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Actual and *de facto* Childlessness in Old Age: Evidence and Implications from East Java, Indonesia

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Answers to the question “What help exists for potentially vulnerable older people in the developing world?” tend to presuppose a normative solution: their children. Two demographic generalizations appear to warrant this supposition. The first is an apparently ample supply of children: for most of the modern era, women’s completed childbearing in developing societies has averaged four or more. Second, from a demographic point of view, proximate determinants of childlessness appear secondary. Proportions not marrying in most of these societies are very small, levels of primary sterility typically affect less than 3 percent of couples, and pathological sterility is a major force in only a few regions. Recent fertility declines and improving longevity, of course, point to pending age-structural imbalances. But for today’s older cohorts, aggregate population growth during the last half-century implies an ample supply of family members in younger generations.

An accurate picture, however, requires that further and less reassuring factors be considered. Many of today’s elderly experienced their childbearing years before or during the decline of infant and child mortality after World War II. Many more of their children died in infancy or childhood than would be the case for parents today. Health advances that may now limit pathological sterility were then much less available. Marital instability, prevalent for example in large areas of Southeast Asia and tropical Africa, would have curtailed the reproductive chances of some present-day elderly. Mortality may strike adult children on whom parents are expected to rely. Surviving children may leave the community and sever contact, either permanently or over long periods. Parental divorce and remarriage may alienate children, effectively cutting off older people from their support. These several causes contributing to childlessness may combine in various ways, progressively reducing and then eliminating the supply of children. As we note below, historical evidence indicates that rates of childlessness vary over time and may be more marked in poorer economic groups.

The aggregate surplus of younger cohorts is thus no guarantee that individual older people have children on whom they can rely. Nevertheless, social practices may to a limited degree allow the creation of alternative bonds between individual childless elderly and younger kin, for example through adoption, fostering, remarriage, godparenthood, or patron-client relationships. A matrix of intervening social and biological factors needs to be considered before levels of childlessness can be assessed accurately. Research on aging in the developing world often acknowledges the potential significance of childless elderly, or at least those living alone (e.g., Siriboon and Knodel 1994; Rubinstein 1987; Cowgill 1974; Zimmer 1987; Hermlin et al. 2002). Yet the ways in which material disadvantage, social norms, and demographic variables interact to sustain or alleviate childlessness remain little explored.

The first part of this article reviews historical evidence on levels of childlessness in developing societies. The existence of significant subpopulations of older people without reliable access to children emerges as a recurring social phenomenon. The second part focuses more closely on Indonesia, introducing local-level data as a check on national and provincial-level estimates. East Java is an instructive case for understanding childlessness in

comparative perspective, on three counts. First, East Javanese childlessness, at reported levels of one in four or five elderly people without children (T. Hull and Tukiran 1976: 19; Schröder-Butterfill 2002: 269), is on a scale comparable to major regional patterns observed historically in Europe and Africa. Second, childlessness in East Java requires attention to a range of demographic variables, revealing similarities to and differences from those responsible for childlessness in Europe and Africa. A third advantage is evident enough: East Javanese elderly people who have experienced high levels of childlessness can still be interviewed, which is not possible for their early modern and transitional European precursors. The third and fourth sections of the article show how interpreting data on the incidence and causes of childlessness requires attention to social and economic differences, the interpretation of which depends in turn on knowledge of life histories. Qualitative and quantitative data together give rise to concepts that make a realistic accounting of childlessness possible, and lead to consideration of the strategies people employ to overcome, or at least try to cope with it.

Childlessness in comparative perspective

Childlessness is a recurring historical experience in several parts of the world, arising as an aspect of adaptation to social and economic constraints and as a consequence of endemic health problems. Most childlessness arises not from an individual's or couple's sterility, but as a social phenomenon brought about through the combined effects of mortality, marital and sexual practices, and migration (Kreager 2005). Restrictions on nuptiality in early modern Europe are perhaps the best-known example: some 10 to 20 percent of the population remained unmarried at a time when societies maintained strong sanctions restricting illegitimacy (Hajnal 1965; Flinn 1981; see also Yalman 1963 for India). These levels were compounded by a further 8 to 9 percent of women estimated to be childless on account of marriages delayed into their late 20s; childlessness rose to around 15 percent for marriages delayed until ages 30-34, and was higher still at later ages (Wrigley et al. 1997; Larsen and Mencken 1989).

Additional demographic factors are likely to have augmented the impact of marriage practices on childlessness, notably high rates of infant and child mortality. Those with fewer children to lose would have been more vulnerable to childlessness in early modern conditions, especially in urban areas like London, where infant mortality (mortality before age one year) is recorded at levels approaching one in three children (Landers 1993: 192). Overall levels of English infant mortality varied over the sixteenth to eighteenth centuries between 158 and 208 per thousand live births, with much local and occupational variation (Wrigley et al. 1997: 224, 268ff.). For the few other countries with long data series, such as Sweden and France, infant mortality in the eighteenth century only occasionally dipped below one in five babies (Chesnais 1992: 580ff.). Child mortality added to risk, since even in countries with relatively favorable rates, such as England, around one in every ten children aged 1-4 years died in the course of the seventeenth and eighteenth centuries (Wrigley et al. 1997: 214ff.). How many of these deaths fell disproportionately on parents with few offspring, leaving them with none, will never be known precisely.¹ Such high levels of mortality at younger ages, taken together with data on nuptiality, suggest at the very least that Hajnal's original assessment of childlessness as a regular component of certain social systems affecting up to 20 percent of women over long periods still deserves serious consideration.

Migration was a further influence on childlessness. Temporary and circular movement as a solution to limited local circumstances had become extensive in many parts of Europe by the eighteenth century (Moch 1992), contributing to childlessness via nonmarriage (e.g., by creating sex ratio imbalances in the marriage market), by necessitating marital

postponement, and by decreasing the density of local kin groups (effecting the permanent separation of the elderly and children over increasingly longer distances). The consequent need to provide welfare for older people in addition to family support is evident in the emergence of community-based parish relief from an even earlier date (Thomson 1991; King 2000).

Childlessness was thus a collective, and not merely an individual, phenomenon in much of Europe from an early period. Following the influential restatement of Malthus's theory by Wrigley and Schofield (1989), historians can now treat childlessness as one component of the long-term adjustment of marriage and family customs to trends in wages and prices. In general, poorer subpopulations, and the population at large during recessionary phases of long-term economic cycles, appear to have adjusted procreation to their limited circumstances by delaying or forgoing marriage. Within this system, considerable variations no doubt occurred. Schofield (1991), for example, in reviewing the evidence for England, notes that before 1700 nonmarriage at levels around 20 percent of women at the end of their childbearing years played a greater role than marriage delay in checking fertility; in the eighteenth century these roles reversed. These variations, moreover, were subject to socioeconomic differences (Levine 1987; Goldstone 1986; Wrigley and Schofield 1989). In other words, percentages such as those given above for nuptiality and mortality at a national level are likely to merge subpopulations having rather different risks of no childbearing. Some of these groups will have had rates of childlessness greater than the general population, but their identity remains difficult to establish.

As a consequence and a means of adjustment to social and economic change, childlessness continued its important role during the European fertility transition. Nonmarriage, while declining during industrialization in the mid-nineteenth century, had returned to early modern levels by 1900, when between 10 and 29 percent of women were childless at ages 45-49 (Hajnal 1965). Comparable figures for the United States were 12 to 31 percent. In addition, the growing tendency to postpone childbearing within marriage compounded childlessness, the effects of contraception echoing the impact on fertility that marriage delays had played in the era before fertility transition (Morgan 1991).

Other major cases of childlessness as a collective phenomenon could be cited. Frank (1983), for instance, reported 13 African states in which between 9 and 32 percent of women reached their late 40s without children. A different matrix of proximate causes has prevailed in Africa, notably the impact of pathological sterility in combination with spousal separation, abstinence, and effects of circumcision (see also Ericksen and Brunette 1996; Larsen 1994, 2003). Here childlessness appears to be an unintended epidemiological consequence of marital and sexual practices, although population mobility and high levels of infant and child mortality are once again factors likely to be closely related to the marriage system and its effects. Another notable route to childlessness, evident for example in Melanesia, arises from the effects of infant mortality, widowhood, and fetal loss due to endemic malaria (Bayliss-Smith, in press). Historians and anthropologists have remarked that major social and economic systems dependent on slavery effectively enforced childlessness on large subpopulations, for example in consequence of marked sex ratio imbalances (e.g., Robertson and Klein 1983). The list of social systems in which childlessness was a regular, if unintended, consequence of combined sexual, marital, class, and epidemiological factors could no doubt be extended.

Childlessness thus emerges, even in the very summary historical sketch given here, as a complex and recurring phenomenon. An extensive range of demographic variables (comprising fertility, nuptiality, morbidity, mortality, and migration) must be taken into account, especially as it seems likely that variables interact differently for groups of

different social and economic status. Questions of wider interest inevitably follow: What is the human cost of sustained high levels of childlessness? What arrangements and strategies are employed to try to compensate for a lack of children?

