



## **Jack Caldwell's Contribution to African Social Science and Health**

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### **Introduction**

We discuss the contribution of Professor John Caldwell (1927-2015) to African social sciences and health studies, in the decades after 1962. He was universally called Jack, often to the surprise of students from more hierarchical societies. As Professor Kofi Awusabo-Asare wrote, 'With my Ghanaian background, I could not comprehend how I could call an older person and also my professor, by his first name.' (Larson no date:1) Jack had a worldwide reputation. In 1985, the Population Association of America presented him with its highest prize, the Irene B. Taeuber Award for excellence in demographic research. In 1994 he began a four-year term as the elected President of the International Union for the Scientific Study of Population (IUSSP) and, in 2004, he was presented with the United Nations' Population Award.

A 2009 survey of 730 members of the IUSSP ranked Caldwell as the most respected demographer of all time, ranked 1 for being the "Most important for demography as a science", narrowly beating technical demographer John Bongaarts. Thomas Malthus, the 18th century political economist, was ranked fourth (Van Dalen and Henkens 2012: Table 7).

Jack was better known in universities across Africa than in Australia. This was partly because interest in demography in Australia is strongly focused on immigration, which increasingly defines the nation. This was also because he did not interrupt his passion for research and travel by taking on higher levels of administration. In contrast, Anthony Low, another of Australia's most distinguished Africanist scholars, held various senior administrative positions before becoming the sixth Vice-Chancellor of ANU.

Jack's main pleasures were history, politics and, of course, a combination of demography and travel. He was prepared for the rigours of West Africa by teaching at the village school in Nabiac in rural New South Wales, where he and his wife Pat lived in a house without piped water or electricity. In the early 1970s Jack, Pat and Bruce Caldwell and Helen Ware travelled by Land Rover from London to Lagos and later from Lagos via Rwanda to Dar es Salaam, crossing deserts and jungles. at a time when most roads remained innocent of any tar, but the route was at least peaceful. Their son, Bruce Caldwell (personal communication) has written

my parents did not see travel as incidental to their research. It was a fundamental part of it. A way of knowing and experiencing the world, and affording the opportunity for finding out more, particularly by constantly asking questions of anyone with views and experiences, not least the locals.

This distinguished Jack from many other notable demographers, who frequently were of the armchair variety, sitting in air-conditioned offices analysing data imported from developing countries. Tim Dyson (Larson, no date, p.7) noted: "Indeed it seemed that wherever I went in the world, the Caldwells were either there, or had been there, or they were expected to be there tomorrow."

Jack published 25 books, 128 book chapters and 139 journal articles (Douglas, Hull, and McDonald, 2016). Many of these referred to Africa. Most of Caldwell's work within the social sciences was on the core demographic topics of fertility, mortality and morbidity, and migration. As well as high fertility in Africa he also looked at abnormally low fertility in Central Africa (Caldwell and Caldwell 1983). Jack also wrote about sexual networking, the Sahelian drought, age misstatement, female genital mutilation, and many other African topics.

In 1962, he joined the staff of the University of Ghana where he published the first of his 27 books as *Population Growth and Family Change in Africa* (Caldwell 1968). His most highly cited articles on Africa covered rural-urban migration, education and mortality decline, the cultural context of high fertility, and the social and cultural context of AIDS in Africa. Highly cited articles (over 500 citations) included the following: rural-urban migration (Caldwell 1969), education and mortality decline (Caldwell 1979),

the cultural context of high fertility (Caldwell and Caldwell 1987) and the social context of AIDS (Caldwell, Caldwell and Quiggin 1989)

