000 women if the age-specific fertility between ages 15 and 50 of a given year or period continued unchanged and if none of the women died.

3. The attempts at an economic explanation of the baby boom are the more interesting as they were originally rejected by demographers; Coale (1960, p.5) wrote:" ... the interpretation of the baby boom as the natural consequence of prolonged prosperity is hardly more tenable than the earlier interpretation of the reversal in the 1930s as momentary".

4. Against Blake and Das Gupta's point that public opinion polls show an increased preference for larger families during the baby boom period, Ryder suggested that such results are mainly 'post hoc' rationalizations of the reproductive mistakes on the part of couples who have had more than two children and fantasy on the part of those still childless.

5. Glass (1968) when reviewing the trends of fertility in post-war Europe explicitly stated that "changes in marriage patterns and in birth spacing, as well as in ultimate family size, combine to make the use of period rates very hazardous in measuring or interpreting fertility trends".

6. Those figures were derived from the Australian Data Bank and we shall use that source for the rest of this chapter. They differ marginally but not systematically from the rates (TFR up to women's age 50 years) published by A.B.S. (1970).

7. The generation that reached age 45 years during 1973.

8. Particularly those mentioned in the introductory part of this chapter.

9. The following section draws mainly on the analysis of generational patterns of nuptiality by McDonald (1974a).

10. The annual data indicate a slight continuing decline of the age at the first marriage: 21.1 years (1970), 21.1 years (1971), 21.0 years (1972), 21.0 years (1973), 20.9 years (1974) according to A.B.S. (1976f: Table 9).

11. Separations were not taken into consideration.

12. Net reproduction rate of a generation is defined as the average number of surviving daughters that were borne by 1,000 women of a given generation (birth cohort), considering the actual pattern of nuptiality, marital and ex-nuptial fertility, and mortality to which women of that generation were subject.

13. The reproduction of the 1931-36 generations in Table 4.3 was estimated by assuming that fertility, both marital and ex-nuptial, at ages 40-44 years would remain at the level of the preceding one. In addition, proportions married and mortality were assumed to be that of the 1926-1931 generations in that age group.

14. Since 1971 the annual age specific marriage rates were declining, particularly at bridal ages 16-26 years. The decline was by as much as one-quarter of the 1971 rates at the youngest ages, 16-17 years, and at the ages 21-23 years (NPI, 1976, p.5).

15. This is an example of simple, indirect standardization. Assuming proportions married at each age $p(m)_x$ constant as in the standard, that is the 1906 generations, say $p(m;s)_x$ and generational fertility rates $f(m;g)_x$ being those actually observed, the sum of the products

$$\sum_{15}^{a-1} p(m,s)_x \cdot f(m,g)_x$$

is the expected number of marital births between the ages 15 and $\underline{a}$ years per 1,000 women of the generation under the stipulated marriage pattern and actual marital fertility. Ex-nuptial fertility was disregarded in this and the following calculations.

16. In terms of the notations adopted, $f(m;s)_x$ is age-specific marital fertility of the 1906 generations kept constant, and $p(m;g)_x$ is the actual proportion married at each age in the generations under study. The 'expected' number of marital births will be

$$\sum_{x=15}^{a} p(m;g)_x \, f(m;s)_x$$

CHAPTER 5

FERTILITY DIFFERENTIALS AFTER THE TRANSITION

The preceding chapter presented conclusive evidence that since the time when the cohorts of women born early in the twentieth century completed their child-bearing with the lowest average issue on record, the fertility of none of the subsequent generations diverged significantly from levels leading eventually to a "small family". It appears from the distribution of wives by the number of children born that a family of two to four children became increasingly common. It was shown that the interruption to the long-term trend of fertility decline by the baby boom of the 1940s and 1950s was a temporary one and can be attributed to a steadily rising proportion of married women and a declining age at first marriage as well as to changes in the timing and spacing of births.

Once the proportion of married couples having a large number of children started declining, a growing homogeneity in family size became an inevitable consequence. The trend towards a greater concentration of the distribution of families by size around the central value is bound to be further reinforced if there exists a strong tendency, backed by social opinion and pressure, for married couples to have a minimum of at least one and more usually two children.

Such social pressures have been very strong in Australia and have prevailed until very recently if not to the present time. Ware (1973) has shown that by 1971 a two-child family was acceptable to most Australian wives and only a well defined minority of women were still resistant to families of this size.[1] On the other hand, very strong views were held against childlessness and one-child families. Almost four-fifths of all wives interviewed held that, "Whatever career a woman may have, her most important role in life is still that of becoming a mother" (op.cit., p.316). The most extreme view of childless-

ness put to the respondents, namely that "a couple who choose to have no children cannot have a happy marriage", was agreed to by 28 per cent of all respondents. Of all wives interviewed, 71 per cent would have regarded childlessness as a 'disaster' (ibid., p.317).

One-child families were considered almost equally undesirable in Australia at that time. The disadvantages of such a family size were expressed as ones affecting the parents as well as the child. The former were thought to suffer from feeling dependent on the child, and to run the risk that the child might die and leave them childless. That the one-child family fails to provide the benefits of a real family life was expressed very strongly. The only child was felt to be disadvantaged because of the undesirable effects on its socialization: it was felt that the child would be lonely, spoilt and selfish. Thus, to have only one child was unfair to the child.

Despite the degree of uniformity in views and opinions about 'ideal' family size or desired number of children one would hardly expect the actual distribution of families by the number of children not to display some degree of variance. Day (1970) pointed out that "the number of one's offspring results from the interaction of many factors: physiological attributes, aspirations, values, hopes, fears - in short, from the whole of the human condition ..." (op.cit., p.24). Statistical data and their cross-classification by such categories as age, religion, residence, birthplace, and occupation reveal differential patterns in family formation but do not explain why some groups want larger families or why some are more successful (or more concerned) in the use of methods to avoid unwanted births than others.

In this chapter we shall examine how statistically identifiable sub-groups of the generations born since 1906-11 adapted their reproductive behaviour to the 'small family size' norm. The data will be drawn from the 1966 and 1971 censuses and, in a few instances, from time period fertility of the 1960s and

1970s. For the explanation of the causes of the differentials we shall draw on the analyses of the 1971 Melbourne Survey.

The study of differential fertility in Australia is not a new territory. The main features of such differentials have been well explored and analysed in detail by demographers and sociologists.[2] The differences in family size were in the 1960s still determined primarily by residence - rural dwellers had more children than did city dwellers; by religion - Catholic families were larger than those of non-Catholics; by ethnic origin - Southern European and Dutch-born wives had on average larger families than the Australian-born and the latter more than the British or German-born. Wife's education, husband's occupation, and wife's economic activity were additional characteristics capable of further separating sub-groups that differed in family size as well as distribution of families by the number of children. What we shall be considering in this chapter is whether such differentials have tended to diminish as average family size became smaller.

Family size of metropolitan and extra-metropolitan wives

The reduction in family size progressed from one generation to the next throughout Australia, but did not remove the difference between the average family size of metropolitan and rural families. Although the mobility of ideas, through the technology of the modern civilisation, markedly reduced the isolation of the Australian rural family it did not close the gap completely, for the average rural family remained considerably larger than the metropolitan one. Even the wives of the generations born in 1906-1911, when they completed their child-bearing, had on average 0.88 more children in rural areas than in the metropolitan cities; this gap narrowed only marginally to 0.79 children for wives born in 1921-1926 (Table 5.1)

It may be conjectured that the persistence of the difference between rural and city family sizes was hardly due to lack of knowledge of birth control methods or access to such devices.

