

**Transformations of the Indigenous population:
recent and future trends**

J. Taylor

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Dr John Taylor is Deputy Director and Senior Fellow at the Centre for Aboriginal Economic Policy Research at The Australian National University.

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Summary

By the 1970s, the Indigenous population had undergone a series of systematic fluctuations in fertility and mortality levels, uneven over space and time, but ultimately comprehensive and uniform in effect. Current interest is on progress in the prevailing demographic regime of declining natural growth rates based on reductions in both fertility and mortality, with recent trends suggesting that this process may be stalled. Also of interest is the emergence of additional contributors to Indigenous population growth. These include Indigenous births to non-Indigenous women as well as an increased propensity for individuals to declare Indigenous status on census forms. In the more distant past, sociological and political processes have effectively excluded or devalued Indigenous representation in official statistics. In the more recent politics of data collection, efforts are made to encourage identification.

Trends in mortality

A steady and precipitous decline was recorded in the Indigenous infant mortality rate from around the 100 per thousand level in the mid-1960s to 26 per thousand by 1981 with much of this due to improvements in postneonatal mortality. Subsequently, however, the decline in rates has been much less impressive with the level of Indigenous infant mortality remaining consistently around three times the Australian average. Consequently,

- The 1980 the level of Indigenous infant mortality has been stuck at around the level last recorded for all Australians in the 1940s.

As the earlier drop in infant deaths coincided with improvements in community infrastructure and the development of Indigenous health programs and services, the subsequent the persistence of relatively high infant mortality suggests that there are limitations to the further impact of medical intervention. To sustain a decline in infant mortality what is now required are public health interventions aimed at such issues as nutrition as well as a general raising of economic status.

Overall progress in raising life expectancies have also stalled. This is all the more striking given that over the period for which reliable Indigenous estimates have been available (since 1981), life expectancies for the total Australian population have displayed a marked improvement. Consequently,

- the level of mortality observed for Indigenous males at the end of the 20th Century was equivalent to that recorded for all Australian males at the beginning of the Century. Among females, the comparison is no more encouraging with life expectancy for Indigenous females in the late 1990s hovering around a level last recorded for all females in Australia in 1920.

Trends in fertility

Total Fertility Rates for the Indigenous population reached their highest levels in the decade from 1956–66, remained relatively high until 1971 and then tumbled

throughout the 1970s. This effectively halved the TFR from around 5.9 in 1966–71 to around 3.3 in 1976–81 and lower again to around 3.1 or 3.0 in 1981–86. The 1996 Census points to a further lowering of the TFR to 2.7 representing a substantial drop of around 50 per cent since 1970. In explaining this decline, the focus has been on the effects of increased participation by Indigenous people, particularly women, in employment and education thus altering the costs and benefits of children.

One issue that has emerged parallel with the timing of fertility decline among Indigenous women is the growing importance of Indigenous births to non-Indigenous women as a factor in overall natural increase of the Indigenous population.

Population growth

Apart from natural increase, growth in the Indigenous population may also derive from an increased propensity over time for individuals to declare Indigenous status on census forms. Collectively, these components of growth have resulted in a 200 per cent increase in the census count of Indigenous Australians since 1971. This averages out at an annual increase of around 8 per cent. Attempts to project this growth into the current decade are undermined by the difficulty of modelling changes in census identification as Indigenous. Consequently, ABS experimental estimates for the Indigenous population in 2006 range from 469,000 to 650,000.

Population distribution

One of the more obvious transformations of the Indigenous population in the second half of the twentieth century was a shift in overall geographic distribution away from remote and rural areas in favour of urban and metropolitan centres and consequently towards the south and east of the country. Current analysis of this phenomenon points to the likelihood that much of the apparent shift in population distribution from the 1960s onwards could have been due simply to increased enumeration of city-based residents. Two observations support this:

- Since 1976, the overall effectiveness of migration flows in redistributing the Indigenous population between metropolitan and non-metropolitan areas has been very low with net migration gains mostly to Brisbane and Perth offset by persistent net losses mostly to Sydney and Melbourne.
- There is a lack of association observed between Indigenous net migration and regional population growth, especially in regions dominated by urban-based populations.

While there the enumerated Indigenous population is increasingly and overwhelmingly urban, numbers in rural and smaller non-metropolitan centres have also continued to grow. Indeed, with downturn in the rural sector and associated net out-migration of non-Indigenous people, the only growth in much of outback Australia has been among the Indigenous population. As a consequence, Indigenous people represent a steadily growing share (almost one-fifth) of the outback population.

Economic status

Despite increased urbanisation, overall economic status has remained low. Common threads in terms of determinants remain focused around the themes of low human capital endowments and the historic legacy of exclusion from the mainstream provisions of the Australian state. Locational disadvantage is also a factor, not least in the cities where Indigenous people remain over-represented in the poorest city neighbourhoods. Moreover, within these neighbourhoods they display the worst economic outcomes. Against the background of high population growth, the vital issue for Indigenous policy into the new century is the distinct prospect that the overall economic situation for Indigenous Australians will deteriorate.

Acknowledgments

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Introduction

The primacy of Indigenous peoples in considering past and future transformations of the Australian population appears unquestionable. This proposition reflects the historic order of demographic events, and it also stems from the likelihood that no other group in the Australian population has been so transformed, nor is likely to be in the years ahead. At various times and to varying degrees since 1788, the original inhabitants of Australia and their descendants, have been subjected to decimation, relocation, attempted assimilation and most importantly, in the context of assessing transformations, enumeration.

Given this context, it is surprising to note the lack of attention afforded to Indigenous peoples in the most recent overview of progress in Australian demography presented in the tenth anniversary edition of the *Journal of the Australian Population Association* (vol. 11 no. 1 of 1994). In this, reference to the content of Indigenous demographic analysis was provided in only one out of five review articles, and then only briefly to note distinct fertility and mortality levels (Hugo 1994). As pointed out in another of the review articles, analysis of Indigenous Australians was part of a 'yawning gap' in Australian demography until the 1970s (Borrie 1994). On the basis of this most recent synopsis, so it would seem to have remained. The fact is, though, as the challenge to demography has increasingly been to demonstrate its potential contribution to new areas of major public interest (Caldwell 1994), a flurry of research activity has focussed on the Indigenous population. As a consequence, a sizeable literature has emerged over the past 30 years detailing the demographic characteristics of Indigenous Australians (Taylor 1997a).

A common product of these works is the depiction of what may be described as an 'enclave demography' clearly distinct from the mainstream demographic context. This is circumscribed by politico-cultural constructions of identity (Langton 1981; Jordan 1985; Dodson 1994; Anderson 1997) and derives from the historic experience of population decline as a consequence of colonisation by non-Indigenes, followed by a period of recuperation and, more recently, rapid growth coinciding with a shift from exclusion to inclusion of Indigenous people in the provisions of the modern state (Altman and Sanders 1994). Structurally, the socioeconomic position of Indigenous Australians has been described as resembling that of the 'Third World in the First' (Young 1995). However, the demography of Indigenous Australians that has emerged is significantly different from that of Third World populations being as much a manifestation of inequitable power relations and marginalisation in the midst of plenty as it is to do with any lack of development *per se* (Gray 1985: 143).

The onset of this research effort was far from coincidental as it commenced at a time when Indigenous peoples of the continent began to emerge, in a statistical sense, from the shadows of Australian society—a process that can be uniquely pegged to the overwhelming 'yes' to the 1967 referendum question as to whether section 127 of the Australian Constitution should be deleted. This, of course, had the effect that Indigenous people were to be counted (or rather

included) for the first time in 'reckoning the number of the people of the Commonwealth'. In demographic terms, the significant consequence was the inclusion in the 1971 Census of a question on self-reported Aboriginal and Torres Strait Islander origins. With minor subsequent variation, this form of question in the census, and increasingly in administrative data collections as well, has provided a basis for charting transformation in the population to the present and beyond, although, as will be outlined below, not without some difficulty and imprecision.

Indigenous demographic transition—on course?

It was clear by the 1970s that the Indigenous population had undergone a series of systematic fluctuations in fertility and mortality levels, uneven over space and time, but ultimately comprehensive and uniform in effect. These have been conceived of as four separate, but overlapping, transitions from the pre-European period of stable growth with high mortality and fertility, through a phase of progressive population decline to a stationary state, followed by a period of high growth and finally into a regime of lower growth based on reduced mortality and fertility (Smith 1980a).