Historical sources inevitably leave several key questions unanswered. An empirical profile of childlessness needs to include compensating mechanisms (e.g., remarriage as a route to obtaining children; adoption and the role of extended kin; the reality of access to community institutions providing charity and patronage) and compounding factors (notably family conflicts and intergenerational poverty) not regularly recorded in historical sources. Several variables (nuptiality, migration, pathological sterility) may be so closely interrelated that their relative importance is difficult to distinguish. The relationship between the experience of childlessness and the situation of different socioeconomic strata has not been adequately researched. The implications of childlessness for older generations in developing countries appear particularly troubling, since many elderly people are likely to need to rely on children or younger kin at some stage of later life. It is difficult to see how these issues can be clarified without consideration of the life histories of older people, together with the observation of familial and social processes of which these lives are a part. Study of contemporary societies, which makes possible the combination of in-depth qualitative sources with demographic and other quantitative parameters, thus becomes necessary if the causes and consequences of childlessness are to be understood.

Estimated childlessness in Indonesia

The current situation of older generations in Indonesia, and more particularly East Java, provides a case in point. The great majority of Indonesians over age 65 in 2000 were married by the age of 20, experiencing their prime childbearing years over three decades, approximately 1935-65 (Hirschman and Teerawichitchainan 2003: 226). These older cohorts lived through the depression, the Japanese occupation, and the ensuing war of independence, upheavals that had a direct impact not only on general health conditions, but also on marriage and fertility via spousal separation, mortality, and pathological sterility. Although early and nearly universal marriage rule out two of the principal factors underlying European childlessness, other aspects of Indonesian nuptiality (very early marriage and high frequencies of divorce) may have had dampening effects on childbearing similar to those in Europe. Once again, a full profile of demographic variables, including nuptiality, mortality, infecundity, population mobility, and contraception, is needed to understand the several routes to childlessness and relatively low levels of pretransitional fertility. In this section we first survey estimates of childlessness and survivorship, which leave in no doubt the scale of the problem. We then introduce new data from field research to help assess estimates and interpret further demographic determinants of childlessness.

Hull and Tukiran's (1976) pioneering research reported considerable variations in childlessness across the archipelago in the era before fertility declines began (see Table 1). On Java, levels of childlessness, province-by-province, varied from 12 to 23 percent of ever-married women aged 30 and older, with the highest levels registered in East Java. Only in rural Sumatra did childlessness fall below 10 percent.

In analyzing 1971 census data, Hull and Tukiran used an expanded definition of childlessness. Their figures refer not only to women reporting never having given birth, but also to those whose children had died and those from whom no answer on parity was obtained.² Subsequent data sources have continued to indicate significant levels of childlessness, although differing methods and assumptions inevitably produce variation between estimates. According to the 1980 census, 11 percent of ever-married women aged 60 and older in rural East Java had never given birth and 13 percent had no surviving

children (Biro Pusat Statistik 1982: 62, 68); the corresponding figures for the 1985 intercensal survey are 10 and 14 percent (Biro Pusat Statistik 1987: 44, 48), and for the 1990 census 10 and 13 percent (Biro Pusat Statistik 1992: 74, 80).³ The 1993 Indonesian Family Life Survey data (our calculations) suggest that 11 percent of all women aged 60-69 and 70 and older in rural East Java have never given birth, and 21 and 24 percent, respectively, have no surviving children; the figures for no children surviving are lower (17 and 18 percent) according to the 1997 IFLS (see Frankenberg and Karoly 1995 for details about the surveys).⁴

Levels of infant and child mortality during the childbearing years of older generations, as well as adult mortality experienced by their children, are clearly important to understanding current levels of childlessness. Mortality data for Java are sketchy at best, and figures for Indonesia as a whole are less reliable still. During the Dutch colonial period, which ended in 1942, village registers supposedly recorded numbers of deaths on Java, but uncertainty about the size of the population at risk compounds the unreliability of these data (Gardiner and Oey 1987). For the period of the Japanese occupation (1942-45) and the first two postindependence decades, virtually no primary data are available; figures for mortality in the 1940s to 1970s are thus mainly based on indirect estimates using census data and demographic surveys first conducted in the 1970s (Hugo et al. 1987: 114ff.; McNicoll and Singarimbun 1983: 11). Even today vital registration is too incomplete to be used for direct calculations of mortality (Iskandar 1997).

What can be said, then, about mortality during the decades in which current elderly people were of childbearing age? Opinions about absolute levels of mortality before 1930 differ,⁵ but there is widespread agreement that mortality increased sharply in the late 1930s and the 1940s, first because of the worldwide depression that resulted in export collapse, then because of the Japanese occupation with its confiscation of rice and forced labor (Iskandar 1997: 207; Hugo et al. 1987: 117ff.; Singarimbun and Hull 1977). For example, in a village in Yogyakarta in mid-Java, Hull found a marked rise in infant mortality from 140 per thousand live births in 1940 to 270 in 1945 (T. Hull 1975: 226). Retrospective estimates for rural East Java put infant mortality at a lower level, 172 per thousand, in 1945-49, with significant declines not occurring until the late 1950s and early 1960s (Singarimbun and Hull 1977: 228; Hugo et al. 1987: 119). Mortality was higher among poorer than richer strata. Singarimbun and Hull (1977) found that between one-third and one-half of all children of poor women in rural Yogyakarta had died, compared with one-fifth to one-third among upper-income groups (see also T. Hull and V. Hull 1977).

Mortality levels below age five are estimated with slightly more certainty. Utomo and Iskandar (1986: 15) calculate that more than one in five children born in the 1940s in rural East Java died before their fifth birthday; by the late 1960s, under-five mortality in East Java was still above one in six (Biro Pusat Statistik n.d.; Panel on Indonesia, Committee on Population and Demography et al. 1987: 31). In general, mortality on Java was lower than outside Java, and the situation in East Java more favorable than in West or Central Java, where even in the late 1960s under-five mortality exceeded 200 per thousand (Panel on Indonesia, Committee on Population and Demography et al. 1987; see also below).

As noted earlier, aggregate mortality estimates cannot be linked directly to the subset of elders left childless by the death of all children. All we know from more recent data—for example, the 1993 Indonesian Family Life Survey for Java as a whole, and data from our research village—is that at least one-third of childless elderly became childless because of the death of all their children. (As we discuss below, this figure could be an underestimate if stillbirths and early infant deaths were not reported.) Poorer strata are likely to have been disproportionately affected, since not only was infant and child mortality higher among the

poor, but also fertility was lower (T. Hull and V. Hull 1977; V. Hull 1976; A. J. Gooszen 1980).

As we have seen for historical Europe, high levels of childlessness can be a regular component of low levels of fertility in a society or cultural area. There is no guarantee that the relatively fewer children born are evenly distributed among couples. Where fertility-impeding factors, such as marital disruption, infecundity, postpartum amenorrhea, and abstinence, are common, as they were on Java (McNicoll and Singarimbun 1983), overall fertility will be dampened and some people risk remaining without children altogether. Relatively low levels of completed fertility in Indonesia are indicated by 1990 census data for older cohorts, shown in Table 2. In East Java women aged 60 and older had on average 4.1 children ever born, the lowest completed fertility for that age group in Indonesia (cf. H. Gooszen 1999: 127). The fact that the numbers decline with age may suggest imperfect recall among older women; but it is more likely to indicate a genuine trend, given that living conditions improved from the 1950s onward (Hugo et al. 1987). As we discuss below, the 1940s was a period of particular hardship in Java; according to the 1961 census, the 1916-26 birth cohort in East Java had a completed family size of only 3.8 children ever born, half a child lower than the preceding and subsequent cohorts (McNicoll and Singarimbun 1983: 22).

Table 2 also shows the difference in average number of children ever born and surviving. In East Java women aged 65 and older in 1990 had on average lost 1.1 children during their reproductive lives. Mortality appears to have been particularly severe in West Java, where women lost on average 1.5 children over their lifetime (cf. H. Gooszen 1999: 139). Yet, as we have seen (Table 1), much greater levels of childlessness were sustained in other provinces, notably East Java. All in all, the data presented in Tables 1 and 2 remind us that childlessness can be the outcome of both infertility and loss of children to mortality. A realistic estimate of a lack of children among the elderly needs to go beyond aggregate estimates of children ever born and surviving to consider further determinants, notably the matrix of social and biological factors shaped by marriage patterns, and their implications for fertility.

Childlessness in an East Javanese community

Our review of national and provincial patterns confirms above-average levels of childlessness in rural East Java in a context of moderate overall levels of fertility. Childlessness is substantially above the average of 3 percent of couples affected by primary sterility, cited recently by Larsen as a demographic norm (Larsen 2004: 539). Child mortality during and following the 1940s, while high, would have had to fall very disproportionately on certain couples to yield the range of 20 to 25 percent childless discussed above. To disentangle the effects of mortality, marriage patterns, and infecundity, two new departures are necessary. First, narrowing the focus to a single village in East Java helps to clarify data problems that beset standard survey and census approaches, and it enables the incidence of mortality at younger ages to be linked empirically to the subset of elders whose children have all died. Second, data on divorce and remarriage at the local level are used to assess recent survey findings at provincial and national levels, providing clues that substantiate the potential impact of pathological factors underlying low fertility and childlessness in older cohorts. We then turn to processes that remove even surviving children and adoptees from elderly support networks.