Table 5.1

Average issue of currently married women by birth cohort and age at marriage, by place of residence in 1961 (1966)

Generation (year of birth)	Age at census	Age at marriage 15-19	20-24	25-29	30-34	35-39	40-44	Total
				TOTAL AUSTRALIA				
1906-11	50-54	3.90	2.96	2.33	1.70	0.85	0.23	2.40
1911-16	45-49	3.84	2.95	2.39	1.73	0.84	0.24	2.50
1916-21	40-44	3.75	2.92	2.47	1.62	0.75	0.14	2.65
1921-26*	40-44	3.62	3.04	2.60	1.79	0.85	0.26	2.82
1926-31*	35-39	3.61	3.07	2.48	1.44	0.48	-	2.91
				METROPOLITAN CITIES				
1906-11	50-54	3.46	2.66	2.14	1.52	0.76	0.20	2.11
1911-16	45-49	3.44	2.67	2.21	1.54	0.74	0.20	2.23
1916-21	40-44	3.41	2.69	2.29	1.46	0.67	0.10	2.40
1921-26*	40-44	3.32	2.83	2.42	1.68	0.80	0.23	2.60
1926-31*	35-39	3.32	2.87	2.34	1.36	0.44	-	2.68
				OTHER URBAN				
1906-11	50-54	4.22	3.20	2.43	1.82	0.89	0.29	2.68
1911-16	45-49	4.04	3.10	2.50	1.90	0.88	0.27	2.71
1916-21	40-44	3.92	3.05	2.60	1.72	0.80	0.19	2.83
1921-26*	40-44	3.80	3.20	2.72	1.88	0.90	0.30	3.00
1926-31*	35-39	3.79	3.20	2.61	1.52	0.52	-	3.09
				RURAL				
1906-11	50-54	4.69	3.60	2.90	2.15	1.14	0.30	2.99
1911-16	45-49	4.53	3.61	2.92	2.19	1.21	0.34	3.15
1916-21	40-44	4.38	3.53	2.98	2.12	1.05	0.21	3.25
1921-26*	40-44	4.32	3.58	3.11	2.21	1.05	0.35	3.39
1926-31*	35-39	4.20	3.56	2.92	1.70	0.68	-	3.44

Source: 1961 Census, Statistician's Report, pp.391-394.

* O.B. Di Iulio and Y.C. Chung (1976, pp.202-205).

It seems more likely that the physical and social environment, as well as the life style in the countryside, continues to be more favourable to the rearing of children than that of the capital cities. Borrie (1953) suggested that not only are the costs of living considerably lower in the former but "there is more co-operative assistance in the running of the home and the family is a more closely-knit unit" in the rural areas than in the cities.

On the surface it would appear that between the 1906-1911 generations and those born in 1921-1926 the average issue per wife increased slightly more in the metropolitan cities (by 0.49 children) than in the rural areas (by 0.40 children), the other urban areas showing the smallest rise by 0.32 children per wife. But, as in other instances, global figures are deceptive. A division of women by age at marriage reveals that those marrying young (at ages below 20 years) in all three residential sub-groups had smaller families if born in 1921-1926 than the wives born in 1906-1911. The reduction was only marginal for metropolitan families (0.14 children per wife) and rose to 0.37 children for rural families but was considerable, 0.58 children, in other urban areas.

At all other marriage ages the rise in average family size from the first to the second generational group appears to have been slightly larger in the metropolitan cities than in the rural areas. How was this increase achieved? The four sections in Figure 5.1 clearly indicate the answer. Among families, both rural and metropolitan, an identical pattern of change applied: the younger generations included a lower proportion of wives with six or more children as well as of childless and single-child families. In contrast, the proportion of wives with two, three or four children increased considerably in the cities. In rural areas, the shift was more extensive and continued further with the proportion of wives having five children increasing as well. There was very little difference between wives married at ages below 20 years or at 20-24 years of age. In the metro-

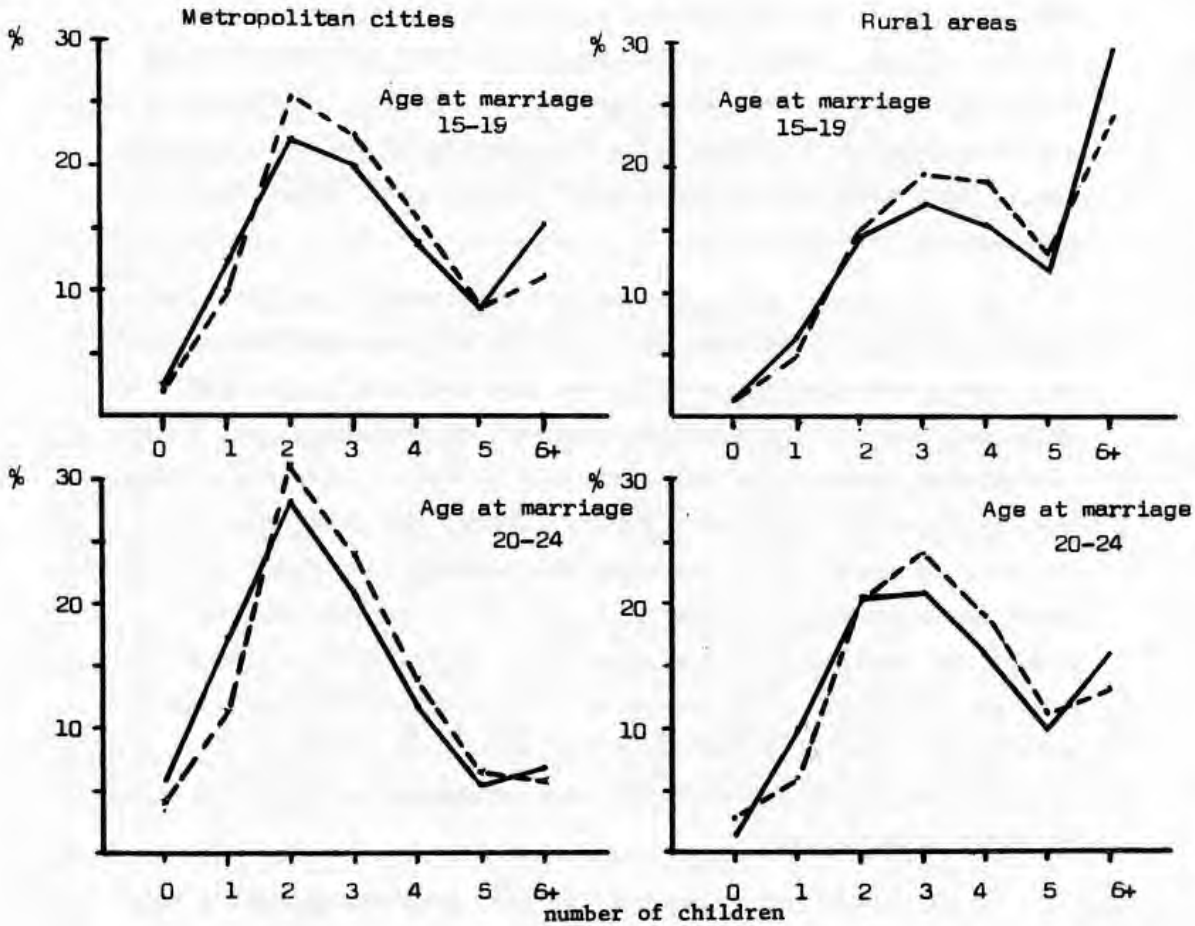

Figure 5.1 Distribution of wives by the number of children born to the existing marriage, by age at marriage and place of residence. Generations 1906-11 (solid lines) and 1921-26 (broken lines).

politan cities the modal family size was two children but it rose to three children in the rural areas; for wives marrying very young a family size of three children was almost as frequent as the mode in the metropolitan cities (22 per cent of all wives born in 1921-1926) while, in rural areas, the proportion of wives of this type with four children was almost as high as of those with three children.

Because of the changes at both ends of the distribution of families by the number of children and the heavier concentration around the central value - be it two children in the metropolitan cities or three children in the rural areas - the homogeneity of the family size increased among the younger generations compared with the position in the 1906-1911 birth cohort. Thus it appears that since the end of the fertility transition the trend has continued towards more uniformity in family size. The difference between the city and rural families remained, but even rural families continued avoiding very large families of six or more children, with three and four children becoming increasingly the dominant family size.

Education and the religion of wives

The variation in the average issue of wives with different educational background did not significantly change between the generational groups for which data were available. The almost U-shaped distribution remained preserved with the larger families found among wives with the highest education (university or other tertiary education) as well as among those who attended only primary and high school or who had no formal education (residual grouped together with 'not stated' cases). Standardized measures for marriage duration are, as usually, more appropriate for comparisons of the overall averages for the particular generation. Apart from the ambiguous group labelled 'nil/not stated' that shows the highest standardized average issues of 3.08 and 3.41 children per wife in the generations 1911-1916 and 1921-1926 respectively, the range between the largest and smallest average issues has been a very narrow one indeed and relatively stable. Throughout the period the wives with matriculation and intermediate level education maintained their place as having the smallest families - between 2.2 children (cohorts 1911-1916) and 2.6 children (cohorts 1921-1926), and the difference from their generation's average was declining. The largest families, those of women with primary/high school education, were again only marginally above the overall average (Table 5.2).