Although information on vital rates is sketchy, from the time of first European settlement the Indigenous population suffered a drastic decline with reduced fertility and rising mortality accompanying the frontier of European occupation. For the continent as a whole, there was rapid population decline until about 1890. Between 1890 and 1930 the rate of decline dropped to zero with the population levelling off by about 1933 at roughly 20 per cent of its original estimated size to fully complete its first transition.

The second transition represented a move towards a stationary state. Aggregate evidence from those groups who were included in statistical collections at the time indicates that stationary populations existed by about 1880 with birth and death rates at around 35 per thousand. The first sign of change to a third transition appeared with a rise in the birth rate to over 40 per thousand between 1940 and 1950 falling back again to around 35 per thousand by the 1970s. In the post-war years, this was accompanied by a sudden and substantial drop in the mortality rate which levelled off at around 16 per thousand by 1960 and heralded a period of rapid population increase with a growth rate between 2 and 2.5 per cent per annum by 1971.

The current focus is on the course of a fourth transition first postulated in the report of the National Population Inquiry in 1975 and confirmed in the supplementary findings of 1978 (Commonwealth of Australia 1978). This involves a regime of lower growth based on reductions in both fertility and mortality, although recent trends suggest that this process is currently stalled (Gray and Tesfaghiorghis 1993; Gray 1997).

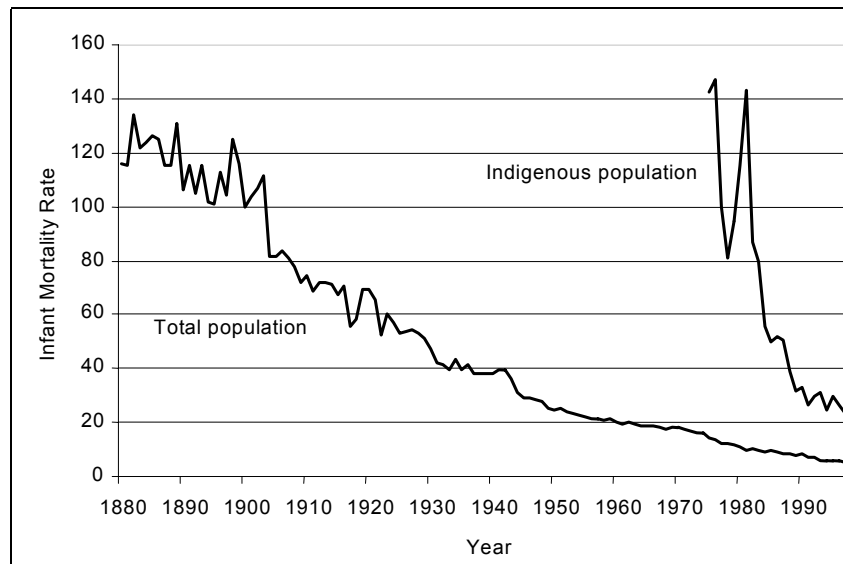
Trends in mortality

Since 1973, when the Australian government gave itself ten years to raise the standard of health of Indigenous people to the level of that of the rest of the

population, mortality rates have been closely monitored, at least to the extent that available statistics have allowed. It is a measure of the overall lack of progress in consolidating a shift towards low mortality that by the end of this initial policy period the target for health equality was revised to the year 2000, while targets are now viewed in the context of generational change (Anderson and Brady 1995: 18). As with other aspects of Indigenous affairs policy, the question has been asked as to whether this is evidence of optimism fading away or simply realism setting in (Sanders 1991).

Initial studies of contemporary trends in mortality relied heavily on a composite of data sources, making it possible to establish a continuing aggregate decline in crude death rates for the period 1965–78 from about 19 per thousand to about 13 per thousand. What was more certain over this period, was a steady and precipitous decline in the infant mortality rate from around the 100 per thousand level in the mid-1960s to 26 per thousand by 1981, with much of this due to improvements in postneonatal mortality (Thomson 1990). This decline is clearly illustrated in Figure 2.1 which also reveals that further improvement in infant survival during the 1980s and 1990s has been less impressive with Indigenous infant mortality rates remaining consistently around three times the Australian average.

Figure 1. Trends in Infant mortality rates for Indigenous and total populations: 1880-1998



Sources: Australian Bureau of Statistics 1997: 158–9, 1998: 17; Smith 1980a; Thomson 1983; Gray 1997; unpublished data provided by Colin Mathers, Australian Institute of Health and Welfare, Canberra.

For Indigenous Australians, decline in infant deaths coincided with improvements in community infrastructure and the development, in the 1970s, of

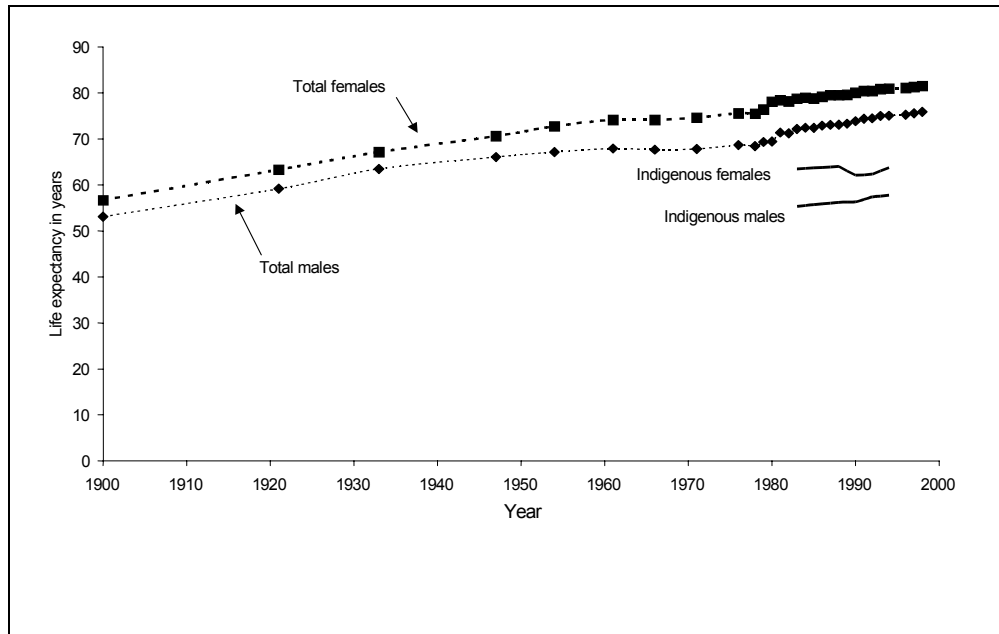
intensive Indigenous health programs and services—most importantly, widespread access to hospital-based neo- and post-natal care. However, there would appear to be limitations to the impact of medical intervention as suggested by the persistence of relatively high infant mortality. From Figure 1, it can be seen that since 1980 the level of Indigenous infant mortality has been stuck at around the level recorded for all Australians in the 1940s. While access and equity issues remain important in terms of the delivery of health care services to Indigenous Australians (McDermott, Plant and Mooney 1996; Deeble et al. 1998), further significant improvements in infant survival seem more reliant on a decrease in the proportion of low birthweights which, in turn, is heavily correlated with nutritional issues and the socioeconomic status of mothers (Dugdale, Musgrave and Streatfield 1990; Streatfield et al. 1990).

As for overall mortality, the first reasonable national estimates were obtained from 1981 and 1986 Census data and revealed life expectancies to be around 56 years for males and 64 years for females. Also clear was a relative lack of mortality variation between the States and Territories, although life expectancies were lowest in regions with the most remote and rural communities (Gray 1990a), a situation that has persisted (Mathers 1995; Gray 1997). However, the pattern of relatively high death rates at all ages, but especially in middle adulthood between 30 and 50 years, was found to be universal. Once again, this feature has shown little sign of subsequent abatement (Gray 1997; Australian Bureau of Statistics (ABS) and Australian Institute of Health and Welfare (AIHW) 1999). While analysis of 1991 Census data indicated a slight improvement in overall survival prospects, data from the 1996 Census point to a slight worsening of overall mortality with no change in male life expectancy and female life expectancy falling back to below 64 years (Gray 1997).

