Uncertainty and the Second Space: Modern Birth Timing and the Dilemma of Education

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Abstract. This paper focuses on the relationship between experiential and statistical uncertainties in the timing of births in Cameroon (Central Africa). Most theories of fertility level and change emphasize the emergence of parity-specific control, treating desired family size as both central, and stable across the life course. By contrast, this paper argues for a theory of reproduction that emphasizes process, social context, and contingency. The paper concentrates on the second birth interval, showing that it is longer and more variable among educated than among uneducated women. The paper argues that this difference is due to the specific forms of uncertainty associated with education in contemporary Cameroon.

Key words: Africa, birth spacing, education, fertility decline, uncertainty

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Résumé. Cet article s'intéresse à l'effet des situations d'incertitude ressenties ou statistiquement évaluées sur le calendrier des naissances au Cameroun (Afrique centrale). La plupart des théories sur le niveau et l'évolution de la fécondité insistent sur l'émergence d'un contrôle propre à chaque parité, considérant la taille désirée de la famille comme un élément central et stable au cours du cycle de vie. Au contraire, cet article plaide pour une théorie de la reproduction qui met l'accent sur le déroulement du processus, le contexte social et les contingences. Il s'attache à l'étude du deuxième intervalle entre naissances et montre que celui-ci est plus long et plus variable chez les femmes à niveau d'instruction élevé que chez les femmes sans instruction. Cette différence serait due à des situations particulières d'incertitude associées à l'instruction dans le Cameroun contemporain.

Mots clés: Afrique, baisse de la fécondité, contrôle des naissances, éducation, climat d'incertitude

1. Introduction

Everyday life in contemporary Africa is deeply uncertain, due to the economic reversals, political instability, and substantial cultural change over the

past decades (Whyte, 1997; Ferguson, 1999). This article explores some demographic consequences of this uncertainty, focusing on uncertainty's different effects for educated and uneducated women in southern Cameroon. I will argue that the uncertainties of social change and economic crisis confront women particularly poignantly as they seek to put together educational and family trajectories. For a certain class of women, the socially widespread aspirations of early motherhood, marital childbearing and sufficient schooling are irreconcilable. These women experience uncertainty not only about how to achieve their goals – what I call the uncertainty of means – but also uncertainty about which goals are most worth pursuing – the uncertainty of ends. This dual uncertainty has both social and demographic consequences.

The demographic consequences appear in the spacing of births, and particularly in the duration of the second space: among educated women, the duration between the first and second child is longer and more variable than among the less educated. To deal with this empirical finding, my analysis necessarily treats reproductive life processually, as a contingent sequence of conjunctures, rather than focusing on completed family size or the causes of fertility decline. In this regard, the paper builds on two emerging bodies of work: a social theory of reproduction, which emphasizes the process, context and experience of childbearing (Carter, 1995; Greenhalgh, 1995; Bledsoe, 2002); and statistical analyses of specific birth intervals. Despite a general disciplinary focus on parity-specific control (e.g. Coale, 1973; Caldwell, 1976; Knodel, 1977; see Bulatao and Lee, 1983; Easterlin and Crimmins, 1985; Hirshman, 1994; Mason, 1997; Bulatao, 2001, p.11 for relevant overviews) important demographic work has been done on first birth timing (e.g. Dewitt and Rajulton, 1992; Ravanera et al., 1998; Zheng, 2000), and on the correlates of average birth intervals (e.g. Trussell et al., 1985; Rosero-Bixby, 1998). More recently, scholars have begun to move within reproductive life to examine specific births and birth intervals that are socially or culturally significant. Pollard and Morgan (2002) examine the transition to a third birth among US couples, finding that the effect of the sex composition of the first two children on the probability of that transition has declined over time. Eltigani (2000) compares family formation in Egypt and Morocco, using DHS data to look at each birth interval separately. Raajpoot (1996) argues that education, marriage duration, and urban residence are all associated with small increases in the duration to the second birth in Pakistan. Related research has examined the likelihood of a second teen birth or short birth interval among American teen mothers (Kalmuss and Namerow, 1994; Manlove et al., 2000), or the intersecting effects of the birth planning policy and sex of the first child on the likelihood and timing of transition to a second in China (Li and Choe, 1997; Qian, 1997; Poston, 2002).