### **Ghana 1962 to 1964**

Jack's first academic appointment was at the University of Ghana which had gained full independence from the University of London in 1961. Since Caldwell's previous research had been on Southeast Asia, he was "wholly unprepared" for Africa, but was "fortunate enough to meet the pioneers of African demography in Princeton in 1961" (Caldwell 2003:159). Caldwell's facility with sample surveys was largely an African acquisition. In Ghana he undertook eight social surveys, assisted by his wife Pat and son Peter, the first being a study of some 300 Ghanaian University students which provided supplementary information for his study of the urban elite (Caldwell 1965). His elite study: *Population Growth and Family Change in Africa: The new urban elite in Ghana* was published in 1968. Kirk (1968: v-vi) was impressed that "a study on such a sensitive topic could be carried out successfully in a tropical African country". Kirk continued to confirm that Caldwell was the pioneer of studies of demographic transition in tropical Africa (Kirk 1996).

In *African Urban-Rural Migration* Caldwell's (1969) finding that rural children who received an education were more likely to migrate to towns, led some Ghanaian politicians to respond that the government should stop spending on rural primary schools. Jack learnt his lesson, even when your facts are correct, policy makers can draw the wrong conclusions. He was more successful in re-enforcing a human rights message when he advised the Nigerian government against instituting an identity card system which would have included the holder's tribal affiliation on the card and could have served to support the all too pervasive ethnic conflicts.

In reviewing Jack's early books Ferraro (1977) commended him for his "thoroughness, meticulous attention to detail, insightfulness and concern for both methodological and policy issues", characteristics that remained apparent throughout his career. In research on contraception, the Caldwell led team "found that the major problem was not sensitivity about the issue but in the rural areas a difficulty in comprehending what we were talking about, and, among the academic and other elites, a deep suspicion that contraception was a practice so contrary to the African way of life as to be almost subversive" (Caldwell 2006:6-7). As Professors Awusabo-Asare and

Anarfi wrote decades later, Jack maintained his interest in Ghana and offered a standing invitation to any Ghanaian visiting Canberra.

## **Nigeria**

The Caldwell's first visited the University of Ibadan in April, 1963, after the 1962 Nigerian Census had been cancelled. The highly politicized 1963 recount met with considerable antagonism, but preliminary results were published in 1968 in *The Population of Tropical Africa* by Jack's joint editor Chukuka Okonjo. The book was based on the First African Population Conference held in Ibadan in January 1966, which coincided with "political disorders in that part of Nigeria (which) set the country on the path to civil war. Each night we watched the glow of parts of Ibadan burning" (Caldwell 2003:160).

## **The Changing African Family Project (CAF)**

In 1971, with generous Population Council Funding, Jack established the Changing African Family Project which lasted until 1980 (Dr Ware was the Field Director). This program funded and collaborated with researchers across twelve African countries from Ghana to Sudan. They used demographic, anthropological, and sociological approaches to explore and understand the nature and trends of fertility and mortality shaping the many unique family systems across the continent. Jack's speculations on intergenerational flows of wealth and obligations fuelled debate about the likelihood of fertility decline at a time when the western world was investing heavily in family planning programs.

1976 marked Pat Caldwell's first contributions to academic journals with a joint article with Jack, Helen Ware, and Francis Okedjeji on the Changing African Family Project (Okedjeji *et al.*, 1976). Pat's other articles with Jack in the same year in the *Journal of Biosocial Science* and in *Population Studies* respectively discussed contraceptive innovation and sexual abstinence amongst the Yoruba.

Jack's conclusion that fertility decline would be a long and slow process in Sub-Saharan Africa has been borne out by history. The countries of sub-Saharan Africa are expected to contribute more than half of the global population increase which is anticipated from 2020 to 2050. Further, the projected increase in global population up to 2050 will be concentrated in just eight countries, five of which are in Africa: the Democratic Republic of the Congo, Egypt, Ethiopia, Nigeria, and Tanzania. (United Nations 2022:5).