This overall lack of progress in raising Indigenous life expectancies is all the more striking given that over the period for which reliable Indigenous estimates have been available (since 1981), life expectancies for the total Australian population have displayed a marked improvement (Figure 2). Also poignant is the fact that the level of mortality observed for Indigenous males at the end of the 20th Century was equivalent to that recorded for all Australian males at the beginning of the century. Among females, the comparison is no more encouraging with life expectancy for Indigenous females in the late 1990s hovering around a level last recorded for all females in Australia in 1920.

To summarise, then, mortality levels followed a clear downward trend through the 1970s, largely due to improved infant survival, but no effective further change has been recorded since the 1980s due to the slowing down of survival gains for infants and the persistence of high adult mortality. This lack of steady improvement in life expectancy with lowered infant mortality is a unique demographic phenomenon, even by comparison with comparable Fourth World populations in New Zealand and North America (Kenen 1987; Kunitz 1990, 1994; Hogg 1992). With mortality rates presently immutable and seemingly capable of remaining so for some time, further progress in demographic transition appears reliant on continued decline in fertility.

Figure 2. Trends in life expectancy for Indigenous and total populations, 1900–1998



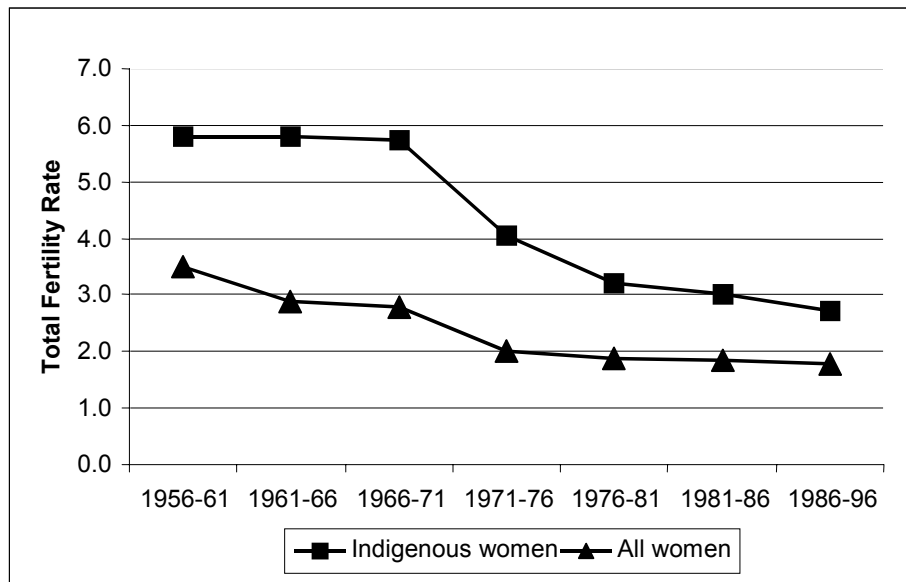
Sources: Gray 1997; ABS 1997: 155; unpublished data provided by Colin Mathers, AIHW, Canberra.

Trends in fertility

Total Fertility Rates (TFRs)¹ for the Indigenous population reached their highest levels in the decade from 1956–66, remained relatively high until 1971 and then tumbled throughout the 1970s to reach levels not recorded since the turn of the century (Figure 3). This effectively halved the TFR from around 5.9 in 1966–71 to around 3.3 in 1976–81 and lower again to around 3.1 or 3.0 in 1981–86. While there had been some doubt as to subsequent trends due to the lack of a question on issue in the 1991 Census, the 1996 Census points to a further lowering of the TFR to 2.7 representing a substantial drop of around 50 per cent since 1970.

In explaining this decline, the focus has been on the effects of increased participation by Indigenous people, particularly women, in non-Indigenous institutional structures that have altered the costs and benefits of children. In this process, three factors—age at leaving school, labour force status and income—have been recorded as particularly instrumental (Gray 1990b; Dugbaza 1994). This begs a broader question regarding the future course of fertility decline in different parts of the country given that socioeconomic status is generally higher in the south and east and in major urban areas (Taylor 1993), although the overall expectation is for steady progress towards replacement fertility in the first decades of the 21st century (Gray 1997).

Figure 3. Total Fertility Rates for Indigenous women and all Australian women: 1956-1996



Sources: ABS, Various Years, *Australian Demographic Statistics*, cat. no. 3101.0; Gray 1997: 5.

One issue that has emerged parallel with the timing of fertility decline among Indigenous women is the growing importance of Indigenous births to non-Indigenous women as a factor in overall natural increase of the Indigenous population. While indications of this added component of Indigenous population growth were available from 1986 and 1991 Census data on intermarriage (Jain 1989; Gray, Trompf and Houston 1991; Dugbaza 1994), closer measurement of the impact has been consequent on the improvement of paternity records in birth registration data. Against this source, Gray (1998) has successfully fitted a logistic model of increase in the proportion of Indigenous births to non-Indigenous mothers in each State and Territory with clear indication that different stages of a uniform process are underway in each jurisdiction. The form of this model is such that Tasmania, the Australian Capital Territory and Victoria are well advanced in terms of additional fertility due to intermarriage, while the Northern Territory and Western Australia lag many years behind.

Population size—how close to closure?

While the amount needed to make intercensal increase in a population balance after accounting for births, deaths and migration is usually small, research on the demography of socially-constructed populations reveals that this 'error of closure', as the American demographer Passel has described it, is often large (Passel 1996). The idea of closure here stems from the demographic equation:

$$P_1 = P_0 + B - D +/- NM + e$$

Where P_1 = the population at time 1 (e.g., 1996)

P_0 = the population at time 0 (e.g., 1991)

B = births during the time interval (e.g., 199–1996)

D = deaths during the time interval

NM = the net balance of international migration

e = error of closure

Thus, unlike the standard demographic equation which calculates population change as a net function of births, deaths and migration, change in the Indigenous population is complicated by the added dynamic of a variable propensity over time for individuals to declare Indigenous status on census forms. As a consequence, there is no sense in which the Indigenous population can be described as clearly defined for statistical purposes. Rather, political and cultural processes, including the highly variable way in which States, Territories and the Commonwealth have attempted to enumerate and categorise Indigenous people and the choices made by respondents to these efforts, produce the statistical construct referred to as ‘the Indigenous population’ (Smith 1980a; Langton 1981; Jordan 1985; Dodson 1994; Anderson 1997; Ross 1999: 2–10). In the more distant past, these sociological and political processes have effectively excluded or devalued Indigenous representation in official statistics. In the more recent politics of data collection, increased effort has been made to encourage identification (Barnes 1996).

Population growth

The consequence, since 1971, has been a 200 per cent increase in the census count of Indigenous Australians, which averages out at an annual increase of around 8 per cent. For the most recent intercensal period (1991–1996), only half of the 33 per cent increase can be accounted for by demographic components of change. The balance, or error of closure, is attributed mostly to an increase in the propensity of individuals to declare Indigenous status on the census form (Ross 1999), while there is an indication that improved enumeration may have contributed to this given the striking similarity in age profiles between the ‘old’ and ‘new’ populations (Gray 1997). In terms of establishing transformations in the population, this open-ended equation presents a number of dilemmas.

First, for meaningful intercensal comparison of social indicators it requires that base year indicators be adjusted to the level of the newly revealed population using reverse survival techniques (Taylor and Bell 1998). Second, in situations where there is a large error of closure, as is the case in Tasmania for example, it is not clear whether aggregate change observed in population characteristics over time involves an alteration in the circumstances of the original population or whether it merely reflects the particular features of individuals appearing in the population for the first time. The problem for the analysis of transformation is that change in the condition of the original population is undetectable. All that can be noted is different aggregate status in respect of ‘different’ populations. Finally, it undermines the robustness of population estimates and projections.

Partly for this reason the ABS refers to Indigenous estimates and projections as 'experimental' and, unlike for the total population, projects only to 2006 (ABS 1998). The main problem here is how to model change in the propensity of individuals to identify as Indigenous as different assumptions regarding this propensity can produce widely differing population estimates as illustrated in Table 1.