This paper is not the first to examine reproductive uncertainty. In two masterful papers, Morgan (1981, 1982) argued that the answer "don't

know'' is a meaningful and analytically important response to questions about reproductive intentions. Regarding the decision to have another child among couples who would consider a range of completed parities acceptable, Morgan argues that ''uncertainty then can be viewed as a transitional stage between childbearing and post-reproductive stages of the reproductive life-cycle'' (1982, p.316). The kind of uncertainty addressed in the present article is related to that described by Morgan, but more pervasive. The educated Cameroonian women whose reproductive practices are the object of investigation here experience uncertainty not because the costs and benefits of an additional birth are approximately equal, but because the very parameters of choice (What is a relevant cost? What is a relevant benefit?) are in flux or under debate. This is not the uncertainty of a rational choice indifference curve, nor the ''fatalist'' ambivalence sometimes ascribed to pre-modern, pre-rationalist actors. Rather, these women face uncertainty because the ends to which they aspire are irreconcilable and the means to those ends only erratically and unpredictably available. In the 1980s, international development offered an increased standard of living in exchange for a transformation in social practice, but partway through that transformation, the promise of economic improvement fell through. What is left is pervasive uncertainty.

Statistical inference is fundamentally about uncertainty, but uncertainty of a very different kind than that experienced by a young Cameroonian woman imagining her reproductive future. What is the relationship between these two kinds of uncertainty? When does high variance, and therefore poor predictive power, suggest that the social actors whose actions are generating the rates *themselves* feel uncertain? More broadly, how many kinds of uncertainty are there? Two classifications are central:[1] Hume's (2000, p. 86) distinction between the truly uncertain (''probability of chances'') and the largely determined, but ill understood (''probability of causes''), and the distinction between statistical uncertainty and the mental state of uncertainty. The latter two differ as regards time and relevance. Events are uncertain only in the future, and their uncertainty is not affected by the relevance or irrelevance of the future event to some present process. By contrast, the mental state of uncertainty is a cognitive orientation, structurally similar to belief, knowledge, intention, or faith (see Searle, 1983). Specifically, experiential uncertainty is a *relevant* lack of sureness: ''a situation in which an actor lacks explanation of the forces that determine his or her destiny'' (Hyden, 2000, p. 29).

Within the experience of uncertainty, we require a further distinction, which I will call the uncertainty of means and the uncertainty of ends. The uncertainty of means is commonplace, and arises whenever it is unclear which course of action will best achieve some desired result. Venture capitalists and Trobriand Islanders engaging in Kula exchange equally face the

uncertainty of means. At the extreme are the economic and political collapses of the former Soviet Union and a number of sub-Saharan African states over the last decade and a half. Berner and Trulsonn (2000, p. 4) argue that contemporary sub-Saharan Africa should be described as "an environment of uncertainty" in which "patterns of rules and resources previously taken for granted no longer apply". Similarly, in her analysis of the politics of uncertainty in post-Soviet Russia, McAuley argues that there is a difference between the radical *changing* of rules in a coup d'Etat and the *dissolution* of rules and patterns of power that accompanied the collapse of the Soviet Union (1997, pp. 2–3). Both of these situations induce severe cases of the kind of cognitive uncertainty that I am calling the uncertainty of means.

In addition to the uncertainty of means, some situations are characterized by the uncertainty of ends, which arises when the social actor cannot determine what future result or outcome he should try for, when the aim itself is under contention. Such situations, when the actor cannot decide – or even articulates the parameters of decision – are likely to arise when multiple social goals that are recognized as desirable contradict each other, or when the institutions and social structures that previously supported some particular end dissolve, leaving nothing in their place.