Village data were collected as part of an ongoing comparative project on population aging and support of the elderly in Indonesia (Kreager 2001; Schröder-Butterfill 2002). Field research was conducted in three rural communities in West Sumatra, West Java, and East

Java. In this article we draw on findings from the East Javanese village, to which we give the pseudonym Kidul, where fieldwork took place between April 1999 and December 2000. Kidul has a population of about 2,500 and lies in a fertile area south of the district capital Malang. Because Kidul is near regional urban centers and local markets, its economy is diversified and agriculture is no longer dominant. Trade, factory, construction, transport, and civil service employment all play important roles. Approximately 10 percent of the population are aged 60 or older, slightly more than the national average of 8 percent (Ananta et al. 1997). Sixteen percent of the elderly receive a generous pension by virtue of having been civil servants or members of the armed forces; spouses and widows of pensioners are also covered (see also Schröder-Butterfill 2004: 515ff.).

Field research involved 12 months of residence in the community spread over two visits. Initially all 212 villagers aged 60 and older were identified, and semistructured interviews conducted with 203 (four were unavailable, two refused, three yielded incomplete interviews). Most elderly people (74 percent) were revisited at least once, and extended reinterviews were completed with 45 percent of respondents. For more than half of all older people at least one other family member, usually a child or adult grandchild, was interviewed, and sometimes every local member of an extended kin network was spoken with. The aim was to collect detailed life-histories and to compare accounts by different members of a network, in order to map patterns of potential and actual support. Two randomized surveys were conducted near the end of fieldwork, one on household economy and interhousehold exchanges, the other on elderly people's health and health-care use.

Information was routinely collected about numbers and location of children. This information was obtained separately from men and women, because frequent divorce and remarriage mean that spouses may have different numbers of children. As soon became clear, people do not necessarily give complete or accurate information about sensitive topics such as childbearing, divorce, or adoption during first or even second interviews. With growing familiarity, changes in people's accounts of their childbearing occurred in some 40 cases (20 percent of all elderly). Familiarity proved especially crucial concerning adoption: of respondents who had adopted a child, almost one-third initially identified that child as their own.⁶ The extent to which people revise their accounts raises doubts about the accuracy of census and survey sources cited in previous sections. Table 3 summarizes findings on fertility, childlessness, and availability of children in the village.

Clearly, childlessness affects a sizable minority of elderly people in Kidul. One in five respondents state they have never had a child. This figure is likely to overestimate primary sterility, as some people without children may never admit that they had a stillbirth or a child who died very soon after birth.⁷ The majority of childless elderly stated—with much regret—that they had never had a child; one-third said that they had a child or children who died, leaving them childless as a result. Data on children surviving and children resident in the village are more easily verifiable, because household rosters, interviews, and survey data may be cross-checked. The main challenge here was to identify adopted children as adopted, rather than own. As Table 3 shows, a quarter of elderly in the village have no surviving children. A third do not have a child in Kidul.

Aside from high levels of childlessness, Table 3 reveals a strikingly polarized distribution of children in the elderly population. Half of the respondents have two or fewer children, the other half three or more; 40 percent have no or only one surviving child. In other words, the impression given by national and provincial estimates of completed fertility averaging between four and five births per woman (Table 2) disguises the presence of substantial disadvantaged minorities. As our later discussion of *de facto* childlessness indicates, any

given child may turn out to be unreliable for old-age support. Therefore, not only the childless, but also those with few surviving children, are potentially vulnerable.

Marital instability and infecundity

The preceding discussion makes clear that suboptimal fertility, whether resulting in childlessness or very few children, has been sustained at higher levels than can be explained by primary sterility and survivorship. Other proximate determinants need to be brought into the picture, and in particular we need to consider several aspects of Javanese sexual and reproductive patterns belonging to the era when the current elderly were in their childbearing years. Marriages were commonly arranged by parents, the timing of marriage consummation was often delayed, and rates of divorce and separation were remarkably high.⁸ The nuptiality regime of early and universal marriage (Jones 1997a) rules out the European marriage pattern as a factor in low fertility, but the above-mentioned aspects of nuptiality require close consideration.

First, very early marriage has been associated with infertility by causing damage to immature reproductive tracts (Ericksen and Brunette 1996: 215). It was not uncommon in the past for girls in Java to be married before puberty; several elderly women in Kidul stated that they had been made to marry before menstruation. Extremely early marriage is also borne out in Jones's (2001: 70) data, which show that among East Javanese birth cohorts up to 1940, 50 percent of girls had been married before age 17, which is almost two years younger than for cohorts outside Java (Panel on Indonesia, Committee on Population and Demography et al. 1987: 59). Of course, as Hull and Hull (1987) observe, consummation of union in parentally arranged early marriages was often delayed in the past by as much as a year, such cases often ending in separation. Certainly the second aspect of nuptiality, divorce, is likely to have had a much greater impact on childlessness. Divorce, to which little stigma was attached, was very common in Java in the nineteenth and twentieth centuries and had important implications for fertility (Boomgaard 1989: 145-146; Jones 1994). Among the 1940-49 marriage cohort, which encompasses the marriages of many elderly respondents and coincides with the period of occupation and war, 21 percent of first marriages in rural East Java ended in divorce within five years of union (Muliakusuma 1976, cited in Panel on Indonesia, Committee on Population and Demography et al. 1987: 63). Divorce rates for higher-order marriages were no lower (ibid. and Jones 1992). High levels of divorce are not confined to wartime conditions. Hirschman and Teerawichitchainan (2003: 223) estimate that 26 percent of Central and East Javanese first marriages ended in divorce in the 1940s and 1950s marriage cohorts, falling only slightly to 24 percent in 1960s cohorts.

In general, divorce is likely to affect fertility via reduced exposure to sexual intercourse, as it is often preceded by marital estrangement and followed by periods outside sexual union, even if remarriage is common and relatively rapid, as is the case in Indonesia (Jones 1992: 28ff.). Factors predisposing couples to divorce are often noted in the ethnographic literature. Most first marriages of older-generation Javanese were arranged, but divorce on grounds of incompatibility (*kurang cocok*) was frequent (Geertz 1961; Jones 1994). The lack of stigma that permitted such ready access to divorce is commonly associated with the relatively higher status of women in nuclear and bilateral family systems and with the absence of legal and economic impediments (Jones 1997b: 104). The frequency of divorce, coupled with the high value traditionally given to childbearing, not surprisingly resulted in more complicated marriage patterns, as Table 4 shows.

According to the Indonesian Family Life Survey, almost half of elderly men and 37 percent of elderly women in rural East Java have been married more than once; these figures are

very close to those indicated in the 1976 Intercensal Survey (SUPAS) for the same cohort and area (Panel on Indonesia, Committee on Population and Demography et al. 1987: 61). Village data for Kidul, however, indicate higher rates of remarriage: fewer than half of elderly respondents were married only once, and more than one in five were married three or more times. Ethnography suggests again that caution must be observed in interpreting national and provincial survey data. In Kidul, at least, people are reluctant to admit to multiple remarriages, and many respondents admit to them only during second or third interviews, especially if the marriages were brief.

Local quantitative data (in this case on nuptiality) can be combined with data from in-depth interviews to link childlessness directly to demographic determinants. The lower part of Table 4 shows that remarriage is more frequent among childless women: two-thirds of the childless, but fewer than half of mothers, have married more than once. For men the picture is less clear, although childless men are more likely than fathers to marry three or more times. Because childlessness in rural Java is involuntary and carries considerable stigma, failure to have children is often cited as an explicit reason for divorce (see also Guest 1991; Jones 1992). Remarriage occurs in the hope of having children with a different partner, but does not always bear out this hope. On average, women in Kidul who had married more than once (N=52) had given birth to 2.6 children, compared with 4.8 children among those married only once (N=44) (cf. Panel on Indonesia, Committee on Population and Demography et al. 1987: 64).

The implications of divorce and remarriage for fertility are twofold. First, if divorced women in their late teens and 20s waited several years to remarry—which is not unlikely in periods of war and severe economic hardship—then a significant part of their prime reproductive period will have been removed from the risk of childbearing. Although life history data permit the frequency of remarriage to be reconstructed, retrospective reports of the elderly are much less reliable for exact dating of events. In consequence, it is impossible to say precisely whether the several aspects of Indonesian marriage patterns discussed above (estrangement, delayed consummation, and time out of wedlock due to divorce) had an impact on fertility comparable to that of marriage delay or contraception in other low-fertility regimes. Second, and more critically, marital instability is a factor promoting childlessness not only because it may curtail marital sexuality, but also because it increases the possibility of multiple sexual contacts within and outside marriage (several elderly respondents admitted that their divorce had been triggered by extramarital affairs), and hence the potential spread of sexually transmitted diseases (cf. Van der Sterren et al. 1997: 207). Estimates of completed fertility in older East Javanese generations of 3.8 to 4.1 births per woman are comparable to those in parts of Africa, such as Gabon, in which marital instability, multiple partners, and pathological sterility combine to lower fertility substantially (Frank 1983). The World Fertility Survey ranked Java and Bali fifth in levels of infecundity and childlessness among the 28 participating countries (Vaessen 1984). In the survey, 38 percent of childless Indonesian women in the 1932-41 birth cohort reported themselves infecund, as did 25 percent of those with one or more children (McNicoll and Singarimbun 1986: 76ff.).⁹