Table 1. Projections of the Indigenous population under varying assumptions about propensity to identify, 1996–2006

State and Territory	As at 30 June 1996	As at 30 June 2006			
		Nil change (a)	Constant annual change of 1%	1986–96 rate of change	1991–96 rate of change (b)
	'000	'000	'000	'000	'000
NSW	109.9	132.7	148.3	181.8	216.3
Vic.	22.6	26.5	29.7	35.1	33.1
Qld	104.8	133.3	148.5	158.3	179.3
SA	22.1	26.6	29.7	29.9	32.2
WA	56.2	67.0	74.8	72.3	79.6
Tas.	15.3	18.0	20.2	28.7	36.4
NT	51.9	60.6	67.7	62.5	64.0
ACT	3.1	4.1	4.6	7.3	7.8
Australia	386.0	469.1	523.6	576.1	649.0

a. Published low series

b. Published high series

Source: ABS (1998: 13)

The published low series ABS projections, which yield a population of 469,000 by 2006, assume no further growth due to increased identification as Indigenous. On the evidence of past census counts this seems an unreasonable expectation and so higher projections are provided based on varying assumptions about increased propensities to identify. Of these, the published high series assumes a continuation of the rate of new identification observed over the most recent intercensal period. This yields a population of 650,000 by 2006. The impact of these different assumptions on the estimated size of the population is best illustrated at the State and Territory level. For example, in Tasmania where negative growth is projected for the population overall, the high series Indigenous projection points to a rise in the Indigenous share of population from 3 per cent of the State total in 1996 to as much as 8 per cent only ten years later. In the Northern Territory, on the other hand, little impact is predicted. Clearly, the manner in which individuals respond to the census question on Indigenous status has substantial consequence for future population size and distribution, although there are indications from analysis of post-enumeration survey data that greater stability of identification may exist than the *prima facie* census evidence suggests (Hunter 1998).

A further reason for the experimental nature of projections derives from increasing levels of marriage between Indigenous men and non-Indigenous women and the difficulty involved in accurately modelling the fertility implications of this process. As the progeny of such liaisons are invariably identified as Indigenous, this results in far higher numbers of Indigenous births than would be the case if the only factor was the fertility of Indigenous women. Overall, between 1991 and 1996, births to non-Indigenous women accounted for more than one quarter of all Indigenous births and the evidence which is starting to emerge from improved vital statistics is that the proportion of Indigenous births to non-Indigenous mothers has been increasing across the country (Gray 1998). Overall, the effect is that even if Indigenous women move towards replacement fertility levels, the additional contribution of Indigenous births to non-Indigenous mothers will continue to boost Indigenous population growth far above the level achieved by the rest of the population.

Population distribution—an urban myth?

One of the more obvious transformations of the Indigenous population in the second half of the twentieth century was a shift in overall geographic distribution away from remote and rural areas in favour of urban and metropolitan centres and consequently towards the south and east of the country. Over the longer-term, this process may be viewed as an effect of the European settlement of Australia—the original dispersed distribution of Indigenous peoples broke down as individuals and families moved, or were moved, into government and mission settlements, reserves, towns and cities. Over the shorter term, there are issues unresolved as to whether demographic or sociological processes are more responsible for this redistribution, or indeed, just how much redistribution actually occurred. The indication from 1996 Census analysis is that identification change in census counts is the greater contributor to regional population change in the more urbanised south and east of the country (Taylor and Bell 1999).

The proportion of the Indigenous population resident in urban areas rose from just over two-thirds in 1991 (67 per cent) to almost three-quarters in 1996 (73 per cent). Consequently, almost one-third of Indigenous Australians are now resident in major urban areas and while this is still less than the total population (63 per cent), it nonetheless represents a substantial increase from the 15 per cent of the Indigenous population counted in 1971 (Table 2). As this process of ever greater population counts in urban areas has unfolded, *ipso facto* the rural share of the population has continued to decline—down from 56 per cent in 1971 to almost one-quarter in 1996.

If anything, these figures understate both the extent and rise of urban living, especially in terms of proximity to metropolitan centres and large cities. ABS criteria for classifying Collection Districts (CDs) as urban or rural are based on measures of population density, land use and spatial contiguity. This means that many people who may reasonably be regarded as forming part of a city region are not classified as urban dwellers. One way of incorporating such populations is to examine distribution according to the Statistical Divisions (SDs) that are

coincident with each major urban area thereby incorporating populations regardless of land use and density measures. According to this measure, in 1991 a total of 70,872 Indigenous Australians (27 per cent of the population) lived in major urban SDs. By 1996, this figure had risen to 128,452 (36 per cent of the Indigenous population).

Table 2. Distribution of the Indigenous population by section-of-State, 1971 and 1996

	1971		1996	
	Population	Per cent distribution	Population	Per cent distribution
Major urban	17,332	14.9	106,832	30.3
Other urban	34,076	29.4	149,326	42.3
Rural	64,545	55.7	96,864	27.4
Total	115,953	100.0	353,022	100.0

Initial research on the causes of apparent urbanisation focused on the role played by migration, especially to metropolitan areas (Gale 1972; Burnley and Routh 1985). Subsequent analysis, however, has pointed to the likelihood that migration to major cities contributed less to Indigenous urban population growth than previously assumed (Smith 1980b; Gray 1989), and that much of the apparent shift in population distribution from the 1960s onwards could have been due simply to increased enumeration of city-based residents. Thus, while data on population distribution point to a process of very rapid urbanisation, this is, in part, an urban myth. Two observations support this.

The first stems from analysis of inter-regional migration flows. Since at least 1976, the overall effectiveness of migration flows in redistributing the Indigenous population between metropolitan and non-metropolitan areas has been very low with net migration gains mostly to Brisbane and Perth offset by persistent net losses mostly to Sydney and Melbourne (Gray 1989; Taylor and Bell 1996: 400–2, 1999). Part of the perception that rapid urbanisation was underway derived from the focus of early migration studies on movement into cities with almost no attention paid to the net effect of movement out which has also been significant (Gale and Wundersitz 1982: 39; Gray 1989).

The second derives from the general lack of association observed between net migration and regional population growth, especially in regions dominated by urban-based populations. The suggestion here is that part of the process of ‘urbanisation’ has been a ‘realisation’ that most Indigenous Australians are resident in the cities and regional centres (Langton 1981).

Net migration and regional population growth

As might be expected, among the non-Indigenous population of Australia a strong positive relationship exists between regional net migration gain and regional population growth. This is clearly illustrated in Figure 4 which charts population growth against net migration for the non-Indigenous population aged 5 years and

over. Put simply, regions (SDs) that experience growth in non-Indigenous population do so largely because of net gains from migration. Conversely, those experiencing decline do so mostly because of net movement out. While the form of this relationship also holds for the Indigenous population, the association is much weaker (Figure 5), with many regions experiencing population growth (substantial at times) far above expectation given their prevailing net migration rate. This is underlined by the fact that some regions display high population growth despite experiencing negative net migration. Overall, this lack of association can be traced to non-demographic factors in population growth, mostly an increased propensity for individuals to identify as Indigenous in the census.

Accordingly, the data points in Figure 5 can be grouped into regions where net migration is a very poor indicator of population growth and those where population growth is close to expectation on the basis of net migration. Prominent among the former are regions which have high population growth rates despite experiencing net migration loss. These include the highly urbanised regions such as Sydney, Central New South Wales, and Melbourne. Also included are regions where population growth rates far exceed net migration gain such as Moreton, Brisbane, Darling Downs, Mid-North Coast New South Wales, Hunter, Illawarra, Canberra and Hobart. Regions which more or less conform with expectation are found mostly in remoter parts of the country, especially in the north. These include the Pilbara and Kimberley regions of Western Australia, Darwin, Northern Territory balance, North West and Far North Queensland, the Far North and Eyre regions of South Australia, the Wimmera region in Victoria and Northern New South Wales.