In 1993, Agnes Riedmann, an early career anthropologist from the University of Nebraska, published a revised version of her PhD *The Science that Colonizes*, attacking the three Nigerian CAF studies as being part of a Western plot to promote family planning. She did not allow Jack the courtesy of advance warning of this attack, even though he had granted her access to the CAF field papers for quite another purpose. Riedman argued that the authority of First World scientists to penetrate the Third World for research had its roots in the fifteenth century idea of a “right to invade”. She aimed to popularize her idea of “World System Demography”: a global, bureaucratically administered science controlled by the Western elite as agents of First World directed cultural imperialism. Essentially, she objected to the discussion of possibly limiting family size or using contraception in Africa as neo-colonial impositions. Either she made a generic assumption that all African women were not interested in controlling their fertility or she ignored those who did want access to contraception. African feminism did not score a mention. One clear finding of the CAF surveys was that many African women certainly did want to use contraception to space their births in the interest of the survival of their breastfeeding babies. Traditionally, spacing was achieved by sexual abstinence on the part of the wife, which was often facilitated by polygamy allowing the husbands access to alternative partners. As couples moved to the towns, polygamy became less practicable, and wives became interested in being able to space their births without alienating their husbands through enforced marital abstinence.

Riedmann’s attack on Caldwell’s research methods for being insufficiently culturally aware was ironic because he was one of the most anthropological in research style of all demographers. As Greenhaigh noted, Riedman managed to complain both that Jack was too curious because his demographic questions constituted an invasion of privacy and insufficiently curious because he did not use fully ethnographic methods (Greenhaigh 1995).

### **Caldwell’s Contribution to Methodology**

Caldwell was a pioneer in the use of mixed methods in social science research before they became fashionable in the 1980s. Caldwell played a pivotal role in the 1970s in the development of the World Fertility Survey (WFS) and contributed as a member of its Technical Committee. The WFS worked to organise comparable samples across 61 countries (Cleland and Scott 1987).

The dissatisfaction with the lack of contextual depth represented by much survey data led Caldwell to incorporate anthropological methods in the construction of small-scale demographic studies. John Cleland recalled a discussion with Jack, when visiting the WFS in London in 1979. Although somewhat sceptical about sample surveys, Jack was delighted that the draft instrument for Nigeria included questions about post-natal abstinence and sexual abstinence by grandmothers. “At the end of the discussion, he admitted that he was almost, but not quite, reconverted to the merits of large surveys.” (Larson no date, p. 9). In 1987, Caldwell and Ruzicka (1987:770) recommended “new complementary research in a range of countries, less standardised than WFS, including more social and economic data, and often incorporating non-survey approaches.”

In 1997, Tom Fricke, writing in a chapter on “Marriage change as moral change” stated that: “Surveying the field today, it is impossible to imagine an anthropological demography that fails to acknowledge the extraordinary impact of Jack Caldwell. In a series of watershed articles, papers and books ranging across substantive, theoretical, and methodological themes, Caldwell has helped to confer a new demographic legitimacy on the research strategies of anthropologists. Methodologically, the micro-demographic techniques formalized by him have encouraged more anthropologist to pursue demographic field-research while also drawing members of the demographic community towards new syntheses of these two traditions” (Kertzer and Fricke 1997). In theoretical work, Caldwell’s modifications of demographic transition theory and his development of the wealth flows theory of fertility decline continue to motivate new studies and commentary. Substantively, his contributions to the study of fertility and family transition in multiple contexts are landmark empirical studies of the time in their settlings.

Jack believed deeply that researchers could not gain a good understanding of demographic phenomena without being steeped in the cultures where the behaviour applied. He practiced by this by meeting face-to-face with the subjects of the research in their own environments. His belief was that this experience should inform quantitative surveys, leading to the development of theoretical modelling, which was also underpinned by the experience to be gained from the historical records in the western world. Jack consistently supported the insights and careers of local researchers whether they were demographers or not.

