

CHILD-BEARING VERSUS CHILD-REARING:
CO-RESIDENCE OF MOTHERS AND CHILDREN
IN SUB-SAHARAN AFRICA

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Abstract

Both the distinction between child-bearing and child-rearing and that between the rights and responsibilities associated with each is evident in most of tropical Africa. Traditional forms of child-fostering are widespread; in some populations there is also separation of older children from their mothers, especially after a divorce. Variants of child placement associated with modernization are also common.

Analysis of information for children from some 60 broad ethnic groups spread over 7 countries, derived largely from WFS household questionnaires, shows as many as 10-40% of children aged 5-14 not living in the same household as their mother. There are marked differentials by age and sex of the child and by ethnic group and socio-economic variables. Differentials in the level of child circulation are analyzed here in relation to social organization variables. Differences in the patterns of child circulation are also briefly discussed.

1. INTRODUCTION

It has been known for a long time that members of the extended family play a considerable role in child-rearing in tropical Africa: references to assistance with educational costs, for example, abound. That more than this is involved has also been known. Most strikingly, detailed documentation and discussion by anthropologists of patterns of widespread fostering - involving the actual relocation of a significant proportion of children away from their biological parents - became available as early as the 1960s, largely from the work of Esther Goody in Ghana (brought together in Goody, 1982). It has thus been quite evident in the literature on Africa that there is a clear distinction between child-bearing and child-rearing.(1) The rights and responsibilities associated with child-rearing - its costs and benefits - are far from being limited to a child's biological parents: as one of the local sayings expresses it "A child is not for one person." Indeed, an extensive web of relationships and responsibilities involving all the actors - child, parents and pro-parents - is involved.

The implications of extensive child circulation have been remarkably slow to penetrate the demographic literature, however. Most of the studies that have focussed on it to date have been anthropological (e.g. Goody primarily though not exclusively on the Gonja, Opong on Dagbon (1971), Schildkrout in southern Ghana (1973) and on the Hausa, Lallemand on the Mossi (1976) and Kotokoli (1980), Etienne on the Baoulé (1979), Brydon for Avatime (1979, 1985), Bledsoe on the Mende (1985, forthcoming)). Despite the growing body of material these studies provided, they largely failed to attract demographer's attention until very recently. The problem was not simply a question of one discipline being unaware of work in another, although this factor doubtless played a role. That this was not the sole factor is shown by the fact that even Kreager's overview (1980) of the literature on fostering and adoption largely failed to awake resonance among people working in population studies, although it was prepared for IPPF. A second contributing factor lies in the fact that these studies were largely unable to communicate effectively the quantitative importance of the phenomenon. Although they are often extremely rich in insights they are necessarily limited in scale, and many are limited in generalizability. The

material ranges from the anecdotal (e.g. in Smith's biography of Baba of Karo) to surveys of at most several hundred children (Isaac and Gordon (1982) on the Upper Bambara Chiefdom in Sierra Leone), with the majority of the individual studies focussing on a few dozen or fewer households. Moreover, with the exception of Goody, few of the authors have analyzed comparative material from more than one area and formulated theoretical generalizations from this.

Large-scale data-sets that might demonstrate the quantitative significance of the phenomenon more effectively have been rare. Furthermore, analyses based on them have tended to use summary indicators based on indirect data. The data often proposed in this context are the numbers or proportions of children reported by women as living elsewhere in a census or demographic survey.⁽²⁾ These can readily be derived from the classic set of three questions (the number of her children living with her, the number living elsewhere, and the number dead) asked each woman in most African demographic surveys instead of a single direct question on the total number of her children, in order to reduce omissions of absent or dead children.

This type of demographic data is extremely frustrating however. Firstly, they are not specific by age of the child: often they are not sex-specific either. Yet co-residence of mother and child may vary markedly by age or sex of the child. Secondly, they refer on average to very young children. In order to exclude grown-up, married children the analysis must be limited to women married less than, say, 15 years (or to women under, say, 30). Young children are inevitably over-represented in such data because although the oldest women in this group can have children of any age up to about 15, the younger women can only have young children. The result is that although children born to women married less than 15 years can be any age between 0 and about 15, their average age is less than 5. Since the residence patterns of very young children are not likely to be the same as those of older children - very young children are much more likely to be with their biological mother in nearly all societies - the results obtained may be misleading.

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In other words, for study of child-residence and child-rearing patterns there is an urgent need for comparative data that are both large-scale and representative and also age- and sex-specific, to complement the anthropological work.

2. DATA

2.1 New data and their potential

The surveys conducted in Africa in the context of the World Fertility Survey provide, for most of the countries concerned, not only the above type of summary measures but also a unique set of unexploited data. Not only are these data both age- and sex-specific but they also refer to a representative sample of children in each age-sex group. More specifically, for each child enumerated in the Household Questionnaire it was standard practice in WFS to identify the child's mother, if present in the same household, and then to provide a code linking the child with his/her mother. The information was originally included in WFS to provide data for use in the Own Children method of estimating fertility. Strangely enough, it was retained in nearly all the African WFS surveys (except Senegal), despite the fact that the method is largely inapplicable in these countries precisely because so many children are not residing with their mothers (and also because of the very limited knowledge of ages). Its inclusion turns out to be a windfall, however, because it provides a unique source of information on whether mother and child co-reside.

The possibilities offered by these data are enormous. Firstly, sample sizes are unusually large. A total of some 250,000 young persons under age 20 are included in the WFS Household Files for the seven countries for which we have permission to use these data (Cameroon, Ghana, Ivory Coast, Kenya, Lesotho, Nigeria and Sudan). Even if we restrict attention to children under age 15 in order to facilitate exclusion of those who are already married or otherwise independent of their parents (and if we also exclude the few persons under 15 who were already married or recorded as a household head), there are still 190,000. The Cameroon survey in particular is a tremendous resource, with nearly 80,000 children under 15. These sample sizes are large enough to permit reliable age- and sex-specific estimates for major sub-groups and regions representing a wide variety of

populations.

Secondly, we can link the information on mother and child co-residence with a large range of other information. Some of the WFS Household Questionnaires included detailed information on the household and/or the socio-economic characteristics of all household members: again Cameroon stands out here for its wealth of information, although Ivory Coast, Nigeria and Sudan should also be mentioned for their range of data. In these countries extensive analyses by socio-economic subgroup should be possible. Furthermore, in all countries - even those with only limited information in their Household Questionnaires - it is possible to link the Household Files with the Standard Recode Files that contain detailed data (including educational and occupational characteristics), from the Individual Questionnaire administered to women of reproductive age. Finally, through record linkage within each Household File rather than between files, it is possible to link children and the information on their mother's residence on the one hand with household composition variables and with characteristics of the household head on the other.

In other words, it is possible not only to estimate the prevalence of non-maternal residence and differentials by region or socio-economic group, but also to analyse the patterns of child circulation. These data should, for example, permit us to assess two aspects of child redistribution. We can examine not only the redistribution of children between socio-economic groups but also the extent to which irregularities in the "natural" distribution of children - either between individuals or over the individual's life course - are smoothed out by redistributing the children from households with an abundance of children to those experiencing a shortage as a result of either sub-fecundity or advanced age.

Here we report on the first results from the very first stage in analysis of these data - estimation of the prevalence of non-maternal residence and examination of its determinants. Child-circulation patterns and their implications will be addressed in subsequent analyses.

2.2 Some qualifications

Before presenting the results, we should mention a couple of cautionary notes:

(i) Conceptual issues

Non-maternal residence is not synonymous with child-fostering although it is often referred to as though it were. Fostering refers to the assumption by someone other than a biological parent of the rights and responsibilities associated with domestic provision of one or more of the functions of social parenthood – nurturance, socialization, training for an adult role, sponsorship into adult society.(3) It does not refer simply to residence as such, although by definition the child is unlikely to live in the same household as his/her biological parent.

- Fostering typically involves the child residing away from both biological parents. Non-maternal residence refers only to the mother: in some cases children may be living with their father. Fostering arrangements can thus be seen as a particularly interesting sub-set of non-maternal co-residence patterns.