Enough is known about the disease environment in Indonesia during the first half of the twentieth century to make its relation to marital instability an important consideration. As Hull and Tukiran remark, infecundity “is related to the incidence of venereal disease (associated with port cities), tuberculosis, vitamin deficiencies (especially vitamin E), and vaginal infections (caused by *E.Coli* or genital mycoplasmas). As such it is higher in areas where nutrition is substandard or where, in the case of infection, medical care is lacking. Both venereal disease and vaginal infections would be contagious and thus might be found to affect large densely settled population groups, especially in the cities” (1976: 21; also

Rowland 1998: 2). Colonial and wartime documentation of sexually transmitted diseases is limited, but research has revealed three key factors: first, an estimated 25 percent of Indonesian troops were infected with STDs (likely to have been mainly syphilis and gonorrhea) at end of the nineteenth century, with even higher levels among Dutch troops (Van der Sterren et al. 1997: 206); second, prostitution flourished in both urban areas and villages near towns or plantations and was partially fueled by the movement of poor rural women to urban areas (ibid.: 210ff.; also Jones et al. 1995; V. Hull et al. 1996); and third, higher prevalence of STDs appears to have characterized areas with higher population density and mobility (Van der Sterren et al. 1997; T. Hull and Tukiran 1976: 21). East Java is one of Indonesia's most densely populated areas, with densities even in 1930 of between 130 and 750 persons per km² (Departement van Economische Zaken 1936). The population was highly mobile; in Kidul, for example, 65 percent of childless elderly and 57 percent of elderly with children had lived elsewhere at some stage in their lives. Many were landless peasants forced to seek work in port cities or plantations, or work related to the armed forces, and they moved into settings characterized by poor sanitation and health care, crowding, poverty, and personal insecurity.¹⁰ Only after 1968 was gonorrhea regularly treated by clinics in this part of Indonesia (Susila 1984).

Extensive mobility, prostitution, and generally poor health conditions were exacerbated by the hardships that accompanied colonial labor policies and subsequent wars. Under the Dutch, fertile land was requisitioned for cash crops, leaving insufficient land for rice; peasants were forced to contribute labor, lessening their own time for productive work (Onghokham 1975; Hartveld 1996). These deprivations are thought to have led to postponement of marriage and a decline in the crude birth rate between 1880 and 1939 (H. Gooszen 1999: 132ff.). The Japanese occupation, entailing conscript labor and land and harvest confiscation, exacerbated these patterns and was followed immediately by the war for independence (1945-49), which raged particularly fiercely in the area between Surabaya and the south of Malang. Informants in Kidul recounted how on one occasion the entire population of the village fled to escape fighting between Nationalists and the Dutch and British armies.¹¹

In sum, external forces over a long period led to high population mobility and pushed the population of East Java into often extreme poverty, ill health, and insecurity. Spousal separation, widowhood, infections, and the spread of sexually transmitted diseases were undoubtedly exacerbated by these forces. Although wartime conditions preclude detailed demographic accounting, under the circumstances it is hardly surprising that levels of fertility observed in East Java during the 1940s are among the lowest ever recorded in populations not using contraception (cf. Hugo et al. 1987: 137).¹²

***De facto* childlessness**

In Kidul levels of no childbearing and no surviving children when taken together yield 52 out of a total of 203 older people without children, or 25.6 percent. This proportion is broadly in line with earlier estimates of childlessness for rural East Java as a whole. A strictly demographic accounting of childlessness, however, is inaccurate for two reasons. First, not all people who fail to have children, or whose children die, remain childless. Alternative routes to obtaining children are frequently employed, notably through informal adoption. Second, not all older people with surviving children have access to them or to help from them. Some lose all contact with children or have children incapable of providing assistance. To the demographic determinants of childlessness, therefore, we need to add *de facto* childlessness: the lack of support from any children. A realistic assessment of elderly people's supply of children needs to encompass both demographic and *de facto*

childlessness, then subtracting successful “acquisitions” of children by alternative means from this total.

The *de facto* childless usually cannot be ascertained from national or provincial survey sources. Research on intergenerational transfers, for example, commonly relies on surveys that record statements about the frequency of different types of contact (e.g., visits, practical help, material and monetary support) with nonresident children (see Biddlecom et al. 2003 for an overview). Of course, only children actually identified by the elderly respondent are included in any further analysis. Apparent instances of no contact or no support do not in themselves allow conclusions about *de facto* childlessness to be drawn, as the reference period inquired about usually covers only the past year. As Hermalin (2000) notes, a single round of interviewing is insufficient to capture the discontinuous character of family exchanges. Multiple survey rounds have the potential of capturing longer-term patterns of estrangement, but of course remain unable to uncover children who go unmentioned. In Kidul, children with whom all contact is severed were often not talked about during a first interview. Nonreported absent children do come to light, however, in the course of everyday contacts with older people and via the triangulation of data sources that ethnography makes possible. Also, the significance of children living very close by, with whom “contact” was a matter of course but with whom relations had broken down, could be reinterpreted as familiarity with respondents grew. Family data collected in the two surveys conducted at later stages of field research were checked against in-depth information from life histories, observational data, and genealogical information provided by family and community members. These data show that *de facto* childlessness has different causes and degrees of finality, and that individual cases are subject to interpretation by family members as well as by the researcher. Interpretation obviously affects estimates of frequency (see endnote 15).

Four distinguishable causes of *de facto* childlessness were noted in Kidul, which may be of more general comparative interest. First, out-migration of all children in a family may lead to *de facto* childlessness if combined with lack of any support or loss of contact. This was the case for two elderly widows in Kidul. For many more parents, of course, absence of all children from the community makes problematic the supply of support reliant on proximity (practical, physical, emotional). In general, children living elsewhere only rarely and irregularly contribute material assistance to their parents (Kreager 2004; Kreager and Schröder-Butterfill 2004). As Table 3 showed, one-third of respondents do not have any children in Kidul.

A second factor, divorce, can leave parents *de facto* childless if it results in the cessation of contact with children. Following a divorce, young children generally remain with their mother, although they may also be placed with grandparents or other relatives, especially if both parents wish to remarry. Usually intended as temporary, these arrangements often become permanent, such that the child may later feel little obligation toward his or her parents. Where children stay with the mother, they often have infrequent or no contact with the father, not least because fathers tend not to support children after divorce.¹³ Physical separation further encourages alienation. Men are thus particularly vulnerable to losing children through divorce, and two elderly men in our sample ended up *de facto* childless for this reason.

A third group of *de facto* childless people are those with handicapped children who are unable to provide material or practical support. The affection these children in some cases provide, while clearly important, does not keep them from being a major factor in their parents’ material vulnerability. Six elderly respondents (two of whom have a younger wife) have disabled or psychologically ill children who require maintenance; three of these have no other children and are therefore classed as *de facto* childless for support purposes.

A final instance of *de facto* childlessness occurs when elderly parents have become estranged from children because of conflict. This was the case for three elderly women in Kidul. Where people are childless as a consequence of conflict, the welfare and happiness of the parent are affected in multiple ways. The lack of support from children is exacerbated by the distress of discord, a loss of reputation, and the reduced likelihood that adoptive children or grandchildren will fill the gap. The following case illustrates the potentially devastating effects of conflict-driven *de facto* childlessness.

Mbah Sadia¹⁴ is one of the oldest women in Kidul. She married and had children during the 1930s. Although married five times, she had only two children, one of whom, a daughter, survives. Sadia's minute, primitive bamboo shack rests against the end of her daughter's substantial brick house. Despite her age and blindness in one eye, Sadia still goes daily looking for firewood, herbs, and wild vegetables which she sells for a few hundred *rupiah* [a few pence]. When too unwell to forage, she eats plain rice. Her daughter, who is comfortably off, provides virtually no support. The occasional dish of food offered is often refused by Sadia on account of the severe animosity between mother and daughter, which has continued for decades. When her first husband died in the late 1930s, Sadia left Kidul to work as a servant in a nearby town. Her two children were raised by a childless aunt. To this day the daughter accuses her mother of having abandoned her. She condemns her mother's past life style, notably her many marriages and divorces, with the words: "She knows no shame (*tidak tahu malu*)!" On the one hand, the daughter feels justified in distancing herself from her disreputable mother. On the other hand, her mother's public display of destitution literally on her doorstep reflects badly on her. Sadia clings to her independence despite the poverty it entails. Accepting help from a disapproving daughter would amount to accepting charity and surrendering autonomy. Yet because Sadia ostensibly has a daughter who could provide care, neighborly support is rarely forthcoming.

These four causes together add ten *de facto* childless elderly to the 52 who either had never given birth or had no surviving children. As a gross estimate of childlessness, these 62 elderly comprise 30.5 percent of all older people in Kidul. The assumptions made in adding up the numbers need to be clarified, however, as differing plausible grounds might be introduced to make this percentage either higher or lower.

The ten elderly classified as *de facto* childless provide an intentionally conservative estimate of lack of access to support from any child, and include only those instances where nonsupport is long-term and likely to be permanent. We have, for example, excluded cases in which all children are away from the community, but in which some of these children remain in annual contact and perhaps bring a token monetary or other gift when they visit (Kreager 2004; Kreager and Schröder-Butterfill 2004). Likewise, we exclude elderly whose children are all currently a net drain on personal resources (Schröder-Butterfill 2004).¹⁵

The gross figure of 30.5 percent childless, however, may still paint too negative a picture of the availability of children to older people. As we shall see, half of the demographically childless elderly (N=26) have successfully acquired children through informal adoption or marriage to someone with children. A summary measure that discounts childless people who subsequently acquired a child, but includes *de facto* childlessness, may be termed *actual childlessness*. On this reckoning some 17.7 percent (N=36) of all elderly in Kidul can be considered actually childless. They have no access to support from a child in their old age.