It is my argument that educated Cameroonian women experience greater uncertainty in managing their reproductive lives, and particularly the transition to the second birth, than do their uneducated compatriots because they are more likely to face both the uncertainty of ends and the uncertainty of means at the same time. That is, although the educated more often have access to the financial, medical, and social resources that would make reproductive management more attainable, they also face incompatible demands such that every potential end is refutable, alterable, contested. As Watkins argues for Nyanza Province, Kenya, these women face "uncertainty about [both] the goals of reproduction and the best strategies through which to achieve them" (2000, p. 726). For most uneducated women in Cameroon, the widely sanctioned social goal of bearing many children at a regular pace is not in conflict with other aspirations and intentions, whereas for the educated the conflict is sometimes acute. This is all the more true because educated Cameroonian women hope for certain kinds of men as sexual- and marital partners: educated, formally employed, and monogamous. Not only are such men rare, but they too are subject to competing social aims and goals, adding to the uncertainty. The observed variation in educated women's reproductive behaviour following a first birth results, I argue, from the fact that there is no single social ideal that women can fulfil more or less completely. Rather, educated women face uncertainty about the kinds of futures that they should hope for or attempt to bring about, not only about how to do so.

2. Second births in contemporary Cameroon

The data for this paper come primarily from two sources: the women's individual record files of the 1998 Cameroon Demographic and Health Survey (CDHS) and ethnographic field data. The CDHS is a nationally representative survey of 5501 women of all marital statuses; it was carried out by Macro International, in conjunction with the *Bureau Central des Recensements et des Études de Population* in Cameroon. Because the birth registers are coded from most recent backwards to first birth, it was necessary to recode into new variables indicating each parity. With that exception, the analysis is transparent and uses standard methods of survival analysis and Cox regression.

The ethnographic data cited in the paper come primarily from my own fieldwork, conducted in the Central Province in 1996, 1998, and briefly in 2001. The field data include participant observation in a variety of settings, interviews, and a life history survey. Here I draw primarily on data from 37 qualitative interviews I conducted in 1998 with women who had attended at least some high school. The interview subjects were women whom I had come to know through the course of living in Cameroon. Rather than a random sample, these are women who I knew from my neighbourhood, from the school where I conducted participant observation, or from church. Thus, in exchange for statistical representativeness, I gain familiarity, and even intimacy, in these interviews. The interviews were conducted in my room or in the interviewees' own home, in a local dialect of French. They were taped and transcribed in the field; the translations here are my own. Additional ethnographic data come from the work of other ethnographers, especially Laburthe-Tolra (1981) and Guyer (1984, 1996).

Cameroon is a country of some 16 million inhabitants located at the junction of west and central Africa. Home to speakers of more than 260 named dialects or languages, Cameroon became defined as a territory in the 1890s when it came under German colonial rule; it was ruled by Germany until World War One. At the end of the war, the League of Nations divided the territory into French and English protectorates. The country with its present borders has existed since 1961, when the newly independent southern British Cameroon joined with the former French Cameroun, which had gained independence in 1960. The 1960s and 1970s saw substantial economic growth, the expansion of schooling, and major public works projects. Since 1987, however, the country has suffered *la crise*: an economic, social and political crisis associated with declines in real wages, school enrolments, and marriage rates. Initiated by dramatic declines in world prices for primary products such as cocoa and coffee, the crisis expanded to a general economic downturn, and then to a partial dissolution of social trust in which corruption at all levels is widespread.[2] Although it is not the case that the past was

simple, coherent, or without conflict, *la crise* has increased the uncertainty that many Cameroonians experience and anticipate in a variety of domains, from transport to employment to childbearing.

As a country undergoing rapid social change in the context of economic retrenchment, rather than development, Cameroon offers a quintessential case study in uncertainty. The modes of social action that apply here are not unique to Cameroon – similar models of action under contingency may provide the best account of reproductive practice in the United States as well – however, changing social practice and economic instability force uncertainty and its consequences to the forefront in Cameroon: it is an extreme case along a continuum, where the general principles are exaggerated, and therefore more easily perceived.