- Lack of common residence does not necessarily mean lack of contact or full delegation of the maternal role. It can happen that a child who is not living with his/her mother is living close by. If this occurs in a case where the maternal role was already relatively limited (for example, an older boy in a society where the father is the adult primarily responsible for the upbringing and training of teenage boys), residence nearby rather than actual co-residence may have only a small impact on the mother-child relationship. Thus whereas the delegation of the parental role is the essential element in fostering, it is not necessarily a major element in non-maternal child-residence. Where mother and child do not live together, however, it is commonly so that the mother is not the primary child-rearing agent: someone else has primary authority over and responsibility for the child.

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These two considerations imply that non-maternal residence is a phenomenon of interest in its own right which incorporates fostering but which is broader in its scope.

(ii) Data issues

As is the case with marriage and, indeed, with all the most interesting phenomena in Africa demography, the data should certainly not be treated as perfect.

- Reporting on a social rather than a biological mother may occur in surveys, either as a result of genuine ignorance as to the identity of the biological mother or as a result of misunderstanding of the intent of the question. However, we suspect that the former is infrequent even if not entirely absent and that in the context of WFS, with its strong emphasis on biological motherhood, errors of the second type were probably kept relatively low. To the extent that such errors are present they will lead to conservative estimates of the proportions of children not living with their mother.
- The data refer to residence in the same household and thus are sensitive to the definition of household used. Again, in the context of WFS - this time because of its strong emphasis on comparability - although differences in the definition of household may have occurred, they are likely to be less serious here than with most other data sets. Some differences may remain, however, particularly in the treatment of polygynous unions. We shall look at this in more detail later.
- Given the difficulty sometimes experienced in defining who constitutes a "usual" resident, preference is often given to a de facto population definition in demographic analysis. Here, however, that could lead to overestimates of the phenomenon of interest: children of women who had gone away for just a short time on business or to visit their families would be counted as not residing with their mother. We have, therefore, not adopted a de facto definition here. As a result, our estimates of the levels of non-maternal residence are likely to be slightly conservative to the extent that

respondents are more likely to have used over-generous than over-restrictive definitions of "usual" residents of their households.

- Finally we should note that the original WFS Household Files were not standardized or edited as intensively as the Standard Recode Files. We have, however, made systematic checks of the main variables used for this project, correcting any obvious coding errors.

Overall we believe the data to be perfectly usable. The fact that we find quite good correspondence when we compare estimates for adjacent, related populations covered by the separate national surveys of two different countries is most reassuring.

3. FIRST RESULTS: THE PREVALENCE OF NON-MATERNAL RESIDENCE

Proportions not living with their mother by age and sex are given in Table 1 for each of the major regions used in the WFS reports. The corresponding sample sizes can be found in Table 2. Figure 1 gives an overall impression: it maps the percentages of all children under 15 who are not living with their mother for some 55 regions (Lesotho is excluded only for reasons of space).

A distinct regional pattern is observed. The percentages are less than 10% throughout Sudan, in eastern Kenya and parts of northern Nigeria. 10-20% is typical for most of Kenya and much of Cameroon, as it is for all the rest of Nigeria and the north of the Ivory Coast.(4) More than 20% of children are not living with their mothers though in parts of southern Cameroon and throughout southern Ivory Coast. The general pattern is quite plausible, being in broad agreement with other more fragmentary information that child circulation is more limited in eastern than in western Africa and with the fact that within West Africa particularly high levels of child circulation in Ghana and southern Ivory Coast have drawn comments from several anthropologists (in addition to those already cited, see Clignet (1970)).

Table 1 : Percentage of children not residing with their mother, by sex and age : major regions

Age Sex	0-14			0-4			5-9			10-14		
	T	M	F	T	M	F	T	M	F	T	M	F
CAMEROON												
South Central	24.4	24.4	24.4	16.7	16.0	17.4	27.2	27.3	27.0	32.2	32.8	31.6
Coast + Yaounde + Douala	19.0	18.5	19.5	7.5	7.3	7.7	21.8	21.4	22.2	34.8	34.2	35.3
East	18.6	18.8	18.3	8.7	9.0	8.4	21.9	21.5	22.3	30.5	32.0	29.0
South West	17.2	17.1	17.4	6.3	5.6	6.9	17.8	17.0	18.6	32.5	34.0	31.0
West	17.2	16.8	17.5	8.1	8.0	8.2	20.0	18.4	21.5	26.7	27.3	26.0
North	17.0	17.2	16.8	7.4	6.5	8.3	20.4	20.1	20.7	28.7	30.4	26.5
North West	13.0	12.4	13.7	6.3	5.6	7.0	15.1	14.4	15.8	20.2	19.6	20.8
GHANA												
Volta	27.0	27.9	26.0	14.3	15.4	13.3	27.5	27.7	27.3	40.3	40.7	39.8
Western	25.6	22.9	28.4	14.0	12.6	15.5	28.3	26.3	30.2	38.0	33.1	42.6
Eastern	24.5	23.9	25.0	17.1	17.1	17.1	25.8	25.4	26.3	31.7	30.9	32.4
Central	23.7	22.4	25.2	14.9	13.8	16.2	26.8	24.9	28.9	31.5	31.2	31.7
Brong-Ahafo	23.0	21.6	24.5	15.3	15.5	17.1	26.6	25.5	27.9	27.4	25.7	29.1
Greater Accra	22.6	18.5	24.4	9.7	8.3	11.0	21.6	20.8	22.6	38.8	30.7	45.8
Ashanti	22.0	20.9	23.3	10.8	9.6	12.1	26.0	23.4	28.7	34.2	33.7	34.6
Northern	14.6	14.4	14.7	4.1	3.2	5.1	17.7	18.3	17.3	26.5	26.7	26.2
Upper	13.6	11.6	13.3	6.1	6.2	6.0	11.9	11.2	12.6	21.7	19.2	24.4
IVORY COAST												
Forest	21.2	20.5	22.0	7.4	6.8	8.2	24.6	22.9	26.2	39.9	39.6	40.3
Savanna	21.3	22.2	20.5	7.3	7.7	6.8	26.7	28.0	25.5	35.3	35.3	35.2
KENYA												
Western	16.1	15.4	16.8	10.2	12.4	8.1	17.8	16.0	19.4	22.2	18.9	25.1
Nyanza	14.6	14.3	15.0	6.9	7.9	5.9	16.1	14.8	17.4	22.6	21.8	23.2
Rift Valley	11.8	10.6	12.8	5.6	4.9	6.3	12.5	12.2	12.8	19.6	17.6	21.1
Coast incl. Mombasa	11.7	11.4	11.9	6.2	6.7	5.7	14.0	12.3	15.5	17.3	18.3	16.7
Central + Nairobi	11.3	10.2	12.3	6.0	6.1	6.0	11.2	10.4	12.2	18.3	15.6	20.8
Eastern	9.8	10.3	9.2	7.0	7.4	6.7	9.9	11.2	8.7	13.0	13.0	13.0
LESOTHO												
	20.7	20.8	20.5	11.6	11.3	11.9	22.9	23.0	22.8	29.0	30.0	27.9
NIGERIA												
South-West	12.9	12.0	13.8	5.4	4.9	5.9	14.3	14.2	14.4	21.6	19.5	23.7
South-East	12.9	12.2	13.6	6.5	7.4	5.7	13.6	11.4	15.8	20.1	18.9	21.1
North-East	10.5	11.0	10.1	5.9	6.6	5.2	12.1	12.5	11.6	15.9	15.9	15.9
North-West	9.0	8.8	9.3	5.1	4.3	5.8	10.8	10.8	10.9	13.1	12.7	13.6
SUDAN												
Darfur	8.8	8.8	8.7	3.5	3.0	4.0	9.6	9.7	9.6	14.3	15.3	13.3
Kordofan	6.6	6.2	7.1	3.0	3.5	2.5	6.6	5.9	7.3	10.9	9.9	11.9
Eastern	6.2	6.6	5.8	2.4	1.9	3.1	6.4	7.2	6.1	11.0	11.3	8.6
Central	5.2	5.4	4.9	1.7	1.8	1.6	5.5	5.9	5.0	8.6	8.8	8.3
Khartoum	4.7	4.7	4.6	1.8	1.6	2.1	4.7	5.1	4.3	7.6	7.4	7.7
Northern	4.4	4.0	4.7	1.3	1.2	1.4	2.6	2.2	3.1	8.8	8.5	9.0

Notes : - Exclusively urban areas have been linked to the surrounding/neighbouring region.

- Children recorded as ever-married or as living with a spouse, and those recorded as a household head, are excluded.