Socioeconomic stratification and childlessness

Preceding sections have traced the series of factors that shaped relatively low levels of fertility and the accompanying incidence of childlessness experienced by older Indonesians. The story is one in which patterns of early and nearly universal marriage tending to promote fertility were undercut by pretransitional levels of mortality, high rates of marital dissolution, population mobility, and pathological sterility. All of these factors were compounded by period conditions of war and its aftermath. Childlessness is a major consequence of these forces. The story is not, however, merely one of passive endurance of wider forces. Divorce, remarriage, and mobility reflect long-standing patterns of choice in Javanese society, and these choices were in many cases part of active efforts to acquire children. The frequency of informal adoption is indicative of these efforts.

The estimate of actual childlessness with which the previous section concluded, although net of successful efforts to acquire children, can provide only a crude measure of the social costs of childlessness to older people in a low-fertility regime. Two tasks remain in this article. One is to consider the options available to childless people in East Java for their old-age security and the several strategies that people employ in their attempts to overcome, or compensate for, a lack of reliable children. Before this, however, we need to move from a crude to a more stratified estimate of childlessness, especially since relative wealth and social position are likely to affect the strategies open to different families and their members.

A typology of four socioeconomic strata was created for Kidul on the basis of ethnographic and local survey data. Quantitative data on assets, housing, consumption, type of work, income, and exchanges were collected and compared to villagers' comments on families' relative economic situation that emerged during in-depth interviewing. An explicit class structure or class consciousness is not a feature of Indonesian society, but, in communities like Kidul, everyday terms of speech provide an ongoing evaluation of people's relative position in the community. The terms identifying the four strata in Table 5 are translations of frequently used terms (for details see Kreager and Schröder-Butterfill 2003; Schröder-Butterfill 2002: 129ff.). The richest and poorest strata make up 20 and 22 percent, respectively, of elderly households. Differences of income, consumption, and security are directly visible in housing types and material assets, and the occupations and personal histories of their owners. Villagers showed little hesitation in identifying the relative status of persons when referring to those at the top or bottom of the social scale. Yet the majority of households fall into the middle two strata, in which economic differences between families are more modest but carry critical implications for elderly well-being. The principal distinction that people use to differentiate among families whose social standing is somewhere between the rich and the very poor is captured by the phrase *cukup-cukupan*, meaning "just sufficient" or marginal. The *cukup-cukupan* are those who live at the margins of subsistence. This group, comprising 30 percent of elderly households, have enough to get by on respectably, mostly from their own manual labor, and are identified here as Stratum III. They may be contrasted to the elderly in Stratum II (comprising 28 percent of households), who have a safety net should a health or economic crisis occur.¹⁶

Table 5 contrasts the socioeconomic status of demographically childless elderly with that of elderly parents. Nearly two-thirds of childless elderly belong to the two lower strata and, in particular, they are more than twice as likely to be poor as they are rich or comfortably off. More than half of the parents, but only one-third of the childless, live in households that are in Stratum I or II.

As mentioned above, several proximate determinants may combine to reduce childbearing and child survival in a context of relative poverty. In East Java during the prime

childbearing years of today's older generations, these included divorce and widowhood, high rates of mortality at younger ages, and pathological sterility abetted by poor health conditions, marital disruption, and the need to move to find work. Indeed, poor elderly in Kidul are four times more likely than the rich to have had three or more marriages (see also T. Hull and V. Hull 1977: 52; Jones 1992: 24). Table 6 shows differences by economic stratum in the mean number of children ever born to elderly respondents. The differences in fertility between the top three strata are small, but poor elderly have had on average more than one child less than their better-off peers. As we saw earlier, childlessness is also an outcome of mortality, which reflects poverty and poor health (cf. Singarimbun and T. Hull 1977). Among elderly women in Kidul who had ever given birth, 62 percent in the upper two strata had never lost a child, compared with 28 percent in the lower two. As a result, there are striking differences in the average numbers of children surviving between the different strata (see Table 6). The poor elderly have fewer than half the number of surviving children as those who are rich or comfortably off. Even between elderly in Stratum III and IV there is still a one child difference in the number of surviving children. Causal pathways between poverty and childlessness of course go both ways: the absence of children may add to people's lifetime economic vulnerability owing to lack of family support in times of need.

In Table 7, actual childlessness is used as the measure, that is, childless elderly who have successfully acquired a child via adoption or marriage are included among the parents and *de facto* childless elderly are counted among the childless.

The difference in socioeconomic status between the childless and nonchildless is now striking: elderly people without access to a child in old age are extremely likely to be economically disadvantaged. Some 61 percent can be classified as poor; a further 22 percent are at the margins of subsistence. By contrast, only 45 percent of elderly with children fall into the bottom two strata, and they are unlikely to be in the poorest group. In addition, the ethnography revealed that actually childless older people in the top two economic strata are a special case. If considered in isolation, these are elderly who are poor; however, by virtue of living with a rich family to which they are either distantly related or unrelated (e.g., standing in a patron-client relationship), their household economic status is high.

Being poor may contribute not only to failure to have and successfully raise a child, but also to failure to acquire and keep a child. Wealth makes it more likely for a person to attract a child to adopt. All rich or comfortably-off childless elderly had at some time informally adopted a child, compared with only half of the marginal or poor. By being able to offer a good inheritance or other benefits, rich parents were also less likely to become *de facto* childless or to experience the return of an adoptive child to its biological parents. All of the elderly in the upper two strata who had ever adopted had retained at least one loyal and supportive adoptee, compared with only two-thirds among adoptive parents in the lower two strata.

All in all, demographic childlessness is unequally distributed within the socioeconomic landscape of rural East Java. In addition, the poor have less access to, and success with, alternatives to having children of their own. Levels of actual childlessness in consequence are skewed even more heavily toward economically disadvantaged groups.

Coping with childlessness

In old age, when deteriorating health and reduced economic activity may entail occasional or permanent dependence on others, a lack of children implies vulnerability. High rates of childlessness therefore raise important questions about the adequacy of the welfare of the elderly in contemporary East Java. What strategies can childless people pursue to protect

themselves from insecurity in old age? Do good alternatives to having children exist? How do the various strategies compare in terms of security and status?

Six avenues to old-age support may be distinguished in rural Java. Informal adoption has long been common, as it is in Southeast Asia and Oceania more generally (Djamour 1959; Carroll 1970; Brady 1976; Carsten 1991). High levels of divorce and remarriage provide many Javanese with stepchildren. Support need not come from children, but via spouses, siblings, nephews, or nieces. Patronage, by interweaving social and economic relations, provides some poor older people with continued access to employment and support after “retirement” (Schröder-Butterfill 2005; Pelras 2000). A final source of support is charitable institutions operating through religious organizations or informal neighborhood networks (Benda-Beckmann 1988; Kreager 2003). In any event, older people may not always require support, as their wealth or income may allow them to remain independent.

These options differ in desirability and reliability, and this is reflected in their distribution. Figure 1 gives an overview of their incidence among demographically childless and *de facto* childless elderly by socioeconomic stratum. In Kidul, all alternatives to having one’s own children reflect negatively on social standing. Uncertainty of support, given the prospect of possible physical and mental incapacity, implies vulnerability, dependence, and loss of face. As the figure shows, adoption is favored in all strata, as it enables elders to live most closely in conformity with normal family expectations. For reasons noted above, the wealthier are more successful at forging lasting links with adoptive or stepchildren. Material and functional independence in old age, however, is common and is preferred over reliance on children or others (Schröder-Butterfill 2004). In all strata, the elderly express a strong preference to live independently of their children; the ideal is to have children close by but to live separately.¹⁷ Reliance on oneself or a spouse is thus found among all economic groups, but mortality and marital instability again take their toll: there is a marked disparity in the importance of spouses for old-age support between the upper two and lower two strata. In general, childless older men are less likely still to be married than older fathers (77 percent versus 91 percent); for older women, irrespective of whether they are childless or not, being without a spouse is the norm and merely a quarter were still married at time of interview. Straight “market solutions” to dependence in old age, such as private nursing homes, are still lacking in rural Java. Local norms in any case make wealth alone insufficient. The elderly in Stratum II could in most cases afford to purchase housekeeping and other services, but they turn instead to kin; wealth must be “converted” through long-term patterns of exchange into social relationships in which reliance on others in the event of frailty or illness belongs to established patterns of mutual obligation, not dependence. Support from kin other than children dominates among the elderly in Stratum III. Patronage and charity support half of the poorer strata, reflecting their relative and sometimes severe vulnerability. The following sections take each of these options in turn, moving gradually up the social scale.

The logic of charity

Charitable support from neighbors, distant kin, and religious institutions includes the giving of food, small sums of money, inexpensive medicine, and sometimes shelter. For the poorest poor, charity prevents starvation but excludes comforts and adequate medical care. The majority of poor villagers receive occasional charity, usually distributed via the local mosque during Ramadan or on *Idul Adha* (the festival of sacrifice), or given by neighbors and kin during an illness or other crisis. Of the 48 childless—including demographically and *de facto* childless—in the lower two strata, 27 receive charity. In five cases this was the main source of support, as illustrated by the following case description.