Figure 4. Relationship between Statistical Division population growth and net migration: non-Indigenous population, 1991–1996

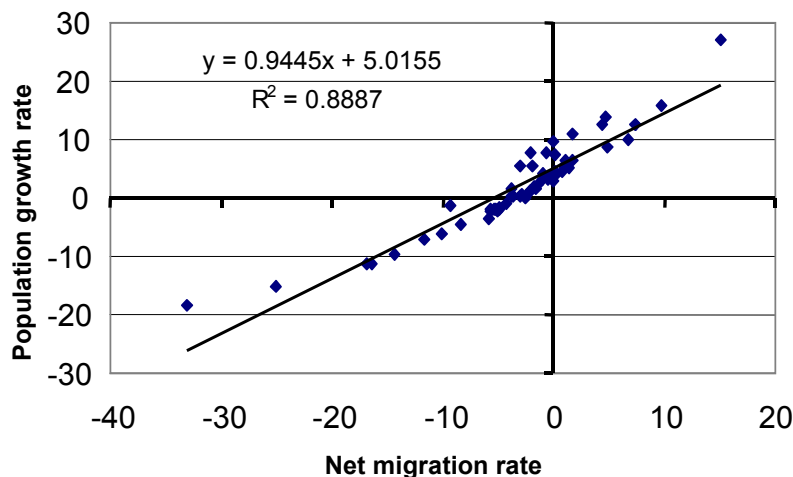
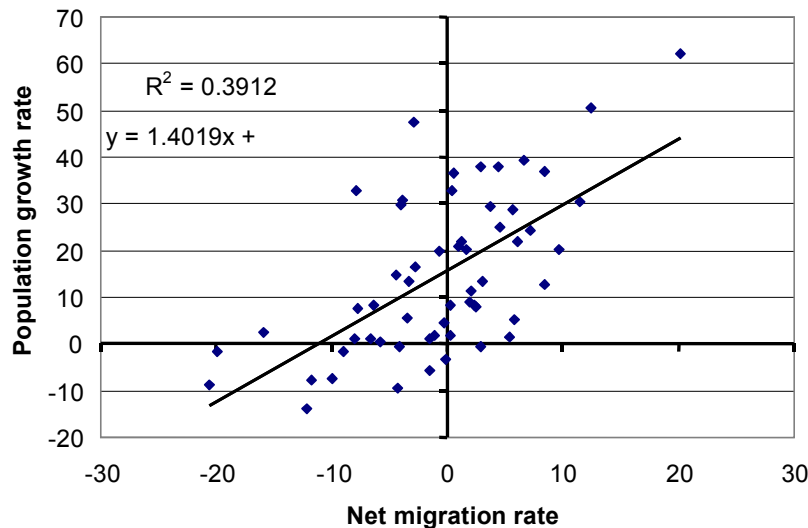


Figure 5. Relationship between Statistical Division population growth and net migration: Indigenous population, 1991–1996



Source: Taylor and Bell 1999.

Outback Australia—an Indigenous domain?

While there is no denying that the enumerated Indigenous population is increasingly and overwhelmingly urban, numbers in rural and smaller non-metropolitan centres have also continued to grow. Indeed, with downturn in the rural sector and associated net out-migration of non-Indigenous people, the only growth in much of outback Australia has been among the Indigenous population. As a consequence, Indigenous people represent a steadily growing share of the outback population and economy. Given the current focus in policy debate on the economic and social plight of 'regional' and/or 'remote' areas, it is instructive to examine the extent to which Indigenous people form a growing part of this problem.

Reference to remote Australia is long-standing in regional analysis and essentially draws attention to a distinction in social and economic geography between closely settled areas and sparsely settled areas, with economic development and service provision severely impeded in the latter by force of relative locational disadvantage and low accessibility (Logan et al. 1975: 64; Faulkner and French 1983; Hugo 1986; Holmes 1988). While the choice of boundary delineating remote places from others is necessarily arbitrary, the most notable feature of regional economic analyses is their degree of spatial coincidence in respect of boundaries separating remote Australia from the rest of the country. It is perhaps no accident that the social and economic dimensions of

Indigenous Australia have also been described with reference to a boundary between what Rowley (1971), for example, referred to as 'colonial' and 'settled' Australia in recognition of the much higher proportions of Indigenous people in remote areas and the somewhat different manner of their incorporation into wider social and economic structures.

The key to establishing variable rates of Indigenous and non-Indigenous population growth in outback areas is the compilation of usual residence population counts for temporally-consistent statistical divisions as defined by Blake, Bell and Rees (2000). These coincide well with the boundaries of remote Australia as delineated in Taylor (1992: 60) except that the Northern SD in Queensland is not classified as remote. On this basis, the Indigenous share of total usual resident population is shown in Table 3 for each census since 1981 in respect of an area which includes the Far West and North Western SDs in New South Wales, the South West, central West, North West and Far North SDs in Queensland, the Eyre and Northern SDs in South Australia, the South Eastern, Central, Pilbara and Kimberley SDs in Western Australia and Northern Territory Balance SD.²

Table 3. Indigenous share of the Outback population,^a 1981–1996

Census year	Indigenous population ^b	Non-Indigenous population	Indigenous share of total population (per cent)
1981	77,372	531,050	12.7
1986	93,681	565,729	14.2
1991	102,205	563,645	15.4
1996	121,580	560,768	17.8

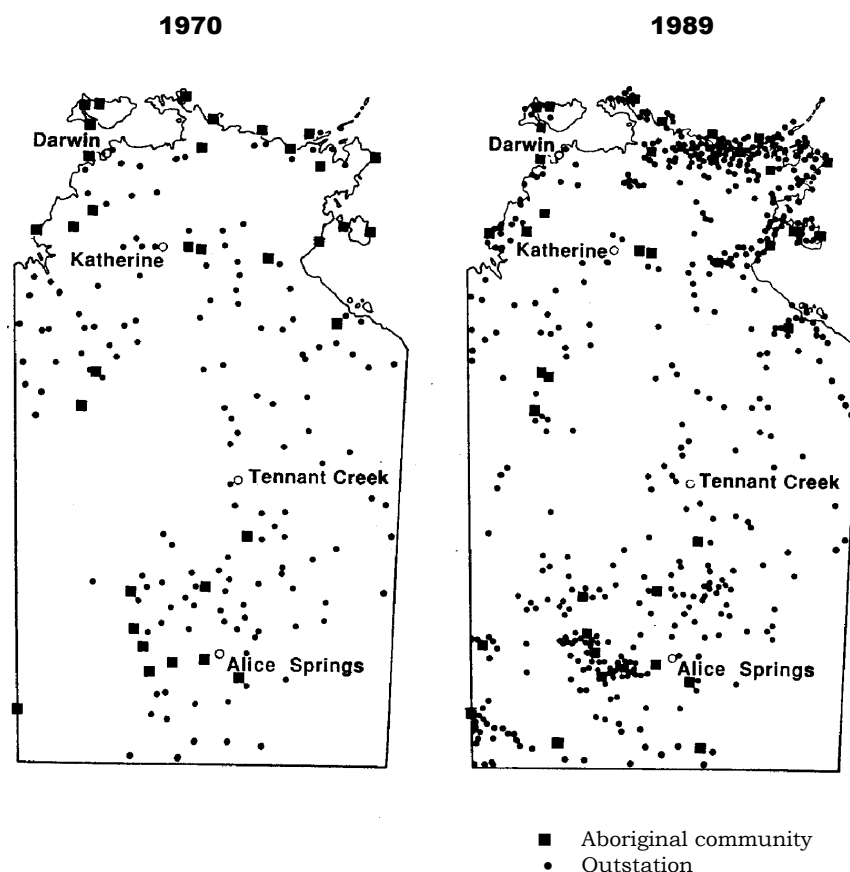
Notes:

- a. Based on usual residence counts
- b. Aboriginal and Torres Strait Islander status 'not stated' in each Statistical Division is pro-rated according to the revealed usual resident share in each census year and added to the Indigenous count.

The steady rise in the Indigenous share of outback population to almost one-fifth in 1996 is to be expected given differential population dynamics. First, the Indigenous population is much younger in age profile and has experienced a much higher rate of natural increase than the population in general. Secondly, many Indigenous people reside close to their ancestral homes and attachment to such places is reflected in a relative lack of net out-migration from remote areas (Gray 1989; Taylor 1992; Taylor and Bell 1996, 1999). This contrasts with the more recent and ephemeral non-Indigenous settlement of the outback with the experience of recent decades being one of generalised out-migration leading to population decline in many non-metropolitan districts (Bell 1992, 1995; McKenzie 1994). Since 1981, the Indigenous population in remote areas has grown by 23 per cent. By contrast, since 1986, non-Indigenous population growth has been negative.