Source : World Fertility Survey household files.

Table 2 : Sample Size : Number of children under age 15 recorded in the WFS household surveys by major regions

Region	N	Region	N
<u>CAMEROON</u>		<u>KENYA</u>	
South Central	11,691	Western	2,835
Coast + Yaounde + Douala	12,278	Nyanza	4,418
East	3,791	Rift Valley	4,793
South West	7,098	Coast (incl. Mombasa)	1,635
West	12,347	Central + Nairobi	5,428
North	20,881	Eastern	3,948
North West	11,624	total	<u>23,057</u>
total	<u>79,710</u>	<u>LESOTHO</u>	total <u>3,696</u>
<u>GHANA</u>		<u>NIGERIA</u>	
Volta	1,555	South West	4,879
Western	1,105	South East	7,612
Eastern	2,318	North East	6,278
Central	1,037	North West	5,378
Brong-Ahafo	1,213	total	<u>23,947</u>
Greater Accra	1,284	<u>SUDAN</u>	
Ashanti	2,921	Darfur	6,165
Upper	1,332	Kordofan	4,516
Northern	947	Eastern	4,451
total	<u>13,712</u>	Central	9,450
<u>IVORY COAST</u>		Khartoum	3,718
Forest	10,846	Northern	2,532
Savanna	4,292	total	<u>30,832</u>
total	<u>15,138</u>	TOTAL	<u>190,092</u>

Note : the few persons under 15 recorded as ever-married/living with a spouse or as a head of household are excluded.

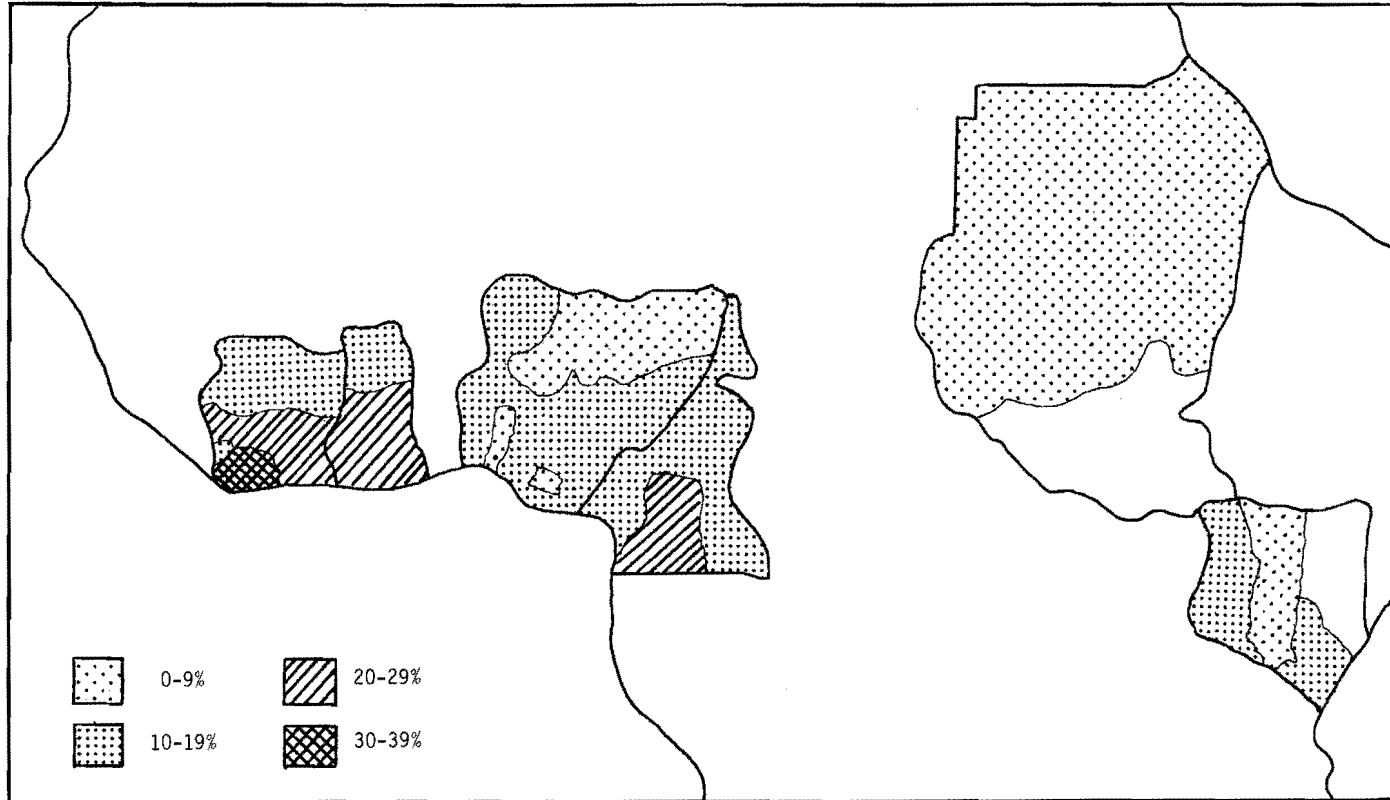


Figure 1 : Percentage of children under age 15 not residing with their mother, by administrative region.

The percentages not currently residing with their mother among all children under 15 are of course well below the percentages who ever live away from their mother, partly because children are unlikely to leave their mother in the very first years of life and partly because even older children who leave their mother do not necessarily spend all the rest of their childhood years away from her. The percentages ever living elsewhere are probably more closely approached by the percentages away from their mother in our oldest category, children aged 10-14. These are mapped in Figure 2. A similar general pattern emerges here as in Figure 1, though at markedly higher levels and with more marked differentials. Whereas the figures for Sudan and Kenya here are nearly all in the range 10 to 19% (as are those for northern Nigeria too), the whole of Cameroon, Ghana and Ivory Coast, together with parts of southern Nigeria, record figures in excess of 30%. In southern Ivory Coast more than 40% of children aged 10-14 (in one area as many as over 50%) were not living in the same household as their mother.

Clearly it is the case that over very wide areas, large numbers of children spend considerable portions of their childhood in another household than their mother's.

It is worth looking more closely at the pattern by age and sex, and at rural-urban differentials. Figure 3 plots selected quantiles from the frequency distribution of the regional percentages for each age-sex group. For the youngest children (ages 0-4), the percentage not living with their mother is typically in the range 5 to 12%, although even at this young age higher figures are found. There are only limited indications of differences between sons and daughters. For age group 5-9, the percentage not living with their mother rises to typical values in the range 10 to 22%. Again there is little indication of a marked sex differential. By age-group 10-15, however, not only have typical values risen to 20 to 30%, with some very high values, but there is also a slight but clear tendency for girls to be away more than boys.

More information on this differential is given in Figure 4, which portrays rural-urban differentials.(5)