Table 5.2

Average issue of wives by education and year of birth

Educational level	Generation born in 1911-16 R	1911-16 S	1916-21 R	1916-21 S	1921-26 R	1921-26 S
University	2.24	2.37	2.57	2.71	2.76	2.91
Other tertiary	2.32	2.44	2.50	2.66	2.75	2.87
Matriculation	2.16	2.28	2.33	2.46	2.56	2.66
Intermediate	2.29	2.32	2.48	2.51	2.65	2.68
High school/primary	2.57	2.53	2.74	2.70	2.89	2.85
Nil, Not stated	3.11	3.08	3.30	3.20	3.52	3.41
All wives	2.49		2.66		2.82	

Source: Adapted from O. Di Iulio, Education of Wives and Fertility of Marriages, Unpublished Working Paper of the National Population Inquiry, 1974.

R = recorded issue of the existing marriage;

S = standardized for marriage duration using the average issue of all wives as standard.

In all three generations the division between wives of different educational background was less marked than the difference within each group by religion.

Among the women born in 1911-16 the average issue of wives standardized for marriage duration ranged from 2.74 to 3.05 if the wife was Roman Catholic and from 1.99 to 2.42 if she was of another religion. Thus within the same category by religion the difference due to education was 0.31 and 0.50 children respectively. In contrast, the smallest difference within a given educational category between the Roman Catholic and non-Catholic wives was 0.5 children (high school/primary) and as much as 0.82 children (matriculation).

Among the most recent generations (1921-1926), Roman Catholic wives with tertiary education had about 0.9 children more on average than their non-Catholic counterparts if marriage duration is controlled. The average family size increased between the 1911-1916 and 1921-1926 generations by about 0.3

children for both Catholics and non-Catholics (Table 5.3). The increase mong the university educated women of Catholic religion was, however, 0.8 children in contrast to 0.5 children among non-Catholics.

Table 5.3

Average issue of wives by education and religion, generations 1911-16 to 1921-26

Educational level	Generation born in 1911-16 R.C.	1911-16 O.	1916-21 R.C.	1916-21 O.	1921-26 R.C.	1921-26 O.
A. Recorded issue of the existing marriage						
University	2.49	2.25	3.12	2.54	3.40	2.74
Other tertiary	2.95	2.23	3.16	2.41	3.49	2.65
Matriculation	2.63	2.07	2.78	2.25	2.95	2.48
Intermediate	2.68	2.21	2.93	2.36	3.05	2.54
High school/primary	2.94	2.47	3.09	2.65	3.17	2.80
Nil/Not stated	3.74	2.83	3.68	3.12	3.86	3.33
All wives	2.90	2.39	3.06	2.56	3.16	2.72
B. Standardized for duration of marriage						
University	2.87	2.34	3.25	2.67	3.70	2.83
Other tertiary	3.05	2.35	3.40	2.57	3.67	2.74
Matriculation	2.81	1.99	2.96	2.35	3.07	2.55
Intermediate	2.74	2.22	2.99	2.39	3.11	2.55
High school/primary	2.92	2.42	3.08	2.58	3.16	2.74
Nil/Not stated	3.58	2.83	3.55	3.04	3.70	3.22

Source: As Table 5.2.
R.C. = Roman Catholics; O = Others.

A similar pattern emerged when family size achieved during a specific marriage duration period was compared between Catholics and non-Catholics of a given education. Data in Figure 5.2 are based on Di Iulio (1974); they were standardized for current age at the time of the 1966 census. Roman Catholic wives in all educational categories continued, at all marriage

duration levels, to attain a larger number of children than similarly educated non-Catholic wives. The difference between Catholics and non-Catholics was at its maximum for the best educated wives and diminished markedly among the least educated ones.

Ware's (1973) analysis of the Melbourne Survey confirms that the major cultural divisions in contemporary Australian society with respect to views on family size are religion and education. The two-child family was least acceptable to Australian-born Catholics with 9-12 and 13 or more years of education: 34 and 38 per cent respectively of respondents in those two categories felt that two children are not enough - the largest percentage of such responses recorded. Ware wrote: "... the native-born Catholic population is unique in its attitudes; with education apparently reinforcing its pro-natalism, in contrast to all other groups including immigrant Catholics" (op.cit.: p.314).

There appears to be some tendency towards a slight reduction of the gap between Catholics and non-Catholics among those married more recently. The women who married in 1951-1956 were mostly in their thirties at the time of the 1966 census; although the Catholic wives with the highest education still had up to 0.8 children more than the non-Catholic wives, those with the lowest education differed merely by 0.3 children, or even less if the ambiguous group of 'nil/not stated' education is included. It is likely that those two last groups contained a significant proportion of Southern European immigrants, who, even though Catholics, appear to conform less with their church's views on birth control.

Young (1977) studied the differential pattern of child-bearing among wives interviewed in the Melbourne Survey and her results conform with those presented here with respect to differentials between Catholic and non-Catholic wives. Generally, Catholic wives have a longer child-bearing period but with each

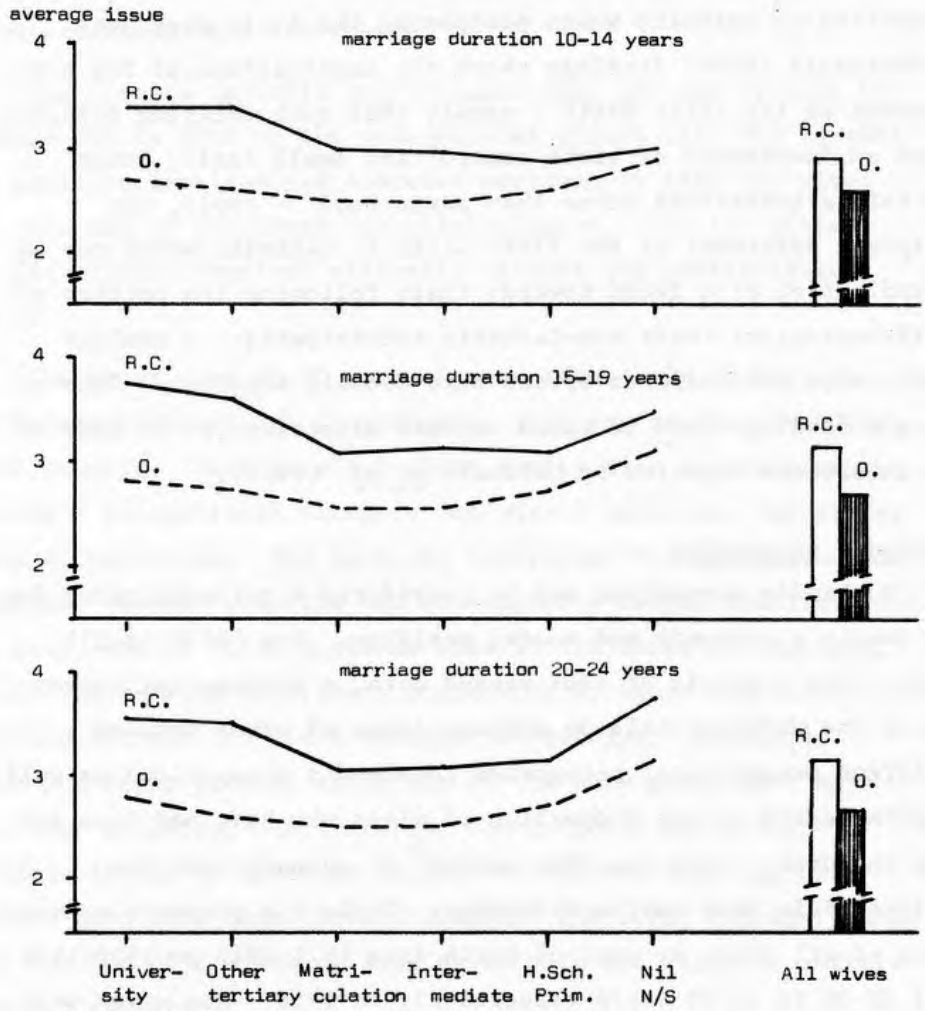

Figure 5.2
Average issue of wives (standardized for age at 1966 census) by marriage duration, education and religion. R.C. - Roman Catholic. O. - others.

more recent marriage year the differences between Catholic and non-Catholic wives have decreased. Catholic wives were considerably less likely to have delayed the first birth compared with non-Catholic women, but, from 1950, Young noted an increased proportion of Catholic women postponing the first pregnancy. If Pohlman's (1968) findings about the implications of the postponement of the first birth - namely that such delaying bringing about an "awareness of birth control and small family norms ... and role alternatives other than parenthood" - apply, the incipient deferment of the first birth by Catholic women may be an indication of a trend towards their following the pattern of child-bearing of their non-Catholic counterparts: a smaller family size and children spaced more closely together. Some of Young's findings seem to point in this direction, as do some of the interviews reported by Caldwell et al. (1976).