In a paper presented at the 2013 IUSSP international Population Conference in Busan, Miranda-Ribeiro and Simao commented on the “explosion of articles dealing with qualitative methodology” which followed the path of Caldwell, Knodel and Greenhalgh. They cited Wajman and Rios-Neto who stated that "Demography should strive to become more of an interdisciplinary science, training more 'Caldwells' and fewer pure statisticians." However, having completed a content analysis of three major peer-review journals they concluded that “the number of papers based on qualitative methods is still quite small” (p.1). One of the three journals they explored was *Demography*, the cover of which at that time contained the definition of this noun as “the statistical study of human populations”. This was not Jack's favoured choice of journal: he preferred *Population Studies*, where he had a long-standing relationship with David Glass and Eugene Grebenik its co-editors since the 1940s, or the *Population and Development Review*.

Jack was certainly not a linguist. Like so many native-born Australians he was an English-speaking monoglot. However, he was extremely interested in language and issues related to the translation of concepts such as “family” and “family planning”, and, more specifically, “household” in polygamous contexts. This is an area largely and wrongly neglected in demography, with most analysts ignoring possible non-sampling errors which could distort their findings.

There was also the practical question of a lack of equivalence (see Lucas and Ware 1977) of whether and how people could discuss a concept if they did not have the words to describe it. He insisted on translation and retranslations of questionnaires to ensure that meanings were indeed conveyed. This is how the CAF team discovered early on that written Yoruba often took on the Biblical tone of the first regional version of the language, created by Bible translators. Early drafts of questionnaires had asked women the equivalent of how many children they had “begotten”. In another example, a pre-trial of a survey in Nigeria found that a literary style translation from English to Yoruba led to lower response rates in poorer areas than in areas that were better off (Caldwell 1974:17)

Riedmann attacked Jack for insisting that women be repeatedly encouraged to state the number of children that they wanted. He did this in partly to see whether they could imagine having any say in the matter, or this was truly “up to God”. (See also Lucas & Ukaegbu 2008.) Another question asked women what they would do if they had five daughters and no sons,

again a common response was that they would accept that God intended them to have daughters. Jack would happily have been one of the first to accept that explaining each of five methods of contraception to respondents was introducing these women to a whole new world of possibilities.

### **Intergenerational Wealth Flows**

The grand theory for which Jack is most famous is his intergenerational wealth flow theory which he summarised as:

The fundamental thesis is that fertility behaviour in both pre-transitional and post-transitional societies is economically rational within the context of socially determined economic goals and within bounds largely set by biological and psychological actors.

Two types of society can be distinguished: one of stable high fertility, where there would be no net economic gain accruing to the family (or to those dominant within it) from lower fertility levels, and the other in which economic rationality alone would dictate zero reproduction.

The former is characterised by “net wealth flows” from younger to older generations, and the latter by flows in the opposite direction. These flows are defined to embrace all economic benefits both present and anticipated over a lifetime (Caldwell 1978:553).

In the Introduction to his *Theory of Fertility Decline* (Caldwell 1980:225) proposed a “mechanism through which mass education produces changes in fertility” by reversing the intergenerational direction of wealth flows.

Willis (1982:207-8) recognised “the singular importance” of the series of papers in which Caldwell had argued that “a shift from familial to non-familial modes of production and the introduction of mass education. Both of which raise the costs of children and undermine the moral basis of intergenerational relationships within the traditional family”. An element of this theory which is exceptionally important in the African context concerns the role of the eldest child, usually the eldest son. Here the parents choose to maximise their educational investment into the eldest son in the expectation that this son will earn enough to be able to make a significant contribution into the educational costs of his younger siblings.