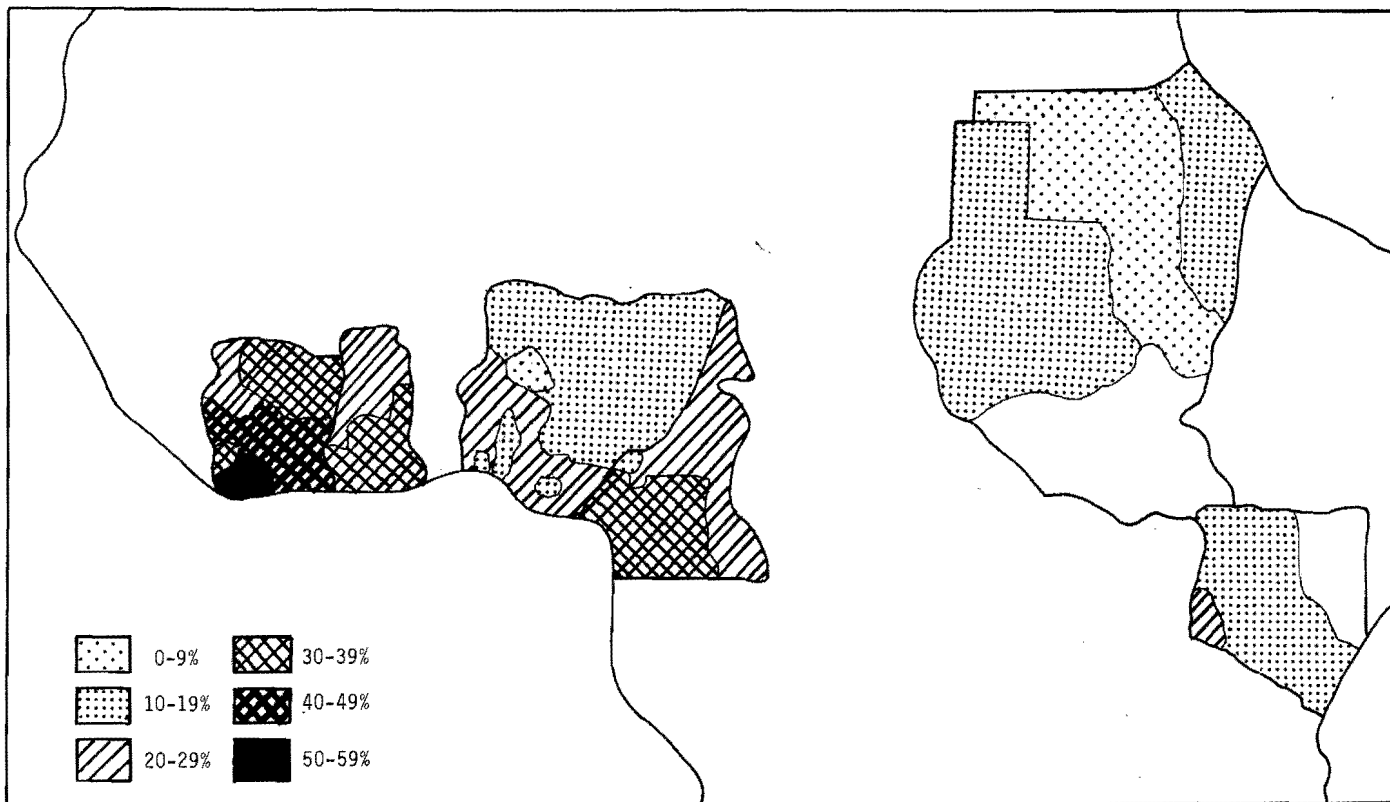


Figure 2 : Percentage of children aged 10-14 not residing with their mother, by administrative region.

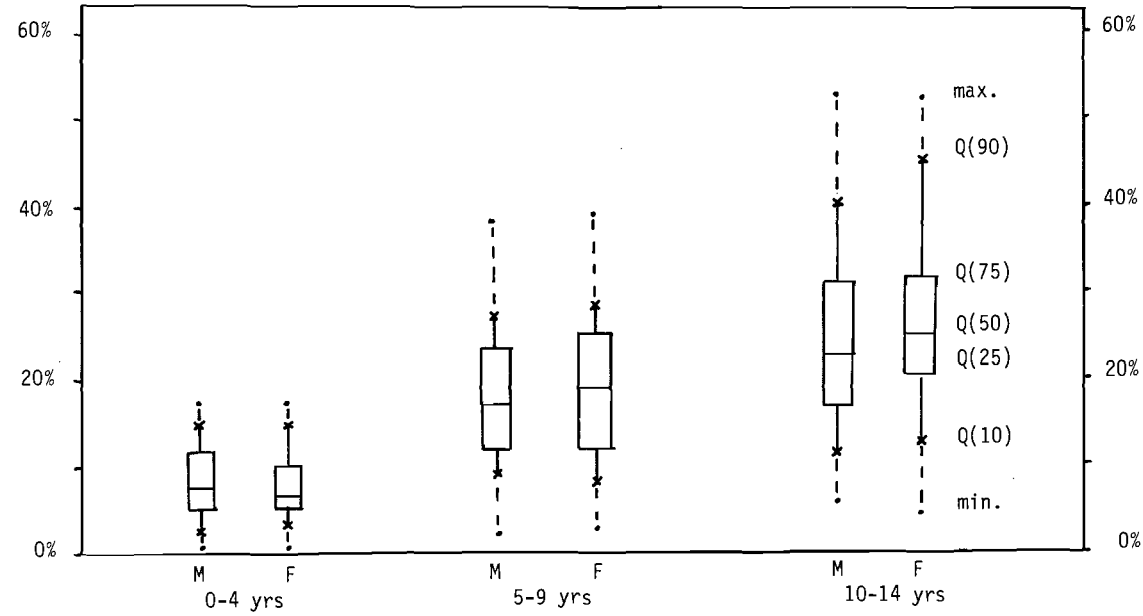


Figure 3 : Distribution (selected quantiles) of regional percentages of children not residing with their mother, by age and sex (56 regions).

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Figure 4 shows that for the youngest age group (0-4 years) the percentage of children not residing with their mother is systematically higher in rural than in urban areas. Either there is more circulation of young children in rural than in urban areas, or young children are being sent out of the urban areas. Although it is impossible with these data to disentangle these two possibilities, we suspect that the second may be increasingly important. Out-fostering of very young children from urban to rural areas has now been observed for several regions - for the Mende by Bledsoe (Bledsoe and Isiugo-Abanihe, forthcoming), the Avatime by Brydon (1985) and in Zambia by Hansen (personal communication). Some mothers say that rural conditions provide a better environment for their young children than do the towns. There is a growing body of evidence that women find it hard to make child-care arrangements for young children in urban areas, and that many find the presence of young children a financial, logistic and even a social burden. Although the well-to-do may be able to employ housemaids, nannies or ayahs to look after their young children, other women appear to prefer sending their children to a rural area, at least until they reach school age. Whatever the underlying reasons, it is certainly true that the increasing availability of bottle-feeding, of infant formula and of various milk products and other weaning foods means that physiological constraints necessitating co-residence of babies and very young children with their mothers are fading.

For the central age group (children aged 5-9), there are few differences between rural and urban areas, although there appears to be a slight tendency for boys to be less likely to be away from their mother in urban than in rural areas (the effect of better school facilities, perhaps?) and for girls to be more likely to be away from their mothers in urban areas.

For children aged 10-14 there are large rural-urban differentials for both sexes, particularly for girls. The proportions of both boys and girls not with their mothers are significantly higher in urban than in rural areas. This is probably largely the result of actual rural-urban movement related to the concentration of secondary schools in urban areas (see Gould (1985) for a discussion of educational circulation in east Africa, or Saint-Vil (1981) on Ivory Coast, for example), to the better training and employment possibilities in the towns and above all, for girls, to the

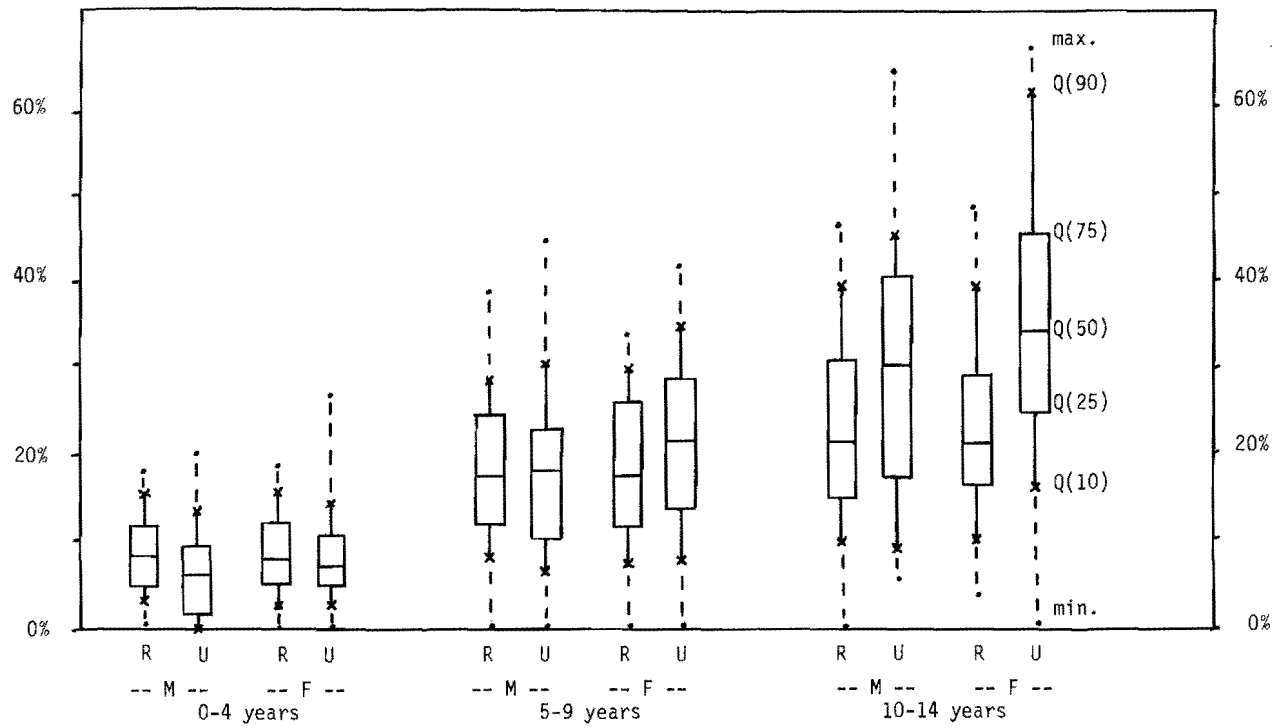


Figure 4 : Rural-urban differentials in the frequency distribution for the percentage of children not living with their mother, by age and sex (55 regions)

demand for housemaids.(6)