The transition to the second birth, which concludes the second birth interval, offers a window into the reproductive practices that underlie fertility rates. Unlike the first birth, exposure to the risk of second and subsequent births has an indisputable and relevant beginning.[3] Unlike higher order births, first and second births are – in most populations – common events, subject to only weak selection. While the women who have a seventh birth may be an unusual subpopulation, women who have a second are not. This would suggest that transition to the second birth would be a broadly relevant measure, interpretable and revealing in a variety of social contexts.

In Cameroon, the second birth is a propitious locus for social analysis. There are three reasons for this. First is the variability in second birth timing: the second birth interval is substantially more diverse than are subsequent intervals (Table 1). Second, the duration of the second interval is more highly correlated with children-ever-born among near-menopausal women than is any other birth interval, as shown in Table 2.[4] Thus, not only is the timing of second births variable, but that variation is consequential for completed family size. This suggests that the second birth is a crossroads of sorts, a point at which women become committed to one or another reproductive trajectory. Finally, second births provide insight into reproductive practice because of the peculiarities of Cameroonian family and kin systems. Laburthe-Tolra (1981, p. 124 and *passim*) and others have argued that first births may serve a very different family function than do subsequent births in

Table 1. Mean, Median, SD and kurtosis for first ten intervals

	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth
Mean	34.18	32.39	32.50	32.03	31.77	32.08	31.45	30.67	30.83
SD	20.97	18.04	18.44	15.83	17.20	16.39	15.76	16.55	19.70
Kurtosis	20.83	13.40	15.27	10.04	18.81	11.31	8.64	24.11	12.53
Variance	439.91	325.54	339.91	250.55	295.79	268.79	248.33	273.87	388.20

Table 2. Pearson correlation between intervals and completed family size

	Marriage to first birth	Second	Third	Fourth	Fifth	Sixth	Seventh
Women 35+	−0.0931	−0.3118	−0.2619	−0.2833	−0.2485	−0.2745	−0.2668
Women 40+	−0.1596	−0.2834	−0.2486	−0.2732	−0.2478	−0.2943	−0.2483
Women 45+	−0.2332	−0.3303	−0.2973	−0.2438	−0.2401	−0.2850	−0.2225

southern Cameroon; first children are often born outside of marriage, and at least in the past were gladly incorporated in the mother's lineage. Insofar as this is true, chronologically second births may in some instances represent the "transition to female adulthood" more classically associated with first births (e.g. Lesthaeghe, 1989, p. 38). This too suggests that second births may constitute significant moments in a life course, moments when the futures that are imaginable or viable are transformed or sedimented. Not merely vital events, these are "vital conjunctures" (Johnson-Hanks, 2002).

As in most populations, educated women in Cameroon have lower fertility than do the uneducated according to a variety of measures. For our purposes here, parity progression ratios and birth intervals are the most revealing. Figures 1 and 2 show these measures by educational status. At most parities, educated women are less likely than the uneducated to continue childbearing and when they do so, it is generally after a longer interval.

Three facts emerge as important from Figures 1 and 2. First, women who never attended school or attended only primary school have relatively stable and high parity progression ratios through the eighth child. Women who attended secondary school, by contrast, have lower and less stable ratios; transition to the second birth and to parities six and above are less common

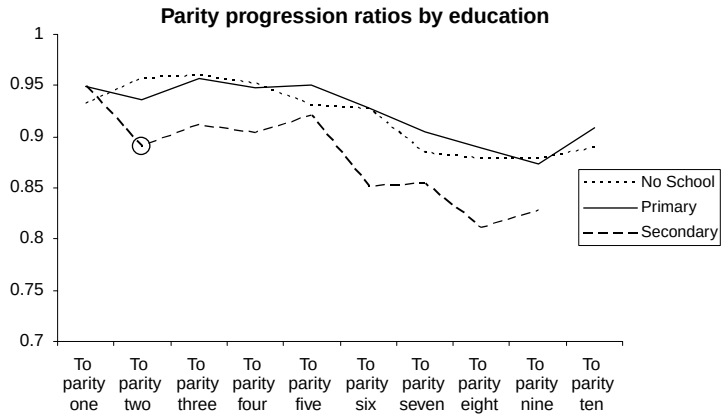

Figure 1. Parity progression ratios by education (CDHS, 1998).