Mbah Lara, in her early 70s at the time of our fieldwork, was orphaned at a young age and began working as a maid in her early teens. She married and divorced twice, never accumulating enough money to own a house. Of her six children only two sons survived. Needing to work, Lara left her children with relatives for long periods, and one was eventually adopted by a childless couple. Her other son is also poor and has four school-age children. Following an illness when she stayed with him, Lara was cruelly reminded by a grandson that she was an unproductive extra mouth to feed. Rather than face further humiliation, she left, and since then relations have been severed. Lara was offered a derelict bamboo house belonging to a distant relative. This house was steadily disintegrating: bamboo walls were haphazardly reinforced with newspaper to keep out draughts; the ceiling was coming down, its supports eaten away by termites. One of Lara's neighbors gave her a plateful of food every day. When she was ill and someone bothered to inform the village nurse, she would receive basic free medicine. No one was willing to provide physical care, and soon Lara died.

This example shows many of the cumulative life-course events that create childlessness: poverty, migration and work in an urban environment, high infant and child mortality, divorce, the weakening of family bonds because of absence, and a lack of material resources to strengthen them. Consequent reliance on neighbors entails a sharp loss of dignity and self-determination. Yet poverty and a lack of children do not automatically lead to dependence on charity. In most cases, less stigmatizing options such as support from a relative or patron are forthcoming. In the eyes of villagers, the crucial factor is not demographic or economic failure, but additional moral shortcomings, especially in the sphere of ritual participation and neighborly exchange. Where a person fails to create and maintain close social relations from which support in old age may be expected, then his or her fate may be treated as a *fait accompli* (cf. Yan 1996; Marianti 2005). Villagers remarked that when Lara was younger, she was ungenerous; now even her own family felt no obligation to assist her. As one rich man put it, "How can she expect to reap, if she has never sown?"

Patronage and kin support

For most elderly without pensions, economic viability depends on continued access to work in the face of competition from younger and better-resourced villagers. In practice, this means having agricultural land, having capital for self-employment, or working for an employer. For childless elderly, continued income often depends on longstanding links with wealthy individuals, or patrons, who are prepared to continue employing them even as their capacity for work declines. Patronage may be defined as a hierarchical, dyadic relationship involving reciprocal obligations that are not merely economic but entail mutual social and political responsibilities, notably loyalty (cf. Scott 1972; Pelras 2000). Patrons are expected, for example, to give money or clothes to a client at *Idul Fitri* (the end of Ramadan) and may provide material help or loans for hospital treatment. Clients, in turn, offer free labor during patrons' social festivities and lend political support, especially if the patron is running for office. In Kidul, 16 childless elderly relied on patrons, and for ten this was their main support.

Mbah Nur was a very elderly widow who lived in the house of Pak Sastro, a comfortably-off farmer and builder. A distant kinship link existed between the two. However, Nur's presence in Sastro's household was not premised on kinship, but on agricultural labor that she and her husband had provided, first for Sastro's father and later for Sastro himself. Nur and her husband had owned a house, but sold it during difficult times; later they built a small bamboo house on land belonging to Sastro's family. Nur's two children both died in infancy. After her husband's death, Nur returned to her village of origin where several nephews and nieces were living.

She was not made welcome and soon returned to Kidul and was taken in by Sastro. For ten years until her death she lived with, and was supported by, her former employer. Initially she contributed to the household by collecting firewood and doing light agricultural and domestic work. By the time of our fieldwork she was too frail to do much, but was still treated affectionately as part of the family. When she died soon afterward, the costly funerary rituals were arranged and paid for by Sastro.

What distinguishes patronage from charity is the emphasis on past and present mutual advantage. Patrons benefit in terms of reputation, their care and loyalty serving to counter accusations of stinginess that quickly attach themselves to rich villagers who do not engage in readily observable forms of social legitimization (cf. Scott 1976: 41). The exchange of social value between patron and client not only makes patronage a reliable source of old-age support, it redefines the overt dependence of the client's last years positively as an aspect of longer-term reciprocity.

As in Nur's case, patronage often overlaps with kinship, and sometimes it is impossible to disentangle which premise is primary. Intermittent help to relatives in need is common, but sustained assistance by a relative other than a child or grandchild is relatively rare, because such links too closely resemble charity. Prolonged assistance by kin is instead dissimulated into other social roles (patronage, adoption) that are also found among nonkin. An acceptable exception is intragenerational kin support in which a sibling provides shelter, material support, and sometimes even care to an elderly childless sibling. Overall, of the 26 childless elderly who derive some assistance from a relative, only nine depend on them for major support.

Acquiring children through marriage or adoption

Given that divorce and remarriage are common in the life histories of older Javanese, the question naturally arises whether marriage to a spouse with children provides a general solution to childlessness. At first glance this alternative appears promising: 27 percent of childless elderly mention having a stepchild (*anak tiri*). Access to a child via marriage is, however, highly gendered. Men are in a better position to acquire stepchildren, since children tend to remain with mothers following divorce. On the other hand, men are less capable of establishing a close bond, since father-child links in Java are commonly characterized by respectful distance. The situation of stepmothers is scarcely better, as stepmothers are popularly feared and accused of treating stepchildren badly (cf. Geertz 1961: 42; Jay 1969: 151). Indeed, the Indonesian verb *menganaktirikan* (literally, to "stepchild someone or something") means "to neglect" (Echols and Shadily 1997: 18). Women are usually allowed to assume mothering roles toward stepchildren only if the biological mother is dead or absent. Villagers made clear that there is nothing automatic about relations between stepparents and stepchildren; some special investment in stepchildren is necessary for bonds to develop.

Mak Niti, a divorced woman in her early 60s, lives with her mother, Mbah Jah, and stepfather, Mbah Amat. She is the oldest of Jah's three children; two younger siblings live in Sumatra. Niti's father died when she was small, and her mother married Amat, a childless divorced man, a few years later. When she was young Niti lived with a variety of maternal relatives. However, as a young divorced woman she went to join her mother and stepfather in Sumatra, where the couple had gone to work. For 25 years they lived close to each other, and Niti's only son stayed with Jah and Amat for most of his childhood. In the mid-1980s, the three returned to East Java, moving into their current house, which was built on land Jah inherited and with money that Niti and Jah had earned. Amat contributed labor but

not money. The house contains two distinct economies with separate budgets and cooking pots. Relations are strained. Niti and her stepfather Amat almost entirely ignore each other. Niti never gives anything, such as cooked food or money, to Amat directly; her assistance reaches him only at the discretion of his wife. Stepfather and stepdaughter both emphasize that they are not father and daughter. Niti complains bitterly that in all these years her stepfather has never given her a single gift, “not even a glass of water.” She is hurt that her stepfather invested neither in their house in Kidul nor in her mother’s house in Sumatra. Amat once said to Niti that there was no point, since he had no children who could later inherit. Sharing between Amat and his wife, Jah, is limited, and Amat is no longer able to work. His only access to money is via neighborhood charity. Despite often being ill, he rarely consumes medicine and is painfully thin.

An association spanning decades notwithstanding, Niti and Amat have not developed a close, supportive bond. Step-relationships, no less than patronage, rely on exchange developed and maintained over many years; in the absence of positive efforts, feelings of obligation or responsibility hardly arise. In only three out of 16 cases of childless stepparents does the stepchild have a close and supportive relationship with his or her stepparent. In a further four cases occasional contact and sporadic support exist. It appears that acquiring reliable children through marriage is uncommon in Kidul.

Is the evidence on informal adoption more encouraging? Certainly acquiring an *anak angkat* (“raised child”), as it is called, is the most common response to childlessness. Of the 52 demographically childless elderly, 31 (60 percent) had ever had an *anak angkat*, and more than half of these had had several.¹⁸ In most cases adoption involves the child of a relative and is not formalized (see endnote 6). Because the children usually maintain contact with their families of origin, their divided loyalty poses a continuing threat to the adoptive relationship, as the following example shows.

Mbah Sita is a widow in her 70s. She and her late husband were originally from Ploso, a village 15 kilometers from Kidul. The couple were infertile, so they adopted one of Sita’s sister’s sons, Riyanto, and later one of her brother’s daughters, Rini. Despite owning a house in Ploso, they decided to move to Kidul, in this way reducing Riyanto and Rini’s contact with their birth parents. This strategy was not successful, as some years later Rini’s parents also moved to Kidul and built a house next to Sita’s. In time Riyanto married and moved out, and Rini’s parents eventually returned to Ploso. After Sita’s husband died, Riyanto and his wife and children briefly lived with Sita but then rented a house. Meanwhile Rini also married and was living in Ploso. Our first interviews suggested that she had moved to Ploso because her husband lived there, but subsequently it emerged that her move represented the breakdown of the adoptive relationship. Rini’s biological parents, who have several other children, had so persistently competed for Rini’s affections that the young woman eventually returned to live with her natal family. Sita did not even attend Rini’s wedding. After Sita lived alone for a couple of years, Riyanto and his family moved back in. Riyanto’s wife does the housework, and Sita still works as an agricultural laborer. During early interviews, when still living alone, Sita had been vague about who would inherit her house. Later she was certain: Riyanto would get the house, as he and his wife were taking care of her.