Caldwell (1982) admitted that devising a complete range of tests for his theory had proved elusive. In 1994 Thomas Dow and colleagues argued



that wealth flowed upwards to parents in rural Kenya, but their data was limited. A 1997 study of resource flows in Ivory Coast (Stecklov 1997) was unusual in being able to use empirical data for 1,596 households from the 1986 *Living Standards Measurement Study* for the World Bank to measure intergenerational wealth flows in a very high fertility context. Contrary to Caldwell's thesis, in the Ivory Coast wealth flows were downward from parents to children and most of the life cycle was spent in debt. "The discounted sum of earnings minus consumption is less than zero for all ages until almost 50" (p. 534). Stecklov's conclusion was that, in a society where very few could access old age pensions, high fertility could be a rational means of attempting to provide for old age security, even if, on balance, children cost more to rear than they returned to their parents in total. By 2022 the Total Fertility Rate in Ivory Coast had fallen to 4.3 births, perhaps showing that the impact of the costs of education upon wealth flows and family size takes decades to manifest itself (World Bank 2023).

Caldwell's theory continues to be debated in discussions of African fertility. As recently as 2019, Kwaghga and colleagues were "Reappraising the relevance of intergenerational wealth flow theory for fertility transition in Guma Local Government Area, Benue State", Nigeria. Basically, they found that fertility transition had yet to begin because modernisation had yet to arrive. This was a farming community where only half the population was literate Fully 90% could explain why they saw children as assets, only 10% thought that children caused economic problems or "more children, more problems". For the great majority children provided old age security, farm labour, respect for the parents, enhanced marital stability, income and protection for the family, psychological support, family continuity and befitting burials. Although 90% were Christian and 5% Muslim, the role and needs of the ancestors were still immensely important; multiple children and especially sons were vital to demonstrate respect for the ancestors. As one man explained: "All our possessions belong to the [extended] family – children, farmlands, prestige, money, and love. We have done everything possible to ensure its continuity" (p.203).

Looking at these findings by a group of Nigerian researchers committed to trying to understand their own culture on its own terms, Jack was indeed right about the many features of African life, including polygamy, which then protected and still protect high fertility. In the 2000s, 28% of the Nigerian population still lived in polygamous households (Nigerian National Population Commission 2007). Jack argued that children supported their

parents economically, a Tiv respondent in Benue put it rather differently. Marriage “helps young persons to give grandchildren to their parents while alive. For girls, it gives them the opportunity to repay their parents [with grandchildren] before they die” (Kwaghga p.202). Educated women can have numerous children and be in the paid labour force, because servants are very cheap or may be extended family members who work for free in return for board and lodging and possibly some access to education.

In 2023 Desmond Klu of the University of Health and Allied Sciences in the Volta Region of Ghana asked: “Are fertility theories still relevant in explaining fertility behaviour in traditional and contemporary societies in sub-Saharan Africa?” His systematic review covered five classic fertility theories: Child Survival, Intergenerational Flow of Wealth, Relative Income, Demand and Supply, and Value of Children. His argument is that these theories do indeed help in understanding how traditional values and institutions encourage high fertility. However, their predictions that modernity would be accompanied by lower fertility have not been significantly borne out. The reality is that “traditional values still play a vital role in fertility behaviour and are deeply entrenched in fertility decisions in the subregion” (p.11). His major criticism of Caldwell’s theory was that

members of an altruistic older generation will see offspring success as a substitute for their own and will therefore be willing to invest in offspring human capital at a higher rate than would be predicted if parents were acting solely in their own self-interest” (p.5).

Klu acknowledges that the empirical studies of the motivations of fertility behaviour of African women “were conducted in very small geographical settings [and] may not be generalisable to all of sub-Saharan Africa” (p.15). One problem with linking theory to parents’ behaviour is the common assumption that parents’ beliefs about facts such as the economic value of children or levels of child mortality are the same as the realities on the ground and that therefore it is enough to theorise from facts without having to deal with beliefs. Another approach by Myroniuk and Payne (2019) looks at the longitudinal dynamics of household composition and wealth in rural Malawi to see how households change and how this affects livelihoods.