It is abundantly clear from these data not only that child circulation is a major phenomenon affecting sizeable proportions of the population, but also that it may take forms other than the traditional forms of fostering originally studied and that there are significant differentials to be explained. Before proceeding further, however, we need to consider the adequacy of the approach adopted so far.

4. INADEQUACY OF THE DEMOGRAPHER'S KNEE-JERK

It is virtually a knee-jerk reflex among demographers to analyze their data not only by age and sex but also by administrative region and by urbanization. The latter reaction is inadequate here, for both methodological and substantive reasons.

Child circulation is a form of relocation or migration, and to analyze it most effectively we need to use analysis units that form closed populations. We have already mentioned the impossibility of distinguishing between differentials in circulation within two sub-regions from circulation from one to the other. Although administrative regions may be relatively closed in terms of their population, not all are closed, and a breakdown of them into separate rural and urban areas is a clear contravention of the requirements.

Moreover, the categories "administrative region" and "urban-rural" are both poor proxies for a host of social organization variables of key relevance for the study of child circulation in Africa. Goody's classic work on fostering developed a model in which fostering is a function of kinship, marriage and inheritance systems on the one hand, and of social and political complexity on the other (Goody, 1982). In essence the first group of variables determines the extent to which the members of the lineage(s) to which the child belongs, not just the biological parents, have an interest in exercising direct rights over the child and the extent to which a child has property or other rights elsewhere. (It can also, through the intermediary of residence patterns, affect the extent to which it is in the direct interests of the parents, particularly the mother, to send a child

elsewhere to live with kin (for example, in those societies where marital residence is neither uxorilocal or matrilineal but where women return to live near their own kin in old age) to maintain close contacts and/or to support her there later. The second set determines the extent to which circulation of children, not only to kin but also to non-kin, can be used to develop or strengthen patron-client or alliance relationships, for training, or to enhance social mobility.

Goody (1982, p. 275) summarized the general implications of these considerations with three broad propositions concerning traditional fostering patterns:

- In undifferentiated segmentary societies, parental roles are unitary and there is little delegation of child-rearing; these societies are characterized by very little, if any, fostering other than as an immediate response to family crises. In undifferentiated societies with matrilineal or double descent systems, although parental roles are not unitary, it is largely jural status and reciprocities that involve other persons while childrearing is still vested primarily in the biological parents and there is little fostering outside crisis situations.
- Differentiated states are characterized by fostering extending beyond response to family crises. Goody makes in addition a distinction between simple differentiated states and more complex hierarchical states. In this distinction simple differentiated states are characterized by fostering primarily to kin, the complex hierarchical states by fostering to non-kin as well as to kin and by a greater importance of fostering for social mobility and for forging alliance or patron-client relations.

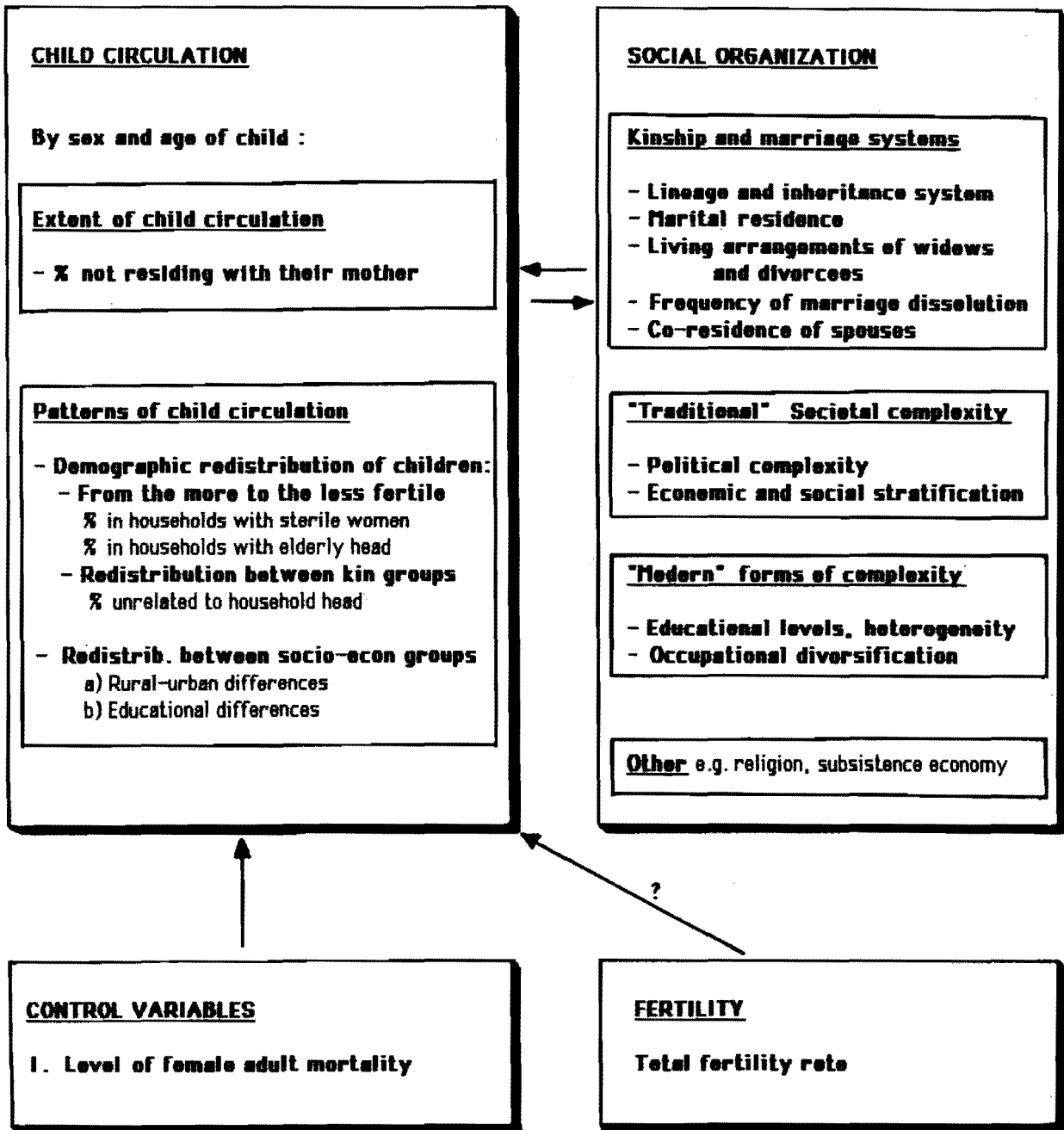
As Goody also indicated, this model can readily be extended beyond traditional social structures to include the effects of increasing social and economic differentiation associated with modernization. Indeed, her model implies increasing levels of child circulation, especially circulation to non-kin for education, training and sponsorship purposes, with the increasing social differentiation associated with modernization. The model could also be extended to include changes in kinship, marriage and inheritance systems, although this seems less urgent given the slower pace at which these appear to be changing.