Husband's occupation

Husband's occupation may be considered a suitable proxy for the family's economic and social position. Day (1970, p.21) found, from a sample of 1961 census data, a substantial narrowing of the differentials in average issue of wives between different occupational categories (husband's occupation) as well as with regard to the proportion of wives who have had five and more children. From the 1966 census[3] it appears that the differentials have narrowed further. Table 5.4 presents average issue of all wives by year of birth from 1911-1916 to 1926-1931 aged 50-54 to 35-39 years respectively in 1966. The wives were separated into two groups by their religion, distinguishing Roman Catholics from all others. In the subsequent sections, to control for the effect of differences in the age at marriage on the average issue of the wives in each sub-category and by husband's occupation, average issue was standardized with respect to marriage duration.[4] The standardized average issue in each occupation/religion sub-group was then compared with the average issue for all wives and the ratio (multiplied by 100) entered into the table for those occupational groups of

husbands representing the highest and the lowest deviation from the average Australian family size in that given generation (age group) of wives. The difference between the maximum and the minimum values of the index serves as an approximate measure of heterogeneity and its change.

The results in Table 5.4 indicate that the gap between the average family size of the occupational groups with the largest and smallest families had somewhat narrowed by 1966 for wives who were not of the Roman Catholic religion. For the latter, the differences remained virtually without any considerable change.

The wives aged 35-39 years (generations born in 1926-31) had larger families, on the average, than any of the preceding birth cohorts. In Figure 5.3 their family size is depicted by husband's occupational category and wife's religion, the latter again dichotomized. The data are controlled for marriage duration. Roman Catholics had considerably larger families than the rest, and if their husbands were in the three occupational categories related to primary production or upper professionals, they had between 3.5 and 4 children on average. Graziers, wheat and sheep growers stand out as the only group with more than four children. In contrast, non-Catholic wives with husbands in the occupations related to farming were the only ones to have more than three children. The other extreme groups were non-Catholic wives of shop assistants and clerical workers with 2.6 children.

The wives aged 35-39 years had still about five years of potential child-bearing in front of them. If the Roman Catholics comprise a considerably larger proportion than non-Catholics of couples less determined to practise efficient contraception there may be a tendency for the gap between the family sizes of the two groups to widen further and end up at about 0.5 children as was the case in 1916-21 generations.

Table 5.4

Average issue of the existing marriage by wife's year of birth (generation) and religion and husband's occupation

Wife's religion	Generation (wife's year of birth)	1926-1931	1921-1926	1916-1921	1911-1916
	Age in 1966	35-39	40-44	45-49	50-54
All wives	Average issue of the existing marriage	2.90	2.81	2.66	2.49
	Occupational category of husband with the highest/lowest average issue*	Farm, rural workers 122	124	123	128
		Shop assistants 92	90	Shop assistants & clerical workers 90	87
Roman Catholic	Average issue of the existing marriage	3.18	3.16	3.06	2.90
	Occupational category of husband with the highest/lowest average issue*	Graziers, wheat, sheep growers 128	127	Other farmers 124	124
		Craftsmen, foremen 93	Shop proprietors 93	Shop proprietors 92	Shop assistants 89
Others	Average issue of the existing marriage	2.82	2.72	2.56	2.39
	Occupational category of husband with the highest/lowest average issue*	Farm, rural workers 124	126	124	131
		Clerical workers 90	Clerical W. & shop.assist. 89	89	Shop assistants 86

Source: 1966 Census, unpublished tabulations prepared by O. Di Iulio (National Population Inquiry).

* Expressed as ratio between the standardized issue for that category and average for all wives; standardization performed by marriage duration using data for all wives as standard.

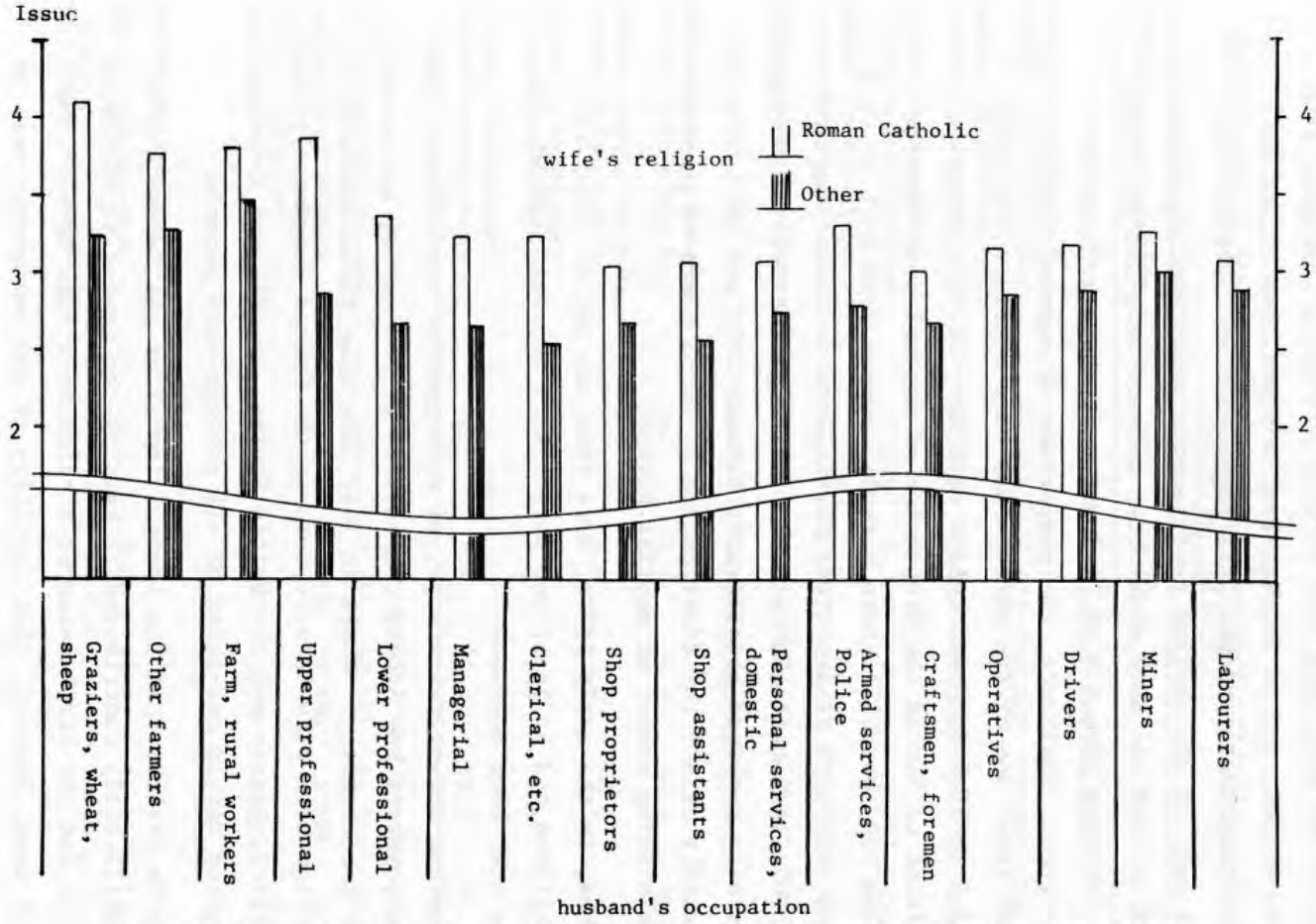

Figure 5.3 Average issue of wives by religion and husband's occupation. Wives aged 35-39 years at 1966 census. Issue standardized for marriage duration.