What is more, in contrast to the image of downward spiral evoked for much of regional Australia, the progressive granting of land rights and financial means to self-determination has led to increased economic activity and a major transformation of settlement structure in the remotest parts of the continent since the 1970s. This is manifest in a purposeful shift of population towards smaller scale, dispersed clan-based settlements referred to as 'outstations' or 'homeland centres' (Coombs et al. 1982; Commonwealth of Australia 1987; Taylor 1992). Collectively, there are now at least 1,000 such localities across northern and central Australia with a population, semi-permanently at least, estimated at around 20,000 (Altman et al. 1998: 58). This redistribution and dispersal of rural population is most advanced in the Northern Territory as a consequence of the growing influence of Aboriginal self-determination based on legal access to traditional lands, government spending and income from royalties. A visual manifestation of this is provided in Figure 6 which shows the locations of Aboriginal settlements in the Northern Territory in 1970 compared to the situation some 20 years later.

Figure 6. Distribution of outstation localities in the Northern Territory, 1970 and 1989



From the bureaucratic perspective of those seeking to provide services and achieve social and economic equity and efficiency goals, such a focus by Aboriginal people on utilising and residing on Aboriginal lands may be construed as a retrograde step on the grounds that it serves to reinforce the locational disadvantage of an already severely disadvantaged group. From an Indigenous perspective, however, this spatial transformation may be viewed as locationally advantageous given the importance attached to living on one's own country and the associated capacity to fulfill cultural obligations and assume a degree of autonomous existence in smaller and more socially viable residential units within an Aboriginal domain.

The fact is, one of the lasting impacts of European settlement has been a redistribution of the Indigenous population into a wide variety of locational settings, though with an emphasis still on non-metropolitan residence. This provides for quite different structural circumstances in regard to the manner and degree of Indigenous articulation with wider economic and social systems. At the turn of the millennium, this locational diversity together with rapid population growth, presents a fundamental constraint on policies aimed at improving the economic well-being of Indigenous peoples. What then are the implications of demographic transformation for Indigenous economic status?

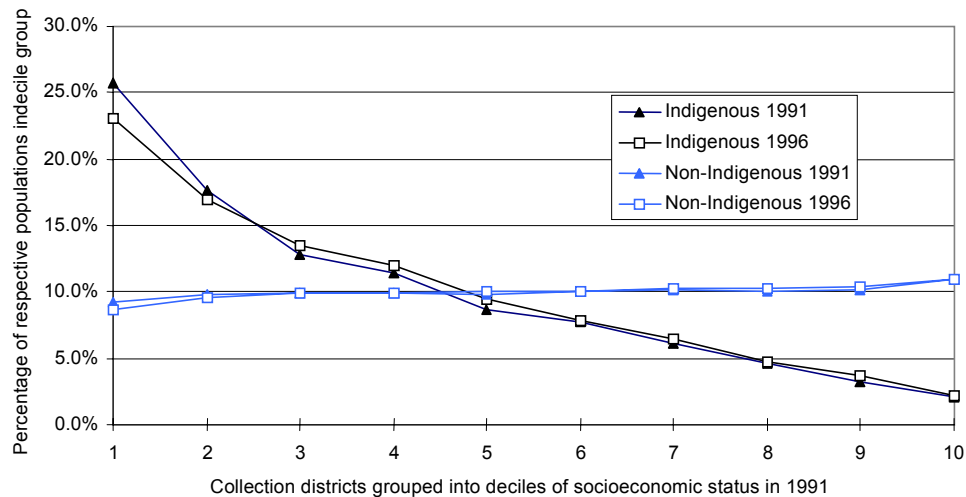
Changing numbers—changing needs?

There is now a substantial literature detailing the relatively low economic status of Indigenous Australians and examining underlying causes over the past 30 years (Altman and Nieuwenhuysen 1979; Fisk 1985; Altman 1991; Taylor 1993; Taylor and Hunter 1998). Common threads in terms of determinants of poor economic outcomes have remained focused around the themes of low human capital endowments and the historic legacy of exclusion from the mainstream provisions of the Australian state. Also found to be of relevance is locational disadvantage with a large share of the Indigenous population far removed from mainstream labour markets. In this context, the prospect that greater Indigenous presence in urban, and particularly metropolitan, areas might alter the overall profile of disadvantage appears unlikely given that locational disadvantage is also characteristic of Indigenous populations within the cities. This is well illustrated in Figure 7 which indicates change in population distribution across major urban CDs grouped into deciles of socioeconomic status.

It is clear that Indigenous people are over-represented in the poorest city neighbourhoods and this pattern appears stable over time despite substantial growth in the major urban population. Moreover, within these poorest neighbourhoods, Indigenous people continue to display the worst economic outcomes. While unemployment rates among all Australians, for example, are typically very high in such areas, Indigenous rates are highest. To take just one example from the 1996 Census, the Elizabeth area of North Adelaide had one of the nation's highest urban unemployment rates for non-Indigenous people at 23 per cent. Among Indigenous residents of Elizabeth, however, the unemployment rate was 52 per cent. Analysis of social and economic conditions for the general

population in Australian cities has highlighted a spatial dimension to the emergence of an underclass (Gregory and Hunter 1995). Clearly, the continuing gap in life chances between Indigenous people and the rest of the urban community suggests that race forms an added dimension.

Figure 7. Distribution of Indigenous and non-Indigenous populations in major urban CDs ranked by index of socioeconomic status, 1991 and 1996.



Source: Taylor 1997b: 12.

Overall, despite a 44 per cent increase in Indigenous employment between 1991 and 1996, the underlying rate of employment was little altered with only 26 per cent of the working-age population engaged in mainstream work (Taylor and Bell 1998). There are two reasons for this anomaly. First, much of the recorded employment growth was due to increased participation in the Community Development Employment Projects (CDEP) scheme which is an Indigenous-specific work-for-the-dole scheme. In 1996, this accounted for as much of one-fifth of Indigenous employment. Also contributory was an increase in wage-subsidised employment and training under the federal government's *Working Nation* initiatives. Against these government-sponsored labour market interventions, growth in mainstream work was negligible. The other reason is demographic—quite simply, growth in jobs, especially mainstream jobs, has failed to keep up with growth in the working-age population. Consequently, unlike the general population for whom the consequences of old age will be increasingly apposite, the ascendant issues for Indigenous social policy are more to do with

needs in the school to work transition years and in the years of prime working age and family formation.

It is conservatively estimated that the number of Indigenous adults aged 15–55 years will be greater by 70,000, or 33 per cent, by 2006. This is substantially above the projected increase for the rest of the population in this age range, which is only 6 per cent. This growth in working-age population has major implications for the future economic status of Indigenous people as it suggests much greater effort is required just to maintain the status quo. Just how much effort, in terms of job needs, has been estimated by Taylor and Hunter (1998).

Future employment requirements

Just to maintain the status quo (an employment rate of 39 per cent and an unemployment rate of 26 per cent) would require 25,000 extra jobs by the year 2006, whereas on current trends only 21,000 are expected to be created. To achieve employment equality with the rest of the Australian population, an additional 77,000 Indigenous people would have to be employed resulting in an overall deficit of some 55,000 jobs. If the focus is on mainstream job requirements, excluding opportunities provided by the CDEP scheme, then the backlog in the number of jobs needed is projected to be much larger and greater than the number presently employed.

Table 4. Required Indigenous employment growth to maintain the status quo or to achieve employment equality, 1996–2006

Employment/ population ratio	Base employment 1996 ^a	Total jobs required by 2006	New jobs required	New jobs projected	Projected job deficit by 2006
38.9 ^b	90,212	115,307	25,095	21,444	3,651
56.4 ^c	90,212	167,181	76,969	21,444	55,525

Notes:

a. The estimated number of Indigenous Australians in employment in 1996.

b. The estimated employment/population ratio for Indigenous Australians based on 1996 population estimates.

c. The employment/population ratio for non-Indigenous Australians from the 1996 Census.

Thus, in seeking economic transformation of the Indigenous population, it is clear that the time available for decisive action is decreasing rapidly. In terms of employment status, for example, the vital issue for Indigenous policy into the new century is the distinct prospect that the overall situation will deteriorate. This is primarily because of population growth, but also because of the enormous difficulties of economic catch-up in a rapidly changing and skills-based labour market.