Figure 5 shows a simple extension that incorporates explicitly not only modernization as a distinct dimension, but also the fact that our data relate to non-maternal residence rather than to fostering. Two sets of primary variables are distinguished. In the first are found the intensity of child circulation and the patterns of child circulation (not analyzed in the present paper). In the second are found a series of variables reflecting other aspects of social organisation. These are grouped under four headings:

a) Kinship and marriage variables:

- The form and strength of lineage organisation and inheritance systems provide an indicator of the potential interest of other lineage members than just the biological parents in child-rearing.
- Women's marriage and residence patterns affect both the possibility for her children to reside with her, and the desirability of having at least one raised elsewhere. We distinguish three key variables here :
 - co-residence of spouses may constrain the possibilities for co-residence of children and their mothers, since where spouses do not live in the same household, it is not uncommon for the older children, especially the boys, to live with their father rather than with their mother;
 - frequency of marital dissolution also constrains the possibilities for mother-child co-residence, since older children are likely to follow the husband after divorce in many societies, or to go to the husband's lineage after his death (in others they may go to members of their matriline);
 - marital residence rules in combination with the residence patterns of women in old age, after divorce or following widowhood determine the desirability of sending at least one child to be raised in the place the mother will later live.

Figure 5 : **CHILD-BEARING VERSUS CHILD-REARING IN TROPICAL AFRICA:**
PATTERNS OF CHILD CIRCULATION AND SOCIAL ORGANIZATION



- b) "Traditional" forms and levels of societal complexity:
 - Complexity of the traditional political structure
 - Socio-economic stratification

- c) "Modern" forms and levels of complexity:
 - Educational levels and heterogeneity
 - Occupational diversification related to modernization.

- d) Other structural or cultural variables such as religion.

Finally, two additional sets of variables have been included in Figure 5 to complete the overall model, namely a control variable (the level of female adult mortality) and fertility itself.

Obviously regional and rural-urban breakdowns are as inadequate to handle this type of model as they are methodologically limited. The use of ethnic group as unit of analysis, however, provides a solution to both substantive and methodological problems. Our further analysis proceeds, therefore, on the basis of results for ethnic groups.

5. DETERMINANTS OF NON-MATERNAL RESIDENCE: ETHNIC GROUPS AS UNITS OF ANALYSIS

Using ethnic group with the WFS Household Questionnaires is not straightforward. Direct information on ethnic group is available for all children only in Cameroon, although we can assume that practically all the children in the Lesotho survey are Sotho. In Ivory Coast, ethnic group was asked only for persons over age 15: we have linked the household head's data to each child and made the simplifying assumption that children were of the same ethnic group as their head of household.(7) In Sudan, ethnic group was not asked for each individual: it was, however, ascertained at the level of the household. Unfortunately the meaning of the codes used is not available, so Sudan must be dropped from the analysis.(8)

In countries where ethnic group was not ascertained at all in the Household Questionnaire, we must use information from the Individual Questionnaire administered to women of reproductive age instead. In other words, we must link the data from two files. One possible procedure would

be to identify for each child in the Household Files the data for his/her mother (if present) in the Standard Recode Files and then to assign to each child the ethnic group of the mother (or that of, say, the oldest woman interviewed in the household in the event the mother was not present). Unfortunately, quite apart from any errors that might be introduced by inter-ethnic marriages, this would have the effect of excluding all children in households where there was no woman of eligible age interviewed. Since we suspect that a non-negligible portion of child circulation is movement of children to elderly persons, to help them in their household tasks and to provide companionship, this would be a potentially very serious loss. We have, therefore, opted for an alternative approach. We first split the Standard Recode Files into the smallest sampling areas used (there are between 150 and 250 areas per country) and examined the ethnic distribution of women of reproductive age in each area. We then assigned to each child in the Household Files a probability of belonging to each ethnic group equal to the proportion of women in that ethnic group in his/her sample area. More specifically, when making estimates for ethnic group A, each child has received a weight equal to the proportion of women in his/her sampling area who were from group A. Since the ultimate sampling units were usually small and rather homogeneous ethnically, this works rather well. In terms of the ethnic groupings used here, on average 80.6% of the women in an area belonged to the same group; 90% or more of the women interviewed belonged to a single group in over half (51.6%) of the areas, and just over one-quarter (25.9%) of the areas were fully 100% homogeneous.(9)

Finally, we should note that data on ethnic group are sometimes hard to collect and/or sensitive. Not only are ethnic group codes not available for Sudan, as we have already mentioned, but, in addition, permission to use the Nigerian data does not extend to publication of any data by ethnic group.

Our estimates of proportions of children not living with their mother, specific by the children's age and sex, are documented for broad ethnic groups in the five countries where documentation is possible in Table 3. For the present paper we have used the broadest ethnic groupings given in the Standard Recode Files, apart from a few exceptions related mainly to sample-size considerations.

Table 3 : Percentage of children not residing with their mother by sex and age : major ethnic groups

Age Sex	0-14			0-4			5-9			10-14			N
	T	M	F	T	M	F	T	M	F	T	M	F	
CAMEROON													
Bakosi-Mbo, Bakundu- Balundu	17.0	17.1	16.8	6.8	6.3	7.2	17.2	17.2	17.2	31.4	32.5	30.4	3525
Douala	23.3	22.6	24.1	9.0	11.0	6.8	27.2	25.8	28.6	36.6	33.8	39.5	1028
Bafia	15.9	16.0	15.8	9.2	10.2	8.3	17.5	16.8	18.3	23.8	23.6	24.0	4237
Bassa	26.2	25.4	27.2	14.0	11.7	16.3	29.0	31.8	26.2	40.6	36.9	44.4	2168
Boulou, Fang	28.2	26.5	29.9	19.5	15.5	23.4	32.1	32.2	31.9	35.8	34.5	37.1	2675
Kaka	17.0	16.2	17.7	8.1	8.5	7.7	20.9	19.4	22.2	25.3	25.6	24.9	734
Maka	23.4	23.6	23.2	12.8	10.7	15.0	27.2	28.2	26.1	34.1	37.6	31.0	1616
Sanaga, Pygmy	22.1	23.1	20.9	15.3	16.4	13.8	20.9	21.6	20.2	33.3	33.3	33.3	471
Yaounde	24.8	24.9	24.6	16.8	16.6	17.0	27.2	27.6	26.8	33.2	33.3	33.0	6610
Bamenda	13.6	12.8	14.4	6.5	5.3	7.6	15.8	14.6	17.0	21.2	21.0	21.4	8636
Bamileke	16.5	16.0	16.9	6.2	5.9	6.6	19.0	17.2	20.8	29.3	30.6	27.9	15619
Bamoun	20.6	20.8	20.4	11.0	11.9	10.9	24.1	24.1	24.1	31.0	29.5	32.8	2871
Mbembe, Ekoi, Efik	15.1	14.3	15.9	6.8	6.6	7.0	18.0	16.1	19.9	24.1	25.1	23.3	3881
Widekun	16.5	17.9	14.9	5.5	6.1	5.0	17.0	18.7	15.3	31.6	31.0	32.4	1433
Adamawa, Benoue, Baya	20.7	21.4	19.9	9.9	8.3	10.0	23.7	23.1	24.4	34.4	37.2	30.3	4090
Fulani	22.9	22.5	23.4	10.0	9.6	10.4	28.5	27.4	29.6	36.8	37.1	36.5	4344
Logone, Chari	11.2	10.4	12.1	5.3	4.8	5.8	14.4	12.2	16.9	17.1	17.6	16.4	1590
Mandara, Wandala	15.5	16.4	14.5	17.0	17.3	16.6	19.5	20.6	18.3	25.9	26.9	24.6	4707
Shoa, Hausa	17.0	16.7	17.4	8.9	6.0	12.0	20.3	20.5	20.1	24.9	27.5	21.8	1661
Toubouri, Guiziga	12.1	12.1	12.2	4.6	3.4	5.8	13.9	13.6	14.2	22.9	24.1	21.3	4980