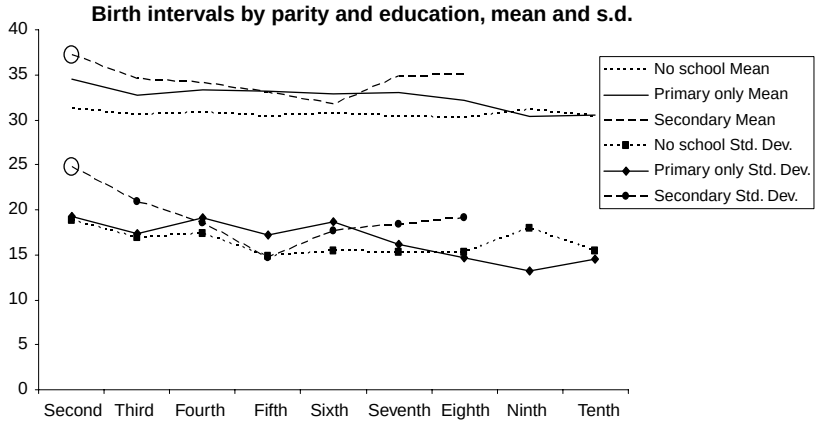

Figure 2. Closed birth intervals by education and parity: Mean and Standard Deviation (CDHS, 1998).

among the more educated. Second, among women who never attended school and women who attended only primary school, all birth intervals after the first have approximately the same mean length, whereas the mean duration of birth intervals among the more educated falls by about 6 months from the second to the sixth interval. The first and second intervals, in particular, differ between the educated and uneducated. Third, among women who attended secondary school, the second birth interval is highly variable, with a standard deviation of nearly 25 months. Together, these three facts suggest that the transition to the second birth is an important locus for understanding fertility differentials by education: educated women make that transition less often, and after a delay that is both longer and more variable than do women who never attended school. In short, the transition to second birth appears to be a more uncertain proposition among educated Cameroonians.

The relative uncertainty of second births among educated Cameroonians takes a particular shape. The variability is observed not immediately around the mode, but rather in the right tail. The difference in means and standard deviations of the closed intervals is almost entirely due to the proportion of second births that occur 5, 7, or 10 years after the first. That is, the mean interval to second birth among the educated is not 6 months longer because most women wait six more months than do the uneducated, but rather because a small proportion waits six more *years*. The mean and standard deviation of birth intervals decline across parities among the educated because this proportion declines, not because the centre of the distribution changes. This can be observed in Table 3, which shows the proportion of closed birth intervals that exceeded 60 months (5 years), by education and parity of the mother.

Table 3. Proportion of closed birth intervals over 60 months by education (N = sample size)

	No School (N = 1363)	Primary (N = 1992)	Secondary (N = 2180)
Second interval	0.0438	0.0765	0.1082
Third interval	0.0456	0.0680	0.1070
Fourth interval	0.0566	0.0678	0.1005
Fifth interval	0.0503	0.0799	0.0717
Sixth interval	0.0409	0.0709	0.0714
Seventh interval	0.0547	0.0547	0.0778

Since these data are from a sample survey, not a cohort with completed reproductive histories, some intervals that were open at the time of survey will eventually be closed. As a result, the estimated mean intervals of the closed intervals will be too short, the parity progression ratios too low. To address this sort of censoring bias, we turn to survival analysis, in this case, survivorship at the previous parity. Figure 3 shows survivorship in the primiparous state for the 10 years following the first birth, by educational status. This figure demonstrates that the differences between women of different educational statuses in the timing of the second birth are even more substantial than the data on closed intervals alone would suggest. At 5 years after the first birth, about 90% of women who never attended school have borne a second child; about 72% of women with secondary education have done so. By 10 years after the first birth, some 93% of the women with no education have gone on to have a second, whereas only about 84% of women with secondary education have done so.