Conclusion

At the commencement of the 21st Century, the Indigenous population of Australia is well into an expansionary phase which one commentator has referred to as an

'explosion of Aboriginality' (Gray 1997). Though inconsistency has been a hallmark of census counts of Indigenous Australians, the trend in overall numbers since 1971 has been invariably upwards with growth rates often far above the level accounted for by natural increase. Reasons for this anomaly have been the subject of much speculation with the debate centred around the relative impact of an increased willingness of individuals to declare their Indigenous identity in official statistical collections and the greater efforts made by the ABS to achieve better enumeration (Gray 1997; Ross 1999). Given this context of statistical uncertainty regarding Indigenous population dynamics, and in the interpretation of census data purporting to establish this, it is worth recalling the Commonwealth's three-part definition of an Indigenous Australian:

- that an individual has Aboriginal or Torres Strait Islander descent;
- identifies as an Aboriginal or Torres Strait Islander; and
- is accepted as an Aboriginal or a Torres Strait Islander by the community in which he or she lives.

The fact is, of course, that the Indigenous population revealed by the census could only conform with the first and/or second of these criteria (to the extent that these are invoked by the census), and even then only to the extent that a collection of individuals anonymously tick the appropriate box on a census form which asks if they are of Aboriginal or Torres Strait Islander origin. While the third of these criteria may not always be applied when recording Indigenous status in administrative statistical collections, its lack of application in the census methodology means that the census-derived Indigenous population would almost certainly be of a different size to any population based on the full Commonwealth definition. This effectively raises the prospect of different Indigenous 'populations' eventuating in different statistical contexts, with that derived from the census being just one of these, though probably the most inclusive net of any census error.

Conceptually, it should be noted that as long as the census question on Aboriginal and Torres Strait Islander origins remains the primary means of delimiting the Indigenous population, then it is likely that the numbers identified in this way will continue to rise steadily due to improved enumeration, increased self-identification and a growing pool of potential identifiers due to the expansionary effects of inter-marriage (ABS 1998; Gray 1998). Given growing pressures for targeted service delivery that is cost-effective and based on demonstrated need, this prospect of an ever-expanding population is likely to draw increasing scrutiny over time. As research on self-identified Indigenous populations in the United States has indicated, this poses a paradox for public policy in that Indigenous populations are considered discrete and homogenous when in reality they are likely to become less discrete, less homogenous and more difficult to define unambiguously (Snipp 1997: 675).

Nonetheless, at the outset of the new Century there remain several compelling arguments for an enhanced focus on the demography of Indigenous

peoples within the overall analysis and public policy debate regarding transformations of the Australian population as a whole:

locational arguments: despite national minority status and growing urbanisation, there is considerable regional diversity of Indigenous representation and the demography of large tracts of northern and central Australia is effectively the demography of Indigenous inhabitants. In particular, it should be noted that the Indigenous share of the resident Outback population is steadily rising and currently stands at around one-fifth;

conceptual arguments: it is clear that the demographic structure and behaviour of the Indigenous population is not simply a sub-set of the pattern observed overall and that there are unique historical, cultural and structural factors which produce distinct outcomes;

social science arguments: while Borrie's (1994) 'yawning gap' is slowly closing, fundamental areas of research remain undeveloped with too few researchers dedicated to this endeavour. In particular, there is a need for work on the socioeconomic and cultural precedents of demographic transition, on the complex historical and contemporary processes that shape Indigenous identity and on the demographic consequences of intermarriage;

contextual arguments: a history of widespread dispossession of land and subsequent existence on the margins of Australian society has created a unique social and economic context for transformation of the Indigenous population. Viewed internationally, however, much of the demographic experience described above has been shared with similarly encapsulated populations in North America and New Zealand, though often with important differences (Kunitz 1990). Consequently, much can be learnt about the potential future transformation of the Australian Indigenous population by cross-national comparison.

social justice and policy arguments: Australian governments proclaim a commitment to policies aimed at achieving social justice for Indigenous people and improving their socioeconomic well-being. Since the broad parameters for this charter are determined by the size, growth, composition and changing location of the Indigenous population, then only by accurate measurement and monitoring of change in these factors can needs be adequately assessed and resources fairly and equitably distributed. However, part of this exercise might also involve the application of historical demographic techniques in the context of assessing the scope of reparations for the 'Stolen Generations'.

Notes

1. The Total Fertility Rate represents the number of children a woman would bear during her lifetime if she experienced the current age-specific fertility rates at each age of her reproductive life
2. The Cairns Statistical Sub-Division (SSD) and Darwin Rural Areas SSD are excluded.

References

- Altman, J.C. (Editor) 1991. *Aboriginal Employment Equity by the Year 2000*, Research Monograph No. 2, Centre for Aboriginal Economic Policy Research, The Australian National University.
- Altman, J.C., Gillespie, D. and Palmer, K. 1998. *National Review of Outstation Resource Agencies*, Aboriginal and Torres Strait Islander Commission, Canberra.
- Altman, J.C. and Nieuwenhuysen, J. 1979. *The Economic Status of Australian Aborigines*, Cambridge University Press, Cambridge.
- Altman, J.C. and Sanders, W. 1994. 'From exclusion to dependence: Aborigines and the welfare state in Australia', in J. Dixon and R. Scheurell (eds) *Social Welfare for Indigenous Populations*, Routledge, London.
- Anderson, I. 1997. 'I, the 'hybrid' Aborigine: film and representation', *Australian Aboriginal Studies*, 1997/1: 4–14.
- Anderson, I. and Brady, M. 1995. 'Performance indicators for Aboriginal Health Services', *CAEPR Discussion Paper No. 81*, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.
- Australian Bureau of Statistics (ABS) 1997. *Australian Demographic Statistics*, cat. no. 3102.0, ABS, Canberra.
- Australian Bureau of Statistics (ABS) 1998. *Experimental Projections of the Aboriginal and Torres Strait Islander Population: 1996–2006*, cat. no. 2035.0, ABS, Canberra.
- Australian Bureau of Statistics (ABS) and Australian Institute of Health and Welfare (AIHW) 1999. *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples*, cat. no. 4704.0, ABS, Canberra.
- Barnes, A. 1996. 'Recent developments in the collection of Indigenous statistics', in J.C. Altman and J. Taylor (eds) *The 1994 National Aboriginal and Torres Strait Islander Survey: Findings and Future Prospects*, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.
- Blake, M., Bell, M. and Rees, P. 2000. 'Creating a temporally consistent spatial framework for the analysis of inter-regional migration in Australia', *International Journal of Population Geography*, 6 (1) (forthcoming).
- Borrie, W.D. 1994. 'Progress in Australian demography', *Journal of the Australian Population Association*, 11 (1): 1–9.
- Burnley, I.H. and Routh, N. 1985. 'Aboriginal migration to inner Sydney', in I.H. Burnley and J. Forrest (eds) *Living in Cities: Urbanism and Society in Metropolitan Australia*, Allen and Unwin, Sydney.
- Commonwealth of Australia 1978. *Population and Australia: Recent Demographic Trends and Their Implications. Supplementary Report of the National Population Inquiry*, Australian Government Publishing Service, Canberra.
- Commonwealth of Australia 1987. *Return to Country: The Aboriginal Homelands Movement in Australia*, Report to the House of Representatives Standing Committee on Aboriginal Affairs, Australian Government Publishing Service, Canberra.