Family size of Australian and foreign-born wives

Between 1947 and 1971 the annual number of nuptial births to parents who were both born outside Australia increased from 3,600 to 49,000, and to foreign-born mothers from 11,000 to 65,000. In relative terms, this represents an increase from 2.1 per cent of all nuptial confinements registered in Australia in 1947 to 19.8 per cent where both parents were foreign-born, and an increase from 6.4 to 26.3 per cent where mothers were foreign-born. Similarly, the proportion of nuptial confinements where at least one of the parents was born overseas increased from 13.5 to 36.0 per cent. As a corollary of this trend in composition of births the proportion of nuptial confinements involving two Australian-born parents dropped from 86.5 to 64.0 per cent and, with at least one parent born in Australia, from 97.9 to 80.2 per cent (Table 5.5). Although the flow of immigrants to Australia declined considerably between 1971 and 1974 this did not markedly affect the distribution by birth place of parents of the diminishing number of nuptial births.

Thus, in the early 1970s, more than one out of three live born children had at least one parent born overseas and one out of five both born overseas.

Another structural change, of even greater significance from the viewpoint of the ethnic composition of the Australian society, went on concurrently. While in 1947 more than three-quarters of the foreign-born parents were born in the United Kingdom, Ireland, New Zealand, Canada and the United States, in 1971 and 1974 they represented merely one-third of all foreign-born parents.

It is obvious that the immigration after the Second World War significantly contributed to keeping the number of births in Australia and the birth rates at a relatively high level. That does not mean, however, that fertility of the immigrants was, on average, markedly higher than that of the Australian-born. As the National Population Inquiry's Report (1975, p.106) pointed out:

Table 5.5

Distribution of nuptial and ex-nuptial confinements by birthplace of parents Australia, 1947-1974

Birthplace of parents	1947	1954	1961	1966	1971	1974
			A. Nuptial confinements			
Mother Australian-born Father Australian-born	149,851	158,073	168,453	137,847	158,910	139,449
Mother Australian-born Father Foreign-born	12,375	11,529	15,665	16,439	24,175	23,500
Mother Foreign-born Father Australian-born	7,385	5,364	7,071	9,993	16,068	15,457
Mother Foreign-born Father Foreign-born	3,629	17,052	34,093	39,682	49,085	41,223
Total nuptial confinements	173,240	192,018	225,282	203,961	248,238	219,629
			Percentage distribution			
Mother Australian-born Father Australian-born	86.5	82.3	74.8	67.6	64.0	63.5
Mother Australian-born Father Foreign-born	7.1	6.0	7.0	8.1	9.7	10.7
Mother Foreign-born Father Australian-born	4.3	2.8	3.1	4.9	6.5	7.0
Mother Foreign-born Father Foreign-born	2.1	8.9	15.1	19.5	19.8	18.8
			B. Ex-nuptial confinements			
Mother Australian-born	n/a	7,286	10,663	14,014	21,490	19,755
Mother Foreign-born	n/a	650	1,480	2,369	3,914	3,445
Total ex-nuptial confinements	7,209	7,936	12,143	16,383	25,404	23,200
			Percentage distribution			
Mother Australian-born	n/a	91.8	87.8	85.5	84.6	85.2
Mother Foreign-born	n/a	8.2	12.2	14.5	15.4	14.8

n/a = data not available.

> "By 1971 immigrant women who were then 19 per cent of the female population were bearing 25 per cent of the nation's births, but ... this was because of their heavy concentration in the childbearing ages and not because of any propensity to have larger completed families than the Australian-born".

We have already discussed the differentials in fertility and completed family size between Australian and foreign-born women during the period of demographic transition. From the two most recent censuses, 1966 and 1971, we can extend such comparisons further to the differences in family size between the Australian and foreign-born mothers of the generations born between 1911-1916 and 1926-1931. Unfortunately, the retrospective information derived from the censuses gives no indication whether the immigrants mostly had all their families in Australia, or whether a significant proportion migrated after having started (or even after having completed) a family. Therefore, in addition, period data on nuptial and ex-nuptial fertility were used to highlight any differentials between the Australian-born population and the main ethnic groups of immigrants in the current patterns of fertility.

Day (1970, 1971) analysed 20 per cent random samples drawn from the 1954 and 1961 censuses[5] with respect to differential fertility. He reported that, among the wives born in 1917-1921 (the latest cohort for which he could analyse data), the homogeneity in family size was greater among the British-, German- and Greek-born immigrants than among the Dutch and Italians, but also greater than among the Australian-born wives. To place those findings in perspective we present in Table 5.6 data on the distribution of all wives by the number of children born to their existing marriage and the average issue for birth cohorts 1906-1911 to 1926-1931 subdivided by eight countries of mothers' birth.[6] The average issue recorded is for a completed family size as the youngest wives were 40-44 years of age at the time of the census.

In all birth cohorts, the Australian-born wives had, on

Table 5.6

Distribution of wives of different country of birth by the number of children born to the present marriage and average issue. Generations born in 1906-11 to 1926-31

Generation and country of birth	Number of wives	Percentage of wives with the number of children born					Average issue
		0+1	2+3	4+5	6+	N/S	
AUSTRALIA							
1906-1911	148,358	33.0	39.8	14.9	6.6	5.7	2.39
1911-1916	201,008	28.9	43.3	16.3	6.4	5.1	2.50
1916-1921	219,842	24.0	45.6	18.7	7.0	4.7	2.69
1921-1926	245,946	19.0	48.0	21.4	7.7	3.9	2.87
1926-1931	222,556	12.0	48.6	25.3	7.2	6.9	3.10
ALL FOREIGN-BORN WIVES							
1906-1911	40,842	34.4	38.4	13.7	7.1	6.4	2.37
1911-1916	47,897	31.2	40.8	15.2	6.9	6.0	2.47
1916-1921	58,989	27.5	43.8	16.8	6.7	5.2	2.57
1921-1926	81,220	23.7	46.7	18.0	6.4	5.2	2.65
1926-1931	86,393	18.7	47.9	18.3	6.0	9.1	2.74
UNITED KINGDOM AND IRELAND							
1906-1911	22,674	36.2	41.6	12.8	4.6	4.8	2.16
1911-1916	22,973	32.0	45.5	14.2	4.3	4.0	2.27
1916-1921	27,924	26.6	48.0	16.9	5.3	3.2	2.49
1921-1926	30,316	22.7	49.6	19.4	5.6	2.7	2.64
1926-1931	30,848	17.2	49.5	21.2	6.2	5.9	2.83
GERMANY							
1906-1911	1,188	42.6	34.3	8.3	4.4	10.4	1.88
1911-1916	1,880	42.8	33.5	10.4	4.0	9.4	1.91
1916-1921	3,023	41.3	37.4	10.6	3.2	7.5	1.93
1921-1926	5,502	34.9	42.6	12.4	3.5	6.6	2.13
1926-1931	5,750	30.1	43.3	13.0	4.1	9.5	2.26
NETHERLANDS							
1906-1911	1,483	17.3	34.1	22.5	21.1	4.9	3.84
1911-1916	2,676	14.2	35.1	25.7	20.2	4.9	3.84
1916-1921	3,377	16.1	38.5	23.5	16.3	5.7	3.53
1921-1926	3,892	15.7	39.7	25.6	14.9	4.1	3.43
1926-1931	3,970	11.6	42.5	26.2	11.6	8.1	3.37
MALTA							
1906-1911	518	15.4	19.3	18.7	38.4	8.1	5.49
1911-1916	688	9.6	18.0	22.1	41.4	8.9	5.82
1916-1921	1,092	7.5	18.8	24.8	41.1	7.8	5.58
1921-1926	1,554	7.6	22.8	34.3	38.2	7.1	5.14
1926-1931	1,818	8.0	31.8	25.9	21.2	13.1	4.18
GREECE							
1906-1911	1,152	16.8	35.1	24.1	12.1	11.9	3.32
1911-1916	1,535	14.8	38.6	24.5	10.6	11.4	3.24
1916-1921	1,636	16.4	41.9	25.2	7.5	7.5	3.06
1921-1926	2,909	16.9	46.7	21.7	6.1	8.6	2.85
1926-1931	5,656	16.1	54.2	13.2	2.6	13.8	2.50
ITALY							
1906-1911	3,827	17.0	35.6	22.1	17.0	8.3	3.54
1911-1916	5,182	16.5	40.0	22.6	13.6	7.2	3.30
1916-1921	5,745	17.1	43.0	23.4	9.6	6.9	3.08
1921-1926	11,098	17.0	47.9	21.0	7.2	6.9	2.92
1926-1931	14,039	14.0	51.3	17.8	5.4	11.5	2.82
YUGOSLAVIA							
1906-1911	757	28.5	37.3	15.7	8.7	9.8	2.64
1911-1916	1,028	31.5	37.0	16.0	5.1	10.5	2.37
1916-1921	1,192	35.0	38.8	13.2	4.3	8.7	2.19
1921-1926	2,497	30.6	44.8	12.1	3.2	9.2	2.19
1926-1931	3,429	23.5	47.4	11.4	2.7	15.0	2.30