The case of Sita is not an isolated one: about one in five childless elderly who had ever adopted experienced the loss of a “raised child” to the contesting demands or attractions of the birth family. Higher-status villagers were more likely to succeed than poorer villagers. Even when an adoption is successful, the *anak angkat* may not provide much support. One-quarter of childless elderly who had successfully adopted received no support whatsoever

from their raised child, and a further quarter received only sporadic and insufficient support. Combining adoptions that failed because of the breakdown of the adoption with successful adoptions where support is nonetheless lacking, it is clear that half of all adoptions do not result in old-age support. Some elders, like Sita, are fortunate that at least one adoptee returns to help. Others may be sufficiently wealthy that they can forge a new filial tie late in life, for example by instating a grandchild, nephew, or niece as heir in exchange for old-age support (Schröder-Butterfill 2005). Those who are economically weak, however, and do not have other alternatives are highly vulnerable when adoptions fail.

In sum, most people in rural East Java engage in complex social networks in which gifts, visits, practical help, shelter, participation in rituals, and loans are exchanged. These interactions cannot be reduced to pragmatic concerns, although they create social bonds from which support may later derive. Given the uncertainty surrounding old-age support for childless elderly people, cultivating a range of social relationships increases the likelihood of support. A combination of strategies is commonly employed, of which Mbah Sita provides an example. In addition to her adoptions, she maintained patronage relations with rich landowners to secure access to paid work. In contrast, sole dependence on one's own or one's spouse's resources does not provide a viable solution to the risks of frailty and income loss in old age. Mbah Amat, as we have seen, obtained some help from his wife and indirectly from his stepchild, but needed to rely on charity. Niti, Amat's stepdaughter, is another case in point. In her early 60s, she is presently getting by on her income as a petty trader and has a large network of friends, but few relatives, in Kidul. She, too, is likely to depend on charity once she ceases to work.

If "putting all the eggs in one basket" carries risks, so does spreading the options too thinly. Thirty percent of childless elderly do not have a single main source of support, but rely instead on several insufficient sources. All but one of these elders are in the lowest two economic strata. One woman, for instance, has intermittent income from agricultural work, a rent subsidy from a relative, charitable support during religious and ritual celebrations, and a few pence earned by her adopted daughter doing minor housework in a rich neighbor's house. These options together will not suffice when she is no longer able to work herself.

Conclusion

Childlessness in later life arises from a more complex set of demographic variables than usually receive attention as determinants of population aging. The familiar emphasis on intentionally controlled fertility coupled with improved longevity is likely to give an insufficient account of the availability of children where older generations' childbearing years were subject to period factors promoting childlessness, notably marriage patterns, pathological sterility, migration, and high rates of infant and child mortality. Adopting a broad comparative perspective, we have suggested that childlessness, as a social phenomenon, takes a number of distinctive regional and historical patterns. Each pattern is in part the product of differing combinations of these factors. Detailed consideration of East Java illuminates the causes and consequences underlying one such pattern. As in historical Europe, marriage patterns and mortality at younger ages have been critical to sustaining high levels of childlessness. Unlike in Europe, however, in East Java nuptiality acts via the instability of marriage, rather than via its timing and incidence. Marital instability, as a catalyst of multiple sexual contacts, then appears to have acted in ways that resemble much of tropical Africa, facilitating the spread of sexually transmitted diseases in a context of considerable population mobility. In all of these areas, childlessness has been a major component of sustained low fertility.

The need for accurate measurement is a major problem confronting the comparative study of childlessness. Census and survey compilations provide an incomplete and inaccurate account, owing both to gaps in historical records and to the inevitable selectivity and simplification that occur when life histories are compressed into standard interview schedules. Combined methodologies, linking ethnography, life history, and survey approaches, are essential.

As a step toward clarifying problems of the childless elderly, this article has introduced a number of distinctions that enable this subpopulation to be identified and characterized more accurately. First, we have noted that where childlessness is a recurring social phenomenon, a repertoire of alternative routes to children or their functional substitutes becomes established, people often relying on several avenues in combination. In the East Javanese case, these avenues include informal adoption, patronage, remarriage to a spouse with children, and assistance by kin. Charity is a measure of last resort that does not represent a respectable solution. Second, the composite character of social childlessness has been disentangled to allow for three measurable components: *demographic childlessness*—the effect of nuptiality, mortality, and related population variables; *de facto childlessness*—the lack of support from any children; and *actual childlessness*—a total measure combining these two components, net of the compensating effects of successfully acquiring step- or adopted children. Even when compensating effects are included, childlessness in the study community stood at a minimum of 17.2 percent, or one in six elderly. Finally, we have noted that childlessness, as a recognized form of social disadvantage, is bound up with major differentials in social and economic status. Stratification of the older population in our study village showed that two-thirds of childless elderly are poor, and four-fifths exist at or below minimum subsistence, effectively necessitating community support and other forms of charity. In an era in which governments increasingly advocate family-centered policies to help elderly people, demographers have an important role to play in identifying those subpopulations for which family assistance is bound to remain inadequate.

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Note 1

The problem lies not only in the difficulty of tracing complete birth histories for the subpopulation of childless ever-married women, but in establishing the total population of women at each age who are at risk of childbearing. Knodel's (1988: 87ff.) family reconstitution data from 14 villages in eighteenth- and nineteenth-century Germany suggest that neonatal and infant mortality rates were particularly high among women with upwards of seven births, but also among those with only one birth. (Numbers in the latter group were admittedly small.)

Note 2

As Hull and Tukiran (1976: 7ff.) observe, levels of reported primary sterility among ever-married women aged 30 and older were implausibly low in some Indonesian provinces—in the range of 1.5 to 5 percent—and rising only to 8 to 12 percent in areas known to be particularly affected by sterility (e.g., East Java, Yogyakarta, Bali, East Kalimantan). For this reason women whose parity was not stated were reclassified and added to the category

of apparent primary sterility, producing a range of 7 to 21 percent. The figures we cite in Table 1 also include women whose children have all died.

Note 3

The published census figures refer to ever-married women, rather than all women. However, because only 0.7 percent of older women in rural East Java remained unmarried, nonmarriage does not significantly affect measures of childlessness in old age (Biro Pusat Statistik 1992: 5).

Note 4

The evidence on infertility and childlessness from the two rounds of the Indonesian Family Life Survey raises doubt about the reliability of the data. Figures for primary sterility among 60-69-year-olds in urban East Java are implausibly low for both 1993 and 1997 (3.5 and 1.9 percent), and in urban and rural East Java there are inexplicably large falls in sterility between the two rounds among women aged 70 and older (from 18.8 and 11.1 percent to 4.5 and 2.3 percent, respectively). In urban East Java, where Hull and Tukiran detected the nationally highest figures of childlessness (as the consequence of primary sterility and child mortality), the 1997 IFLS finds comparatively low measures of childlessness among the elderly, and again there appear to be considerable declines between the two survey rounds that remain difficult to interpret (see Schröder-Butterfill and Kreager 2003 for details). Improvements in infant and child mortality, as we shall see, occurred too late to account for these declines.

Note 5

Estimates based on colonial reports put the crude death rate at 18 per thousand in 1930 (Hugo et al. 1987: 116), while the 1930 census for Java points to a rate of 23 per thousand, with infant mortality at 200 per thousand live births (Utomo and Iskandar 1986: 13).

Note 6

A note on our use of the term “adopted child” as a translation of *anak angkat* (literally: raised child) is necessary. Unlike in the West, adoption in Java, Southeast Asia, and Oceania did not traditionally involve the complete and legally binding transfer of rights and duties in a child. Adoptions commonly occurred among related families and were rarely formalized. (Adoption is changing, and adoptive parents nowadays increasingly seek to make their status official.) This has prompted some authors to speak of fostering rather than adoption (Carsten 1991), or to use different terms (adoption, temporary adoption, fostering, borrowing, child care) for what they perceive as different degrees of adoption (Geertz 1961: 38ff; Jay 1969: 72ff.). We follow equally common usage of the term adoption and adopted children (Koentjaraningrat 1957; Djamour 1952; Carroll 1970) because, despite the fact that many adoptions in Java fail, they are initiated by childless couples with the intention of creating enduring and exclusive parent-child bonds.

Note 7

In Java, rituals (*slametan*) to mark a person’s death are conducted on specific days (e.g., on the third, seventh, fortieth, one-hundredth, and one-thousandth day) after a death; thus deaths do not go unnoticed. However, stillbirths and early neonatal deaths are marked by only a single slametan, making it much more likely that such deaths are forgotten or simply not mentioned.

Note 8

A further factor in low fertility (Santow and Bracher 1984; V. Hull 1975) is likely to have been the traditional importance on Java of long periods of breastfeeding and postpartum abstinence. These partly explain why fertility was lower on Java than elsewhere in the archipelago, despite lower age at marriage (McNicol and Singarimbun 1983), but are not a consideration here as they cannot account for observed levels of childlessness (long postpartum abstinence and breastfeeding have no relevance to women with no children, nor to the action of mortality in removing all children of women having only one or two births).