## **African Sexuality**

From 1977, much of the Caldwell's research attention shifted to South Asia (India, Sri Lanka, and Bangladesh) where he fine-tuned the micro-approach working with South Asian scholars. Visitors and students from Asia and Africa still flocked to the ANU to learn about "Caldwellian methods". Another area where Jack's research aroused lively controversy concerned the nature of African sexuality. Jack argued that there was a distinct African sexuality, others disagreed (Le Blanc *et al.* 1991, Ahlberg 1994, Heald 1999, Amfred 2004, Epprecht 2010). Undie and Benaya (2008) argued that the Caldwell's article, despite its theoretical gaps and weaknesses, was useful as a fruitful starting point for discussing African sexuality. Jack's view was that whilst Eurasia (for him stretching as far as China) attached moral and religious value to sexual activity, in contrast, sexual activity in Africa was free and had no moral value. Men had much sexual freedom in both cultures, but women were only free in Africa (Caldwell 1989, p.194 and p.197). Any such vast generalisation will always be open to criticism by researchers with specific local knowledge of particular ethnic groups. In this case there is the added complexity that there was general agreement that Christian missionaries had battled to change attitudes to female chastity (and to polygyny) but much less agreement as to the situation prior to the arrival of these missionaries. There has been far less discussion of the impact of Islam upon African sexuality, and the lower levels of HIV infection amongst Muslims as compared to Christians across 38 African countries may well be as much attributable to Muslim male circumcision and lower levels of alcohol consumption as to higher levels of female chastity.

In "The making of 'African sexuality': Early sources, current debates" Marc Epprecht (2010) pointed out that "the notion that Africans share a common sexual culture distinct from people elsewhere in the world has for many years been a staple of popular culture, health, academic, and political discourse in the West as well as in Africa." He argued that "the idea of a singular African sexuality remains an obstacle to the development of sexual rights and effective sexual health interventions" and went on to ask, "what can we learn about the making of 'African sexuality' as an idea in the past that may suggest ways to challenge its enduring, harmful impacts in the present?" Epprecht (2010: 768) described how, in modern times,

African sexuality has been invoked to explain the high rates of HIV/AIDS in much of the [African] continent (and by implication in the diaspora). An influential article by Australian demographers Caldwell, Caldwell, and Quiggin (1989) surveyed the ethnography to conclude that Africans were less prone to feel guilt, less concerned with female virginity or fidelity, and hence more relaxed toward having multiple sex partners than Asians or Europeans.

Epprecht (p.776) stated that the claims of Caldwell and colleagues about there being a distinctive cross-African sexuality or pattern of sexual behaviour reflected in high levels of HIV/AIDS were disproved by the varying levels of seroprevalence across Africa from the heights of Southern Africa to the lows of Niger and Senegal. For example, a 2014 Map of the prevalence of HIV/AIDS in Nigeria (NACA 2014) shows extraordinary variations by region from more than 8% to less than 1%. These scattered variations do not appear to follow religious, cultural, or geographic patterns. Both Caldwell and Epprecht were guilty of writing Africa when they meant Black Africa or Africa South of the Sahara. Epprecht cited Ahlberg (1994) and Stillwagon (2003) as amongst those having provided effective critiques of the Caldwell African sexuality thesis and the ethnography on which it was based. The problem is that proponents on both sides of the argument were much given to cherry picking reports from anthropologists and other experts who supported their own view of African sexual constraints, or the lack thereof, especially concerning pre-marital sex and adultery for females, with both behaviours assumed to be standard for men.

Jack was the editor of *The Health Transition Review* (HTR), funded by the Rockefeller Foundation and published out of the ANU. HTR's focus was on "the cultural, social, and behavioural determinants of health" with the aim of accumulating knowledge to improve health and reduce mortality. Although it had global scope, it also had a significant role in publishing information about Africa which would otherwise have remained obscure. One problem for many African researchers is still that they have little access to the world stage which restricts their careers and, more importantly means that many generalisations are published without taking Africa into account. HTR helped correct this bias for the health sphere. HTR was published from 1991 to 1997 and all issues are available on JSTOR. The final 1997 issue contained a series of Supplements on HIV/AIDS in Africa.