Source: Australian Census, 1966 and 1971; adapted from tabulations kindly supplied by the National Population Inquiry.

average, slightly larger family sizes than all foreign-born wives irrespective of birthplace. In both groups, average issue rose from the 1906-1911 born wives to those born in 1926-1931, the increase being larger for the Australian-born wives (0.71 children per wife) than for the foreign-born (0.37 children). In both instances, the increase in average issue was caused by a dramatic decline in the proportion of wives without children or with one child only; from 33.0 per cent to 12.0 per cent among the Australian-born and from 34.4 to 18.7 per cent among the foreign-born wives. Not only did the percentage of wives with two and three children increase, but so did the percentage of those with four and five children. Among wives born in Australia in 1926-1931, almost half had two or three children and a quarter four or five, whereas, among the foreign-born of the same generation, four or five children were born to only 18.3 per cent of wives. A somewhat larger proportion of Australian-born wives also had six and more children than the foreign-born ones; the Australian proportion of families of this type gradually increased while that of the foreign-born declined continuously.

Among the foreign-born wives, however, there existed a large degree of diversity as to both average family size and the distribution of wives by number of children. The largest group, those born in the United Kingdom and Ireland, show a great deal of similarity with the Australian-born wives. Between the 1906-1911 and 1926-1931 birth cohorts the trend towards a higher degree of homogeneity occurred in both these groups: concentration on two and three-child families with a reduction in childless and one-child families on one hand and a growing percentage of larger families with four and more children. Both trends were somewhat more pronounced among the Australian-born wives. The distribution was, however, dominated in both instances by almost 50 per cent of all wives having two or three children.

The only other group to show an increase in average family

size between the 1906-1911 and 1926-1931 generations was the German-born wives: their average issue was among the lowest in Australia, 1.88 children per wife born in 1906-1911, and rose to 2.26 children for those born in 1926-1931. Despite that, however, they were still the only major ethnic group with nearly one-third of wives born in 1926-1931 having no children or only one child. The increased family size was the result of a considerable reduction of such small families (from 42.8 per cent of all wives born in 1911-1916 to 30.1 per cent of those born in 1926-1931) with a concurrent increase in the proportion of two and three-child families accompanied by a slight rise - from 8.3 to 13.0 per cent - of wives with four or five children. Very large families were always rare among the German-born wives and remained so among the youngest generation.

Among the remaining five national groups shown in Table 5.5 the average issue of wives declined steadily from the 1906-1911 to the 1926-1931 generations.[7] All had larger families than the Australian-born wives in the 1906-1911 generations. However, except for the Dutch and the Maltese wives, all the others - Greeks, Italians, Yugoslavs - born in 1926-1931 ended their child-bearing with a number of children below the Australian wives' average. Even the Dutch-born wives, who exceeded the average issue of the Australian-born by 1.45 children (60 per cent) in the 1906-1911 generation, average an issue in the youngest cohort only marginally higher - a mere 0.27 children (that is less than nine per cent).

Maltese women are still the group with the largest families but even they reduced their family size from 5.82 children per wife (1911-1916 generation) to 4.18 among those born in 1926-1931. This was mainly due to a considerable decline in the proportion of wives with six and more children (from 41.4 to 21.2 per cent between the 1911-1916 and 1926-1931 generations). The result was that in the youngest generation (1926-1931) the distribution was dominated for the first time by wives with two or three children (representing now 31.8 per cent of all wives);

in all the preceding generations wives with six or more children were the typical group.

The two groups which underwent a similarly dramatic change in their child-bearing patterns - although from a much lower level of family size - were the Greeks and the Italians. In both groups slightly more than one-third of those wives born in 1906-1911 ended their child-bearing with two or three children, about one-fourth with four or five children, while 17 per cent had one child or were childless. In the youngest generation, more than half of all wives had two or three children; the Italian wives are more likely to have four or five children than the Greek wives and are less likely to be childless or to have only one child than the latter. However, the proportion of Italian-born wives with six or more children went down from 17 to 5 per cent and of Greek-born wives from 12 to just over 2 per cent, in the twenty years separating the 1906-1911 and 1926-1931 born generations.

The trend towards a greater homogeneity was not a feature unique to the emigrants from Europe, but can be also demonstrated to have occurred in their countries of origin. The United Nations Economic Commission for Europe (1975) has published a report on the recent changes of fertility in Europe and some of the data can be compared broadly with the family size of the European immigrants to Australia. Unfortunately, such comparisons can be made for four countries only (Table 5.7).

On the whole it seems that the wives born in each time period in Britain, Germany and the Netherlands had slightly larger families in Australia than their contemporaries in their countries of origin. Apart from the Dutch, however, the differences were not very large, and even among the latter they diminished over time. The Yugoslav wives, on the other hand, seem to have had slightly smaller families in Australia than did their counterparts living in Yugoslavia. A trend towards increasing homogeneity in the patterns of child-bearing in Europe is also indicated by the

Table 5.7

Average issue of wives in selected European countries

Country	Wife's year of birth				
	1901-1906	1906-1911	1911-1916	1916-1921	1921-1926
	Average number of children born per married woman				
England and Wales	2.03[a]	2.02[a]	2.02[b]	2.08[b]	
Northern Ireland			3.25[b]	3.31[b]	
Scotland	2.47[a]	2.48[a]			
	1900-1905	1905-1910	1912-1917	1917-1922	1920-1925
Germany F.R.	2.06[c]	2.08[c]	1.87[b]	1.85[b]	1.94[b] 1.99[a]
			1910-1915	1915-1920	1921-1926
Netherlands			3.21[c]	3.19[c]	3.15[b]
					1921-1931
Yugoslavia					2.88[b]

Source: United Nations Economic Commission for Europe (1975).
a - currently married women; b - ever married women; c - married women.

declining proportion of high-order births from about 1960 and a resulting decline in the average birth order of the current nuptial confinements (Table 5.8).

The comparisons presented here between the patterns of family size of the immigrants to Australia and those prevailing in their countries of origin cannot be taken too far. It is beyond doubt that immigrants in general and those migrating to Australia in particular do not represent a cross-section of the population of their respective countries of birth. Some of the immigrants may come from a specific geographic region, and various socio-economic groups may be over-represented, or, alternatively, they may be under-represented among the emigrants. "The very fact that they

have migrated suggests that they are, relatively, highly achievement-oriented" (Ware: 1975, p.377) and that orientation might have motivated them to limit their family size when realizing that a large family would be an obstacle on the way to their goals. Apart from that, immigration itself may have a direct bearing upon fertility by separating husbands from their wives, sometimes for a considerable period.[8]

Table 5.8

Average birth-order and proportion of births of fourth and higher birth-order in selected European countries and Australia, 1965 and 1972

Country	Average birth-order of the nuptial births in the year		Percentage of births of the fourth and higher birth-order	
	1965	1972	1965	1972
United Kingdom				
England and Wales	2.27	2.01	15.6	9.8
Scotland	2.44	2.12	19.5	12.7
Germany	2.15	1.99	13.4	10.4
Netherlands	2.46	1.93	19.7	8.8
Greece	1.96	-	8.8	-
Italy	2.36	2.29[a]	17.4	15.6[a]
Yugoslavia	2.60	2.31	23.0	17.0
Australia	2.48	2.17	10.6	5.9

Source: European countries - as in Table 5.7.
Australia - A.B.S. (1966; 1975a).
a - 1970.