Note 9

In the 1990s East Java still had particularly low fertility compared with other Indonesian regions, which was not fully explained by levels of contraceptive use (Kasmiyati and Kantner 1998: 5). According to the 1994 Demographic and Health Survey, the total fertility rate in East Java was 2.2. Only Jakarta, Yogyakarta, and Bali had lower levels. Analysis of proximate determinants showed continuing high levels of infecundity (17 percent of ever-married women aged 15 to 49) relative to other regions.

Note 10

Although medical provision was historically better in Java than other areas of Indonesia, it remained seriously deficient until the second half of the twentieth century. The Dutch introduced vaccination against smallpox in the nineteenth century and attempted to fight malaria, cholera, typhoid, and the plague in the early twentieth century (Boomgaard 1986). The emphasis, however, was on preventive measures, with the treatment of individuals left in the hands of local and private health services. Access to affordable curative care was extremely limited, especially in rural areas (Abeyasekera 1986).

Note 11

One further violent episode requires mention. In 1965-66, with the fall of the Sukarno government, East Java was one of the major areas in which the purge of the Indonesian Communist Party (PKI) took place. An estimated 100,000 or more people were killed, as many local scores (including some doubtless unconnected to the PKI) were settled (Cribb 1990). While it is unlikely that Kidul escaped entirely, indirect evidence of the impact of these events on family networks (e.g., a marked rise in reports of broken marriages or of children who died at about this time) is not visible in field data.

Note 12

Demographic opinion is divided on the question of intentional fertility control in pretransitional Indonesia. Bracher and Santow (1982) note the presence of abstinence and awareness of the influence of prolonged breastfeeding; H. Gooszen (1999: 150ff.), and McNicol and Singarimbun (1986) think that contraceptive and abortion practices could have been influential. However, T. Hull (2001) concludes that deliberate avoidance of pregnancy early in marriage was rare. Avoidance of conception by couples who did not have children would seem unlikely. Other sources of infecundity, notably malaria, the plague, and reproductive tract infections as a result of unhygienic child delivery practices (cf. V. Hull et al. 1996; H. Gooszen 1999: 148ff.), may have played a role in view of the limited availability and quality of health provision (see endnote 10).

Note 13

According to Islamic law, men are expected to support ex-wives for a period of 100 days, and children until they are aged 18 (Jones 1994: 54ff.). In rural Java support for the upkeep of children is in fact rare, especially once a man has remarried. In Kidul, this reality seems to have engendered a widespread expectation that fathers do not provide support (cf. Jones 1992: 43).

Note 14

All personal names have been changed. Case studies presented here are brief summaries that synthesize several sources of data we have collected: in-depth interviews and reinterviews with an elderly person, interviews with other family members and neighbors, observation.

Note 15

The exclusion of all of these cases results in some 20 elderly respondents not being considered in our estimate of *de facto* childlessness. At the time of the survey none of the children of these elderly people was providing any support; hence if a survey snapshot alone were to be used to define *de facto* childlessness, the gross figure would rise from 30.5 percent to over 40 percent.

Note 16

Assignment of the elderly to an economic stratum is based on the economic situation of the households they live in at present. Two caveats arise from this. First, we cannot directly infer from the current situation an elderly person's economic status at the time of marriage and childbearing. Upward and downward social mobility occurs over the life course. The poor stratum in particular contains a number of elderly who have declined in old age from a status of marginal. Second, where the elderly live with children or grandchildren, their economic success or failure affects the assessment of households' economic status. Thus some elderly in rich households may have little individual wealth, but benefit from the material security of their coresident child. Conversely, some elderly people's household economic status is depressed by the existence of younger dependents.

Note 17

Hence inferring elderly welfare from residential data is unreliable. Evidence from India (Vera-Sanso 2005), Thailand (Knodel and Debavalya 1997), and the Philippines (Domingo et al. 1995) shows that elderly people living alone are not necessarily childless or vulnerable, while those living in households with their children are not necessarily secure.

Note 18

It is impossible to study the extent of adoption by means of existing survey sources. The Indonesian Family Life Survey, for example, relies on the household head identifying an adopted child as adopted, rather than own. No probing questions are included in the questionnaire. The Demographic and Health Survey is more useful in that it asks about the residence of children ever born; this allows estimates of how many children live with neither of their parents. In East Java, the proportion is 8.4 percent, higher than anywhere else in Indonesia (Central Bureau of Statistics 1995: 14).

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NOTE: Most elderly rely on a combination of sources. Thus, the figure counts all instances of an option used by the elderly and divides the result by the sum of all options in each stratum.
 SOURCE: Fieldwork data 1999–2000.

FIGURE 1.
 Distribution of old-age support strategies used by demographically childless and *de facto* childless elderly respondents in Kidul by socioeconomic stratum of their households

TABLE 1

Percentages childless among ever-married women aged 30 and older, selected provinces by rank, Indonesia 1971

Province	Rural	Urban
1. East Kalimantan	23.6	15.7
2. East Java	17.0	23.4
3. South Kalimantan	16.4	16.6
6. Central Sulawesi	15.3	12.5
8. West Java	14.4	15.9
9. Maluku	14.0	13.3
10. Bali	14.0	18.1
11. Central Java	13.0	18.7
13. Yogyakarta	11.7	15.7
23. West Sumatra	9.0	10.1
26. Bengkulu (Sumatra)	8.4	10.9
Indonesia total	13.7	16.4

NOTE: The ranking refers to the rural figures. Women were classed as childless if they reported never having given birth, if their parity was not stated on the census return, or if they were childless as a result of their child(ren) having died.

SOURCE: Hull and Tukiran (1976: 19), based on 1971 census data.

TABLE 2

Average number of children ever born (CEB) and children surviving (CS) per ever-married woman by age of woman (rural areas, provinces of Indonesia, 1990)

Province	55-59		60-64		65 and older	
	CEB	CS	CEB	CS	CEB	CS
East Java	4.3	3.4	4.1	3.2	4.1	3.0
Central Java	4.9	3.9	4.6	3.5	4.4	3.2
Yogyakarta	4.9	4.2	4.7	3.9	4.7	3.7
West Java	5.5	4.0	5.1	3.6	4.9	3.4
Indonesia	5.1	4.0	4.8	3.6	4.6	3.3

SOURCE: Biro Pusat Statistik (1992: 239, 242).

TABLE 3

Percentage of elderly respondents—men and women aged 60 and older—in Kidul by number of children ever born, children surviving, and children living in Kidul

Number of children	Children ever born	Children surviving	Children in Kidul
0	21.4	25.6	34.0
1	15.2	15.3	23.2
2	13.1	10.3	25.1
3	4.8	10.8	9.4
4	9.0	9.9	3.9
5	9.7	11.3	2.5
6+	26.8	16.8	2.0
N	145	203	203

NOTE: Data on children ever born are missing for 58 respondents because probing for this information was introduced only after childlessness emerged as pertinent. Information on respondents not reinterviewed at a later stage is thus often lacking. If only elderly women are considered, 19 percent have never given birth and 27 percent have no child surviving.

SOURCE: Fieldwork data, 1999-2000.

TABLE 4

Percentage of elderly men and women (aged 60 and older) in rural areas by number of marriages, Indonesia and East Java

	<u>Number of marriages</u>			N
	One	Two	Three or more	
Indonesia ^a				
Men	55.0	28.1	16.9	772
Women	60.7	23.4	15.5	790
East Java ^a				
Men	53	36	11	204
Women	63	27	10	236
Kidul ^b				
Men	38.8	35.8	25.4	67
Women	48.3	31.4	20.3	118
Childless men	42.9	28.6	28.6	14
Fathers	39.6	37.7	22.6	53
Childless women	32.3	41.9	25.8	31
Mothers	54.0	27.6	18.4	87

NOTE: The figures for men and women in Kidul do not sum to 203 as data on number of marriages are missing for some respondents.

SOURCES:

^aIFLS 1993

^bFieldwork data 1999-2000.

TABLE 5

Percentage of demographic childlessness among elderly respondents in Kidul by socioeconomic stratum of their households

Socioeconomic stratum	Childless	Parents	All elderly
I Rich	17.3	21.6	19.7
II Comfortably off	17.3	30.5	28.1
III Marginal	26.9	28.8	30.0
IV Poor	38.5	19.2	22.2
Total (N)	52	151	203

SOURCE: Fieldwork data 1999-2000.

TABLE 6

Mean number of children ever born and of children surviving among elderly respondents in Kidul by socioeconomic stratum of their households

Socioeconomic stratum	Mean number of children ever born	Mean number of children surviving
I Rich	4.0	3.9
II Comfortably off	4.0	3.2
III Marginal	3.9	2.6
IV Poor	2.6	1.6
Total (N)	145	203

NOTE: Data on children ever born are missing for 58 respondents because probing for this information was introduced only after childlessness emerged as pertinent. Information on respondents not reinterviewed at a later stage is thus often lacking. The difference by strata in the mean number of children ever born is not statistically significant (test of linearity, $p=0.082$). The difference for mean number of children surviving is significant ($p=0.001$).

SOURCE: Fieldwork data 1999-2000.

TABLE 7

Percentage of actual childlessness among elderly respondents in Kidul by socioeconomic stratum of their households

Socioeconomic stratum	Childless	Parents
I Rich	11.1	22.2
II Comfortably off	5.6	32.9
III Marginal	22.2	30.5
IV Poor	61.1	14.3
Total (N)	36	167

SOURCE: Fieldwork data 1999-2000.