## **HIV/AIDS in Africa**

In the late 1980s Dr Aaron Fink proposed that male circumcision could prevent the spread of HIV infection in the United States. In 1989 Bongaarts and colleagues published a study on “The relationship between male circumcision and HIV infection in African populations” in the journal *AIDS*. Caldwell was a staunch proponent of the role of male circumcision (MC) in preventing the spread of HIV/AIDS in those areas of Africa where MC was the cultural norm. In 1996 he and Pat publicised their views in the highly influential *Scientific American*. By 2005 Auvert and colleagues were able to report on a randomised, controlled trial of MC in South Africa which showed that MC did serve to significantly reduce the risk of contracting HIV/AIDS. Further trials were carried out in Kenya and Uganda. This was a clear example of Jack’s being able to use his international prestige to promote good policy for the benefit of Africans. Unfortunately, the special conditions in Africa where heterosexual transmission of HIV/AIDS was the norm, were ignored in the academic warfare over whether Western male babies should be circumcised to prevent HIV/AIDS transmission in a context where it was mainly associated with male-to-male sex. The Caldwells’ research also helped to provoke African researchers to publish their own research on African responses to circumcision and HIV/AIDS.

## **Jack’s Legacy**

In Africa Jack worked with local collaborators, including student researchers, many of whom later used this experience to gain entrance to graduate programs in overseas universities. Furthermore, he published widely with African scholars, a prime example being Israel Olatunji ‘Tunji’ Orubuloye, who gained his PhD at the Australian National University in 1977 and ultimately became Vice Chancellor of Afe Babalola University, Nigeria. He first published with Jack in 1975 (Orubuloye and Caldwell 1975) and many articles were co-authored with Jack and Pat in the 1990s (see list on the Afe Ba Babalola University web site, 2022).

Although Jack later worked for a long time in Asia, he was always an Africanist at heart and stressed that his formative experience of field research was African based. He was a master at encouraging African students and colleagues to become all round researchers and over the years these came to include a vice chancellor, professors, and government ministers.

The first two Nigerian PhDs in Demography graduated from the ANU in 1958, both went on to work for the United Nations. Three more

Africans gained doctorates in the 1970s, with two working on Changing African Family data. All three went on to become Professors at African Universities (Lucas 2003). Jack's international reputation was such that he was still attracting African students to the ANU well after he retired in 1995. At the Australian National University, there is a John C. Caldwell PhD Scholarship. Caldwell Scholars are to be citizens of African countries who are working in the fields of epidemiology, population health and demography. Some 80 boxes of Jack's research papers and correspondence are preserved in the Australian National University Archives (2002)

A final question remains, 'Will there ever be another Jack Caldwell?' and the answer must be in the negative. Interest in population growth flourished in the 1970's and research funds were readily available from the ANU and international donors. In the ANU's Research School of Social Sciences, 'god' Professors without teaching obligations then had the freedom to choose their research topics and to select the geographic locations to focus on.

### **The Authors**

Helen Ware has a doctorate in the historical sociology of prostitution and the law. She was introduced to demography through editing texts on Africa. Through the 1970s she was field-director of the Changing African Family Project spending half the year in Africa and half at ANU. She has worked with the Australian Human Rights Commission; the Australian Government's aid agency AIDAB/AusAID and was Australian High Commissioner to Zambia, Malawi, and Angola in the 1980s. She has been Inaugural Professor of Peace Studies at the University of New England in Armidale, Australia, since 2002.

Between 1959 and 1973 David Lucas worked for the Governments of Basutoland/Lesotho and Kenya as a statistician and as the Population Council's Demographic Adviser at the University of Lagos. Since 1976 he has been a demographer at the Australian National University.

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