Though the differences between the Australian-born and foreign-born wives in respect of completed family size and distribution by number of children born are shrinking, there remain distinctive patterns of fertility behaviour and attitudes. One such difference is in respect of the incidence of pre-marital pregnancies and ex-nuptial births. Australian-born brides who married under the age of 19 years were most likely to be already pregnant at the time of the wedding. The proportion of pre-maritally pregnant brides among marriages of 1970-1971 was 53

Table 5.9

Pre-marital pregnancies by bride's age and country of birth
Australia, marriages 1970-1971

Bride's country of birth	Type	Bride's age at marriage under 19	19-20	21-22	23-25
Australia	a	10.6	3.6	2.0	2.0
	b	42.0	17.8	9.0	7.9
	c	52.6	21.5	10.9	9.9
	N	32,545	52,826	44,427	25,954
New Zealand, United Kingdom, Ireland	a	10.1	4.1	2.5	2.0
	b	37.1	18.0	11.0	10.0
	c	47.2	22.1	13.5	11.9
	N	2,725	4,135	3,914	3,047
Northern and Western Europe	a	10.3	4.1	2.8	2.9
	b	35.1	18.2	10.1	9.7
	c	45.4	22.3	12.9	12.7
	N	923	1,645	2,251	1,804
Mediterranean Europe	a	3.2	2.3	2.1	2.7
	b	10.9	8.6	8.3	8.6
	c	14.1	10.9	10.4	11.4
	N	2,544	3,661	3,292	2,334
Other	a	6.1	3.9	2.1	2.3
	b	24.5	15.0	9.2	7.2
	c	30.7	18.9	11.3	9.4
	N	640	1,191	1,614	1,552
All birthplaces	a	10.0	3.6	2.0	2.1
	b	39.2	17.3	9.1	8.2
	c	49.2	20.9	11.2	10.3
	N	39,377	63,458	55,498	34,691

Type: a confinements within marriage duration 0 to 3 months;
b confinements within marriage duration 4 to 7 months;
c all pre-marital pregnancies;
N total number of brides.
Source: L.T. Ruzicka (1977b).

per cent for the Australian-born, closely followed by 47 per cent of brides born in New Zealand, United Kingdom and Ireland, and 45 per cent of brides born in Northern and Western Europe. In contrast, only 14 per cent of brides born in Mediterranean Europe

(mainly Greeks and Italians) were pregnant at the time of their wedding. The likelihood of a pre-marital pregnancy at bridal ages 19-20 years was also much lower among the latter than among any other ethnic group of Australian-born women. At all other bridal ages the differentials between the Australian-born and all other brides virtually vanished.

The incidence of ex-nuptial births was also negligible among the Greek, Italian, and Maltese women (Tables 5.9 and 5.10).

Table 5.10

Ex-nuptial confinements by mother's country of birth
Australia, 1966 and 1971

Country of birth	1966				1971			
	O	E	R	S	O	E	R	S
Australia	14,014	13,259	105.7	++	21,490	20,942	102.6	++
New Zealand	210	118	177.6	++	453	255	177.6	++
United Kingdom	1,054	1,010	104.4		) 1,799	1,647	109.2	++
Ireland (all)	44	78	56.6	++				
Greece	94	354	26.6	++	101	263	38.4	++
Italy	83	296	28.1	++	111	363	30.6	++
Malta	26	97	26.8	++	59	116	50.9	++
Yugoslavia	81	73	111.3		204	165	123.6	+
Netherlands	141	167	84.6	+	202	209	96.7	
Germany	291	268	108.5		290	264	109.8	
Poland	34	47	72.7	+	34	42	81.0	

O = observed number of ex-nuptial confinements;
E = expected on the assumption of all Australia ex-nuptial fertility rates applying to the non-married female population of the given country of birth (by 5-year age groups);
R = ratio of the observed and expected numbers;
S = level of significance; + 5 per cent, ++ 1 per cent or less.

Australian and Western European wives who were not pregnant at the time of the wedding may more often think in terms of planning their first pregnancy and postpone child-bearing for some years.

The Southern European-born wives, on the other hand, appear to be less likely to take any steps to postpone pregnancy once married (Ware: 1975, p.362; Packer, Caldwell and Caldwell: 1976, pp.113-139).

Another aspect of family formation worth noting in this context is the extent of intermarriage because of its very real influence on a continuation of traditional attitudes and family life-styles. Southern Europeans, in general, and women in particular, marry outside their ethnic group far less often than other immigrants, Price (1975) has shown that about four out of five Yugoslav-, Italian- and Greek-born brides marry bridegrooms born in the same country. The proportions of such marriages is somewhat less in the second generation of Greeks and Italians but is still remarkably high - about two out of three brides born in Australia to parents of Greek or Italian origin marry bridegrooms born in Greece or Italy (Table 5.11).

Workforce participation, wife's occupation and family size

A negative relationship between female employment and fertility has been long observed in most industrialized societies but the direction of causality is still not unequivocally resolved. In Australia, where workforce participation of married women in general and of those with children in particular has been rising dramatically since the 1960s, it is tempting to attribute the increasing involvement of married women in employment to the decline in marital fertility as both trends coincided. Richmond (1974, p.270), in her analysis of Australian census data, has given changes in marital fertility patterns first place among the demographic and social factors[9] related to the rapid growth of married women's participation in the workforce. The N.P.I. (1975, p.57) report recognizing that the question of the relationship between workforce participation of married women and their fertility is a complex one, nevertheless concluded that "there may be some support for the suggestion that the higher the participation rate of women in the labour force,

Table 5.11

Marriages in Australia, 1965-1972

Birthplace		Percentage of bridegrooms marrying brides born in: same country	Aust.	other	Percentage of brides marrying bridegrooms born in: same country	Aust.	other
Yugoslavia	a	45.1	26.6	28.3	75.1	6.8	18.1
	b	65.2	19.0	15.8	83.4	6.1	10.5
Malta	a	58.7	30.0	11.3	64.4	20.8	14.8
	b	44.5	42.7	12.8	52.5	28.3	19.2
Italy	a	65.8	23.7	10.5	86.8	7.4	5.8
	b	54.4	33.2	12.4	79.7	12.2	8.1
	c	29.5	50.8	19.7	64.6	23.5	11.9
Greece and Cyprus	a	91.9	5.0	3.0	92.4	1.7	5.9
	b	82.4	11.4	6.2	89.1	3.8	7.1
	c	43.2	42.1	14.7	70.4	15.7	13.9
England and Wales	a	19.2	69.3	11.5	21.8	61.3	16.9
	b	19.1	68.6	12.3	23.0	59.3	17.7
Germany and Austria	a	22.0	55.0	23.0	22.6	46.1	31.3
	b	14.3	64.1	21.6	18.7	51.1	30.2

a = marriages 1965-68; b = marriages 1969-72; c = second generation, marriages 1965-68.
Source: C. Price (1975) extracted from Table E.

particularly in the 'career' types of occupations, the more pressure there will be towards the achievement of lower levels of fertility". In contrast to these views, when Ware (1976) examined the hypothesis that "workforce participation is the causal factor in the relationship between female employment within marriage and reduced fertility levels" she concluded that, on balance, her findings did not support the hypothesis.[10] She confirmed, on the other hand, that "the 'career occupations', namely the professions, teaching, nursing and running one's own business, do have a more depressive effect upon fertility than less career-oriented occupations such as factory and domestic

work" (ibid.: p.420). But out of all working women there are relatively few in the career occupations.

In this section we shall not attempt to resolve the problem of the direction of the causal relationship between women's economic activity and their fertility, but merely point out the inter-generational changes in family building patterns and workforce participation.

Among women aged 15-64 years, more than one-quarter were in the workforce around 1921 and this proportion has gradually but steadily increased ever since to reach 41 per cent in 1966 and 42 per cent in 1971. In 1921, however, only four per cent of married women of that age were employed in contrast to 32.7 per cent in 1971 (Richmond, 1974). Thus, while the percentage of all women employed almost doubled in the last fifty years, that of married women increased eight times.[11] In Figure 5.4 the changes in the workforce participation of women by marital status and age are clearly marked. The shape of the curve of the participation rates for single, divorced, widowed and separated women has not changed to any considerable extent. Only among the youngest single women, aged less than 20 years, was there a marked drop in the rate at each census year between 1954 and 1971, presumably caused by more young women continuing their education rather than entering employment at those ages. In 1971, this drop seems to have affected also the participation rate of the next age group 20-24 years.