CONTINUED

Table 3, continued

Age Sex	0-14			0-4			5-9			10-14			N
	T	M	F	T	M	F	T	M	F	T	M	F	
GHANA													
Fante	23.2	22.2	24.1	12.8	12.0	13.7	26.2	25.8	26.7	33.5	32.5	34.6	1232
Twi	23.2	21.7	24.8	13.4	12.2	14.6	25.4	23.3	27.7	33.1	31.6	34.6	5403
Other Akan	21.1	19.4	22.7	11.0	9.0	12.7	22.8	22.8	23.4	32.6	29.5	35.5	476
Ewe	25.4	25.6	25.2	14.1	14.0	14.2	27.4	27.4	27.5	36.5	37.2	35.7	1863
Ga-Adangbe	24.3	23.0	25.6	15.9	14.4	15.5	26.2	25.8	26.7	35.1	32.6	37.5	932
Guan	20.2	20.0	20.3	9.7	8.9	10.6	21.6	22.1	21.2	33.5	34.4	32.7	419
Mole, Dagbani	16.0	15.2	16.9	7.0	6.6	7.4	17.4	17.0	17.9	27.0	24.7	29.6	1917
Other	18.4	17.2	19.6	8.4	8.1	8.7	18.3	17.2	19.3	32.2	28.8	36.3	980
IVORY COAST													
Abe, Attie, Ebré	27.5	27.2	27.9	12.8	13.8	12.1	30.4	25.1	34.7	42.4	44.4	40.3	775
Agni	24.6	24.3	24.9	8.9	9.0	8.8	27.2	26.5	27.9	43.7	40.4	47.3	1360
Baoule	29.9	31.2	28.5	13.0	14.3	11.8	35.0	37.5	32.4	47.5	45.7	49.5	2644
Bete, Dida	33.1	32.8	33.4	10.5	7.5	13.8	38.0	38.0	38.1	52.8	54.7	50.7	1455
Gouro, Yacouba	22.6	20.4	25.1	6.0	5.6	6.4	25.2	23.6	26.8	49.4	45.0	53.8	823
Guere	19.3	19.3	19.4	9.0	10.0	8.3	20.6	20.7	20.4	32.7	28.8	37.8	729
Koulango, Senoufo	20.2	21.3	19.0	5.1	6.4	3.8	26.1	26.1	26.2	34.9	37.6	32.2	1678
Malinke	15.7	15.5	15.8	5.4	3.6	7.3	18.4	17.0	19.9	28.4	31.8	24.5	2542
Other (non-Ivoirian)	10.5	8.2	12.7	3.7	3.3	4.1	12.8	9.2	16.2	24.8	20.8	28.6	3059
KENYA													
Kikuyu	9.4	9.0	9.8	5.9	5.4	6.5	9.2	10.1	8.3	13.9	12.0	15.6	6194
Luo	15.8	14.6	16.9	6.2	6.4	6.1	17.9	15.8	20.2	25.4	24.2	26.6	3574
Luhya	16.4	15.9	17.0	10.0	12.2	8.0	18.3	16.4	20.0	23.0	20.4	25.4	3352
Kamba	10.8	10.6	11.0	7.7	7.0	8.4	11.5	12.5	10.6	13.8	12.9	14.7	2794
Kisii	11.0	11.5	10.5	7.1	9.5	4.8	12.5	11.9	13.1	14.3	13.8	14.7	1738
Meru, Embu	8.6	10.2	7.2	5.5	7.2	3.9	7.8	9.6	6.4	13.7	14.9	12.6	1724
Mijikenda	12.8	13.8	11.8	6.2	7.4	4.7	16.3	15.2	17.1	18.6	23.4	14.0	1151
Kalenjin	11.3	9.6	12.9	4.4	3.8	5.0	13.1	10.9	15.3	18.3	16.4	19.8	1746
Other	10.8	10.5	11.1	5.7	4.7	6.6	11.4	11.9	10.2	18.2	18.2	18.1	1110
LESOTHO													
Sotho	20.7	20.8	20.5	11.6	11.3	11.9	22.9	23.0	22.8	29.0	30.0	27.9	3696
NIGERIA													
	-	-	-	-	-	-	-	-	-	-	-	-	-
SUDAN													
	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes : - Children recorded as ever-married or as living with a spouse, and those recorded as a household head are excluded.
 - Sample sizes refer to weighted samples.

Source : - World Fertility Survey household files, supplemented for Ghana and Kenya by ethnic group distributions from the WFS Standard Recode files.

Our subsequent analysis attempts to relate these to selected social organization variables. More specifically, in the present paper we relate them to the following:

- Among the kinship and marriage variables we have used lineage organization and the frequency of marriage dissolution respectively;
- For complexity of the "traditional" society we have used an indicator of political complexity and a measure of caste and class stratification;
- For "modern" forms of societal complexity we first examined four indicators of educational and occupational heterogeneity - the proportion literate among women aged 15-49, their average years of schooling, the proportion of their husbands working in high-level jobs or themselves employers, and the proportion of husbands in the traditional self-employment sector. A factor analysis showed that the percentage illiterate loaded much more heavily on the first factor than did any of the other three variables. For simplicity of interpretation, therefore, we simply used the proportion literate. We also included the proportion urban as a separate variable since it is not strongly correlated with educational or occupational differentiation at the level of ethnic groups.

Our covariates - Literacy (percentage literate among women aged 15-49), Urbanization (percentage urban) and Marital Dissolution (operationalized as the proportion of all ever-married women aged 15-49 who have ever been widowed or divorced) were all derived from the WFS Standard Recode Files. They thus refer directly to the same samples as our child-residence variables.

The data for our factors - Lineage organization, traditional Political Complexity and Stratification - were extracted from Murdock's Ethnographic Atlas (1962-1967, with updates through 1983) after identification of the ethnic group(s) in the Atlas corresponding most closely with the categories used in the WFS surveys. Since the number of observations incorporated in this first analysis is rather small (60 broad ethnic groups, some of which have missing values on one or more variables), we have reduced all the factors to simple dichotomies.

- For our variable Lineage (based on columns 20 and 22 in the Murdock Atlas), the small number of groups exhibiting any bilateral or duolateral traits have been combined with the matrilineal groups.
- Political complexity (based on the second digit of column 32 in Murdock) contrasts societies with no chiefs or only petty chiefs on the one hand with states and with societies with paramount chiefs on the other.
- Stratification (based on columns 67 and 69 in Murdock, referring to caste and to class stratification) contrasts societies with no stratification or only despised, usually small, caste groups on the one hand with those exhibiting stratification by wealth or other more complex stratification on the other hand.(10)

6. SOCIAL ORGANISATION AND THE PREVALENCE OF CHILD CIRCULATION

By way of exploration we pursued two lines. Firstly we conducted a factor analysis on the proportions of children not living with their mother (Table 4). When no distinction between rural and urban areas was made within each ethnic group (top panel), only one factor emerged; all age and sex groups loaded relatively heavily on this factor (although the factor loadings were perceptibly lower for children over age 10). When a distinction was made between rural and urban areas (bottom panel) three main factors emerged. The first was dominated by variation in rural values, and the second by that in values for older children (especially older urban children), while the third factor predominantly reflects variation in levels among young children in urban areas.

We then submitted both the factors and the original percentages by sex and age to a Multiple Classification Analysis. MCA is, of course, not the most appropriate technique here, but it should suffice for our present exploratory purposes. The results are summarized briefly in Table 5.

- a) As expected, the explanatory power of our social organization variables increases with age of the child. The proportion of the variance in non-maternal residence they explain increases from 45% for children under 5 years to 66% for those aged 10-14. The effect of social organization

Table 4 : Factor analysis of proportions of children not living with their mother, by sex and age (60 ethnic groups)

A. No distinction between rural and urban areas : factor loadings

	<u>Factor 1</u>
Boys 0-4	.702
Girls 0-4	.652
Boys 5-9	.964
Girls 5-9	.946
Boys 10-14	.918
Girls 10-14	.902
Eigenvalue	4.40
% of variance	73.3

B. Distinguishing between rural and urban areas : factor loadings

	<u>Factor 1</u>	<u>Factor 2</u>	<u>Factor 3</u>
<u>Rural</u>			
Boys 0-4	.866	.039	.239
Girls 0-4	.890	-.003	.059
Boys 5-9	.865	.351	.171
Girls 5-9	.831	.397	.253
Boys 10-14	.619	.605	.256
Girls 10-14	.684	.546	.098
<u>Urban</u>			
Boys 0-4	.258	.100	.766
Girls 0-4	.134	.185	.883
Boys 5-9	.166	.724	.506
Girls 5-9	.120	.731	.519
Boys 10-14	.119	.863	.141
Girls 10-14	.237	.836	-.042
Eigenvalue	6.60	1.85	1.22
% of variance	55.0	15.4	10.1
Cumulated % of variance	55.0	70.4	80.6

Note : Factor analysis type PA1 in SPSS (varimax)

Table 5 : Effect of selected social organization indicators on the proportion of children not living with their mother, by age of child.