- Caldwell, J.C. 1994. 'New challenges for demography', *Journal of the Australian Population Association*, 11 (1): 9–21.
- Coombs, H.C., Dexter, B.G. and Hiatt, L.R. 1982. 'The outstation movement in Aboriginal Australia', in E. Leacock and R.B. Lee (eds) *Politics and History in Band Societies*, Cambridge University Press, Cambridge.
- Deeble, J., Mathers, C., Smith, L., Goss, J., Webb, R. and Smith, V. 1998. *Expenditures on Health Services for Aboriginal and Torres Strait Islander People*, Australian Institute of Health and Welfare and National Centre for Epidemiology and Population Health, Canberra.
- Dodson, M. 1994. 'The Wentworth Lecture: the end in the beginning: re(de)fining Aboriginality', *Australian Aboriginal Studies*, 1994/1: 2–13.
- Dugbaza, T. 1994. 'Recent trends and differentials in Aboriginal and Torres Strait Islander fertility: 1981–1991', *Demography Working Paper 94/1*, Australian Bureau of Statistics, Canberra.
- Dugdale, A.E., Musgrave, I.A. and Streatfield, K. 1990. 'Causes and health policy implications of low birthweights of Aboriginal children', in A. Gray (ed.) *A Matter of Life and Death: Contemporary Aboriginal Mortality*, Aboriginal Studies Press, Canberra.
- Faulkner, H.W. and French, S. 1983. *Geographical Remoteness: Conceptual and Measurement Problems*. Reference Paper No. 54, Bureau of Transport Economics, Canberra.
- Fisk, E.K. 1985. *The Aboriginal Economy in Town and Country*, George Allen and Unwin, Sydney.
- Gale, F. 1972. *Urban Aborigines*, Australian National University Press, Canberra.
- Gale, F. and Wundersitz, J. 1982. *Adelaide Aborigines: A Case Study of Urban Life 1966–1981*, Development Studies Centre, The Australian National University, Canberra.
- Gray, A. 1985. 'Some myths in the demography of Aboriginal Australians', *Journal of the Australian Population Association*, 2 (2): 136–49.
- Gray, A. 1989. 'Aboriginal migration to the cities', *Journal of the Australian Population Association*, 6 (2): 122–44.
- Gray, A. 1990a. 'National estimates of Aboriginal mortality', in A. Gray (ed.) *A Matter of Life and Death: Contemporary Aboriginal Mortality*, Aboriginal Studies Press, Canberra.
- Gray, A. 1990b. 'Aboriginal fertility: trends and prospects', *Journal of the Australian Population Association*, 7 (1): 57–77.
- Gray, A. 1997. 'The explosion of Aboriginality: components of Indigenous population growth 1991–96', *CAEPR Discussion Paper No. 142*, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.
- Gray, A. 1998. 'Parentage and Indigenous population change', *CAEPR Discussion Paper No. 166*, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.
- Gray, A. and Tesfaghiorghis, H. 1993. 'Aboriginal population prospects', *Journal of the Australian Population Association*, 10 (2): 81–101.

- Gray, A., Trompf, P. and Houston, S. 1991. 'The decline and rise of Aboriginal families', in J. Reid and P. Trompf (eds) *The Health of Aboriginal Australia*, Harcourt Brace Jovanovich, Sydney.
- Gregory, R.G. and Hunter, B. 1995. 'The macroeconomy and the growth of ghettos and urban poverty in Australia', *Discussion Paper No. 325*, Centre for Economic Policy Research, The Australian National University, Canberra.
- Hogg, R.S. 1992. 'Indigenous mortality: placing Australian Aboriginal mortality within a broader context', *Social Science and Medicine*, 35 (3): 335–46.
- Hugo, G. 1994. 'Australia's population growth, composition and distribution: emerging research needs', *Journal of the Australian Population Association*, 11 (1): 55–83.
- Hunter, B. 1998. 'Assessing the validity of intercensal comparisons of Indigenous Australians, 1986–96', *Journal of the Australian Population Association*, 15 (1): 51–69.
- Jain, S.K. 1989. *Estimation of Aboriginal Fertility, 1971–86: An Application of the Own-Children Method of Fertility Estimation*, cat. no. 4127.0, Australian Bureau of Statistics, Canberra.
- Jordan, D.E. 1985. 'Census categories - enumeration of Aboriginal people, or construction of identity?', *Australian Aboriginal Studies*, 1985/1: 28–36.
- Kenen, R. 1987. 'Health status: Australian Aborigines and Native Americans—a comparison', *Australian Aboriginal Studies*, 1987/1: 34–46.
- Kunitz, S.J. 1990. 'Public policy and mortality among Indigenous populations of Northern America and Australasia', *Population and Development Review*, 16 (4): 647–72.
- Kunitz, S.J. 1994. *Disease and Social Diversity: The European Impact on the Health of Non-Europeans*, Oxford University Press, New York.
- Langton, M. 1981. 'Urbanizing Aborigines: the social scientist's great deception', *Social Alternatives*, 2 (2): 16–21.
- Logan, M.I., Maher, C.A., McKay, J., and Humphries, J.S., 1975. *Urban and Regional Australia: Analysis and Policy Issues*, Sorrett Publishing, Melbourne.
- Mathers, C. 1995. 'Mortality patterns of urban, rural and remote populations in Northern Australia', *People and Place*, 3 (2): 15–24.
- McDermott, R.A., Plant, A.J. and Mooney, G. 1996. 'Has access to hospital improved for Aborigines in the Northern Territory?', *Australian and New Zealand Journal of Public Health*, 20 (6): 589–93.
- Passel, J.S. 1996. 'The growing American Indian population, 1969–1990: beyond demography', in G.D. Sandefur, R.R. Rindfuss and B. Cohen (eds) *Changing Numbers, Changing Needs: American Indian Demography and Public Health*, National Academy Press, Washington D.C.
- Ross, K. 1999. *Population Issues, Indigenous Australians*, cat. no. 4708.0, Australian Bureau of Statistics, Washington D.C.
- Rowley, C.D. 1971. *The Remote Aborigines*, Australian National University Press, Canberra.
- Sanders, W. 1991. 'Destined to fail: the Hawke Government's pursuit of statistical equality in employment and income between Aborigines and other Australians by the year 2000 (or a cautionary tale involving the new managerialism and social justice strategies)', *Australian Aboriginal Studies*, 1991/2: 13–18.

- Smith, L.R. 1980a. *The Aboriginal Population of Australia*, Australian National University Press, Canberra.
- Smith, L.R. 1980b. 'New black town or black new town: the urbanisation of Aborigines', in I.H. Burnley, R.J. Pryor and D.T. Rowland (eds) *Mobility and Community Change in Australia*, University of Queensland Press, St Lucia.
- Snipp, M.C. 1997. 'Some observations about racial boundaries and the experiences of American Indians', *Ethnic and Racial Studies*, 20 (4): 667–89.
- Streatfield, K., Streatfield, R.W., Korzy, M. and Musgrave, I.A. 1990. 'Are demographic factors important in low birthweight among Aboriginal children?', in A. Gray (ed.) *A Matter of Life and Death: Contemporary Aboriginal Mortality*, Aboriginal Studies Press, Canberra.
- Taylor, J. 1992. 'Geographic location and Aboriginal economic status: a census-based analysis of outstations in the Northern Territory', *Australian Geographical Studies*, 30 (2): 163–84.
- Taylor, J. 1993. *Regional Change in the Economic Status of Indigenous Australians, 1986–91*, Research Monograph No. 6, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.
- Taylor, J. 1997a. 'The contemporary demography of Indigenous Australians', *Journal of the Australian Population Association*, 14 (1): 77–114.
- Taylor, J. 1997b. 'Changing numbers, changing needs? A preliminary assessment of indigenous population change, 1991–96', *CAEPR Discussion Paper No. 143*, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.
- Taylor, J. and Bell, M. 1996. 'Mobility among Indigenous Australians', in P.W. Newton and M. Bell (eds) *Population Shift: Mobility and Change in Australia*, Australian Government Publishing Service, Canberra.
- Taylor, J. and Bell, M. 1998. 'Making sense of census data: a components analysis of employment change among Indigenous Australians', *Journal of the Australian Population Association*, 15 (1): 35–51.
- Taylor, J. and Bell, M. 1999. 'Changing places: Indigenous population movement in the 1990s', *CAEPR Discussion Paper No. 189*, Centre for Aboriginal Economic Policy Research, The Australian National University, Canberra.
- Taylor, J. and Hunter, B. 1998. *The Job Still Ahead: Economic Costs of Continuing Indigenous Employment Disparity*, Aboriginal and Torres Strait Islander Commission, Canberra.
- Thomson, N. 1983. 'Aboriginal infant mortality, 1976–1981', *Australian Aboriginal Studies*, 1: 10–16.
- Thomson, N. 1990. 'Trends in Aboriginal infant mortality', in A. Gray (ed.) *A Matter of Life and Death: Contemporary Aboriginal Mortality*, Aboriginal Studies Press, Canberra.
- Young, E.A. 1995. *Third World in the First: Development and Indigenous Peoples*, Routledge, London.

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