The group that showed the most striking change over time in its workforce participation was married women; their participation rates increased considerably between 1954 and 1971 and although some of this increase may be spurious (because of changes in the definition of the workforce) that between 1966 and 1971 is entirely real. Ware (1976, p.414) suggested that the change in participation rates of wives was a reflection of the changing pattern of family formation and attitude towards married women working after marriage. Among the older generations, the wives usually

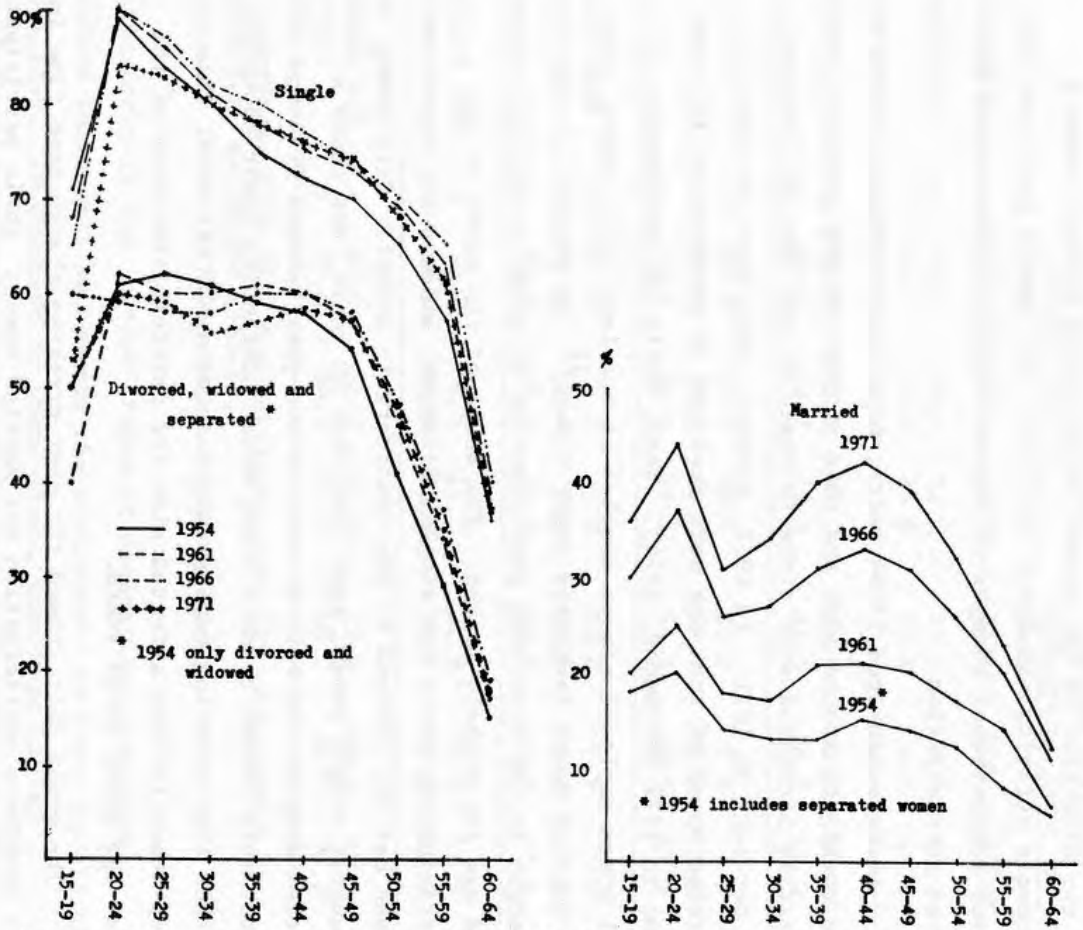

Figure 5.4 Work force participation of women by age and marital status, 1954-1971.

abandoned paid employment after marriage; among the younger ones the pattern has changed and nearly all wives continue to work after marriage but shun employment whilst they have pre-school age children. The cut-off point is now much more likely to be the birth of the first child than marriage. With the age of brides at first marriage almost continuously declining over the past fifty years, and, more recently, with the first pregnancy being deferred by an increasing proportion of young wives, the rapid increase in the workforce participation of married women follows almost by necessity.

The workforce participation of young married women aged less than 25 years has until quite recently been higher than that of older women. The first indication of an incipient change appeared between 1954 and 1961 when the participation rates of wives aged 35-44 years rose considerably faster than those of the younger wives. This trend continued between 1961 and 1966, although some part of this latter increase can at least partly be attributed to the change in the definition of 'being in the workforce'.[12] However, the rates went on increasing between 1966 and 1971 - and this time the criteria for being included in the workforce were identical in the two censuses. As a result, in 1971 wives aged 40-44 years were only marginally less likely to be employed than wives aged 20-24 years.

The married women and, in particular, those aged 25 and over, were much more likely to work part-time than the non-married women of the same age. According to the quarterly Labour Force Survey for November 1975 almost half of wives aged 25-64 years worked usually less than 35 hours a week (and did so during the survey week). In contrast, the percentage of part-time workers among the non-married women ranged from 11 (ages 25-34 years) to 39 (ages 60-64 years), steadily rising with age.

The group of working wives aged 20-24 years comprises primarily wives who continued working immediately after marriage, and most of them prior to commencing child-bearing: in 1971,

only 22.1 per cent of 15-19 years old employed wives and 25.8 per cent of 20-24 years old employed wives had children. The group of employed wives aged between 35 and 44 years, comprised predominantly women gradually returning to work, many of them after their last child had reached school-age; in 1971, 90 per cent of employed wives aged 35-44 years had children.

The participation in the workforce of wives with children is a phenomenon that deserves some attention at this point. The participation rates of mothers have recently been rising as fast as, and possibly even faster than, the rates for childless wives. In Figure 5.5 are depicted workforce participation rates by age of wives without issue (broken lines) and of mothers (solid lines) for 1966 and 1971. Since 1966 the employment rates of mothers aged 30 and over have been increasing much faster than those of the childless wives: rates of wives with children at ages 35-49 years increased by almost twice as much as those of childless wives (Figure 5.6).

The change in participation rates generally indicates not only a change in the supply of labour, that is in the population seeking to be employed, but it reflects a pressure of the demand for labour as well. If the demand is defined as the number of jobs created in the economy at a given time, an excess of demand over readily available supply may create pressures on the potentially employable human reserve in more than one way: for instance, employers may offer higher wages and salaries, prospects of a well paid job may dissuade younger people from continuing their education beyond the usual grade as well as provide an incentive for women, particularly the married ones, to enter the labour force. Better or more suitable working conditions may be offered, such as part-time jobs, child-minding facilities may be provided for women with children to enable them to enter the labour force, and so on. In the 1960s the Australian economy was still expanding. To indicate roughly the growth of the demand for labour between 1966 and 1971 and the way it was met we may compare the labour market situation in the two years.

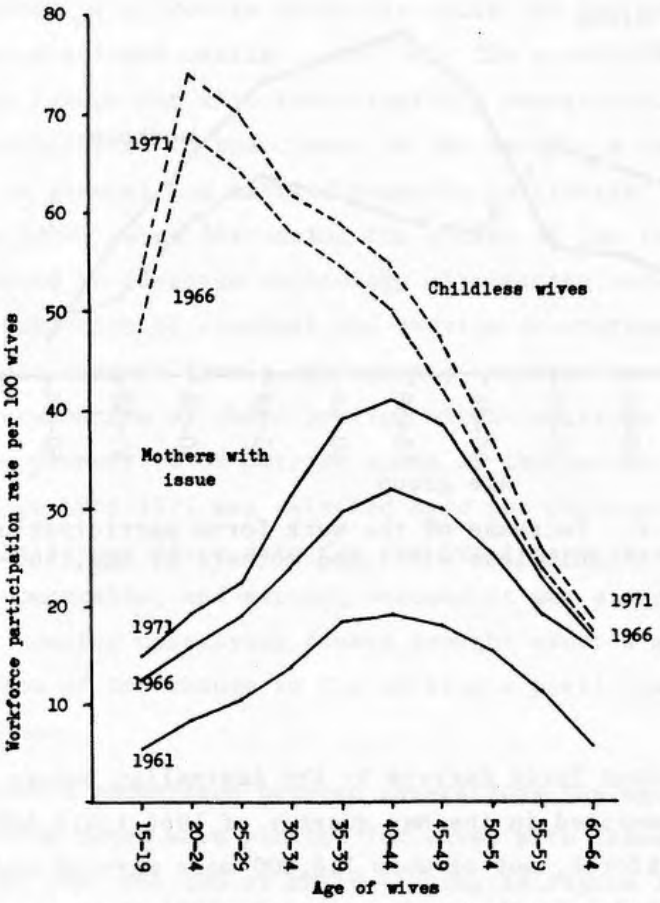

Figure 5.5 Work force participation rates of childless wives and of mothers by age 1961-1971.