	0 - 4 years		5 - 9 years		10 - 14 years	
	Unadj'd dev	Adj'd dev	Unadj'd dev	Adj'd dev	Unadj'd dev	Adj'd dev
1. Factors						
<u>LINEAGE ORGANIZATION</u>						
Patrilineal	-0.3	-0.1	-1.1	0.1	-1.4	0.6
Matrilineal/bilateral (eta/beta)	1.5 (.20)	0.6 (.08)	4.9 (.34)	-0.5 (.03)	6.5 (.31)	-2.7 (.13)
<u>POLITICAL COMPLEXITY</u>						
Minor or no chiefdoms	-0.1	-0.2	-0.2	-0.0	0.2	0.6
Paramount chiefdoms, states (eta/beta)	0.1 (.02)	0.4 (.08)	0.3 (.03)	0.0 (.00)	-0.4 (.03)	-1.1 (.08)
<u>CASTE & CLASS STRATIFICATION</u>						
None, or despised groups only	-0.2	0.3	0.3	0.1	0.6	0.3
Stratified (eta/beta)	0.5 (.10)	-0.7 (.13)	-0.7 (.07)	-0.1 (.01)	-1.3 (.09)	-0.8 (.05)
2. Covariates						
PERCENT URBAN		-.04		.09		.20**
PERCENT LITERATE		.06*		.01		-.01
FREQUENCY OF MARITAL DISSOLUTION		.21**		.49**		.26**
3. R²						
		.45		.58		.66

** Significant at .001 level; * Significant at .01 level

is stonger for older than for younger children, who still tend to live with their mothers even in ethnic groups with social organization characteristics associated with high levels of non-maternal residence.

- b) Among the factors, lineage type is usually the dominant factor in terms of zero-order associations and remains so more often than the other factors when all variables are introduced simultaneously. Societies with matrilineal characteristics and those exhibiting any bilateral or duolateral traits tend to have slightly higher proportions of children not living with their mother. When the other variables are introduced, however, the effect generally becomes insignificant.
- c) Somewhat surprisingly, political complexity and class/caste stratification, two variables of considerable importance in the context of Goody's model of traditional child fostering, do not systematically exhibit effects in the expected direction. Their effects are often small, and even when they are not small they are not always in the expected direction of greater complexity being associated with more child circulation. This is, however, a very reasonable, albeit unexpected, finding. Fostering situations form only a sub-set of non-maternal residence. Moreover, "modern" forms of social differentiation may have taken over from "traditional" ones.
- d) Among the covariates measuring heterogeneity associated largely with modernization, however, urbanization performs rather poorly in general, rarely being significant. Education tends to perform somewhat better, although even this is not systematically of importance. Overall, our indicators of social differentiation associated with modernization performed less well than we had originally expected.
- e) The show is in fact stolen by our variable on intensity of marriage dissolution. As soon as this variable is introduced, the percentage of variation explained nearly doubles and the other effects tend to be considerably reduced if not eliminated. Even the apparently strong effect of lineage organization tends to melt away when marital instability is introduced.

We had not really expected these results, although they make very good sense in hindsight. Firstly there is the direct effect of divorce (and widowhood) on child residence. The anthropological literature contains numerous references to children, especially older children, living with their father or with other relatives after a marriage is dissolved. In addition to direct observation and reports there is also indirect information. For example, Pellow quotes several Accra women giving this as one of their central arguments for not marrying a man from a different ethnic group (Pellow (1974, pp. 231-233)). Secondly there may be "insurance" effects in societies marked by high instability of marriage. Where a married woman returns to her own kin at widowhood or divorce, there may be a greater tendency to ensure that at least one child is raised there to ensure that she always has a child to return to who will help support her, and the child is also more likely to have rights there. Or, as Lallemand (1976) described for the Mossi, older women in the lineage may use a high risk of divorce as an argument for taking a child away from a woman who has not been married long in the compound, in order that the child be reared by women who are proven loyal and stable members of it. More generally, as the Goody's suggested nearly 20 years ago in the context of child-fostering (Goody and Goody, 1967), circulation of children and circulation of women may be two related elements of a single system. Finally, among the ethnic groups with high levels of marital instability we find most of the groups for which a relatively high proportions of husbands and wives live in separate households.

There are thus a large number of reasons why our marital instability variable might have been expected to be very strongly associated with higher than average levels of non-maternal child residence. Its striking importance raises questions about possible future trends. If child circulation depended primarily on social differentiation we could predict simply that circulation would increase over the next few decades with increasing modernization. Prediction of trends in marital stability is not so obvious however: they may even act in the opposite direction from trends in such variables as education and occupation per se. Trends in marital residence patterns are also not easy to predict. And finally, child-residence patterns when father and mother do not live together may also be fluid: Bukh (1979), for example, suggests that a pattern in which Ewe children tended to live with the father rather than the mother may be

declining under the impact of modernization and the associated changing position of children.

7. CONCLUSIONS

We certainly would not claim that these very exploratory analyses are definitive. Much remains to be done. The way in which the ethnic groups were combined could probably be improved, the variables could be further refined, co-residence of husband and wife should be introduced explicitly, and better statistical techniques should be applied.

Nevertheless, a great deal has already emerged. Firstly the WFS data on mother-child co-residence are clearly meaningful and are structured in meaningful ways. Secondly, the extent of non-maternal child residence is considerable and clearly demands further investigation. Thirdly, the distinction between child-fostering and non-maternal residence has been made explicit. Fourthly, the major determinants of non-maternal residence in general are seen to be different from those of fostering. Fifthly, examination of these determinants opens up a whole range of questions about possible future trends. And sixthly and finally, if looking just at the intensity of non-maternal child residence is so fruitful, further analysis of its patterns looks even more promising than it did before.

FOOTNOTES

1. References to it abound also in African literature, both fiction and non-fiction. In the best-known childhood autobiographies, for example, fostering as an institution is presented as an unremarkable part of everyday life. In Soyinka's autobiography (1981), a stream of children come and go from the schoolmaster's household, sent to further their education and/or to work as housemaids; in Laye's (1954) retelling of his early childhood, there are repeated references to the boys who lived in the compound as apprentices to his father, the village blacksmith.
2. Isiugo-Abanihe's work (1985) to reconstruct proportions of children living with their parents from data on each individual's relationship to household head in the 1971 Supplementary Enquiry to the 1970 Ghanaian census is an heroic exception. Another, smaller-scale, attempt to obtain more direct information from a demographic survey is that of Antoine and Guillaume (1984) in Ivory Coast.
3. Following Goody, we omit the function of provision of identity, which can be transferred from the biological parents only through adoption, and which is rare in sub-Saharan Africa.
4. Since the Ivory Coast did not include detailed regional breakdowns, we have assigned data specific by ethnic group to the areas these groups largely occupy as indicated in the survey report.
5. Ghana's Northern region is excluded here because it lacks data for urban areas.
6. That the excess of non-maternal residence for girls over boys in urban areas is indeed related to employment as housemaids is suggested by preliminary analysis (not reported here) on differentials by average level of education of adult women in the sample areas concerned and by a first look at the educational levels of children in those surveys that included such data.
7. The use of broad ethnic groups should help reduce the number of errors introduced by this assumption.

8. This is less serious than it might at first appear, because the Sudan survey covered only the northern Sudan, which differs in many respects from the countries further south.

9. The percentage distribution of the sample areas (unweighted) is as follows:

<u>No. of Women</u>	<u>No. of Areas</u>	<u>% in Modal</u>	<u>No. of Areas</u>
		<u>Ethnic group</u>	
-09	6.4	-09	0.0
10-19	17.3	10-19	0.0
20-29	20.8	20-29	1.2
30-39	20.1	30-39	5.9
40-49	14.7	40-49	4.3
50-59	10.2	50-59	10.2
60-69	6.8	60-69	7.2
70-79	2.0	70-79	7.4
80-89	0.7	80-89	12.2
90-99	0.3	90-99	25.7
100-	0.8	100	25.9

10. More specifically the ethnic groups were first classified as follows:

1. Unstratified by caste or class (code 0 in cols. 67 and 69)
2. Stratified by wealth only (W in 67; 0 in 69)
3. Some despised groups (0 in 67; D in 69, (or vice versa))
4. Moderately stratified (E in 67; D,E in 69)
5. Heavily stratified (C in either 67 or 69))

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