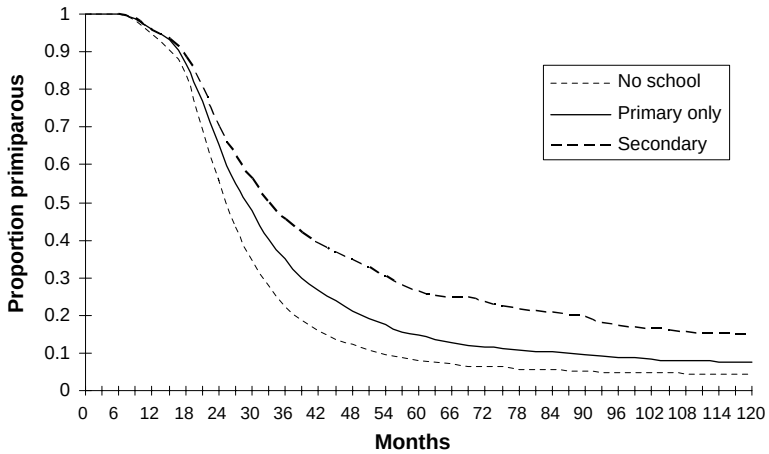

Figure 3. Survival in the primiparous state, in months (CDHS, 1998).

What does this variability look like across parities? The increasing selection of high-parity women might suggest that it declines with birth order, so that educated women having a sixth or seventh child resemble the uneducated at those parities. Evaluating that hypothesis requires a summary measure of the survival curve, a single quantity that can be compared. Following common practice (e.g. Tukey, 1977; Wilmoth and Horiuchi, 1999), I use the interquartile range. The interquartile range (IQR) is the number of months that elapse between when the survivorship curve crosses the 75th percentile and when it crosses the 25th, or the number of months required for the middle 50% of the distribution of women to transition to the subsequent birth. The IQR is thus a summary measure of dispersion, of variation in transition times. Table 4 shows the interquartile ranges of different birth intervals by educational status. These data largely confirm what was evident in the data on parity progression and the closed intervals. Women who attend secondary school have substantially different reproductive practices than do other women; their transition to the subsequent birth does not follow a curve of the same shape as that of the uneducated, simply shifted to the right. Instead, the curve is less steep and with a longer tail. These differences are most pronounced at the transition to the second birth. Educated Cameroonian women go about having a second child under a variety of circumstances, some of which differ substantially from those of the uneducated.

In Cameroon, as in most developing countries, educated and uneducated differ in a variety of ways, only some of which can be identified in large surveys such as the DHS. Schooling in Cameroon is not free, even in the public schools, and – particularly after primary school – not available in all rural areas. Parents must therefore have both money and motivation to keep their children in school. Money and motivation for schooling are concentrated geographically, ethnically, and by religion. Educated women are more likely to be interpolated into the formal economy and wage labour, and to have access to mass media in a European language (see Johnson-Hanks, 2003). These links bring them a number of advantages – such as access to

Table 4. Interquartile ranges in months, by educational status (N = sample size)

	No School (N = 1363)	Primary (N = 1992)	Secondary (N = 2180)
Second interval	13	16	20
Third interval	14	15	18
Fourth interval	14	15	18
Fifth interval	14	15	16
Sixth interval	14	15	17
Seventh interval	15	16	18

contraceptive services –, which can be parlayed into effective reproductive management. However, they also mean that the lives of the educated have been more perceptibly affected by globalisation and the boom and bust economy of the past 20 years. As Ferguson argues for the case of Zambian mine workers, many educated Cameroonians have experienced *la crise* "not simply as a lack but as a loss" (1999, p. 238).

3. Accounting for the evidence

This paper argues that the transition to second birth is more fraught with uncertainty among the educated than among the uneducated in Cameroon, because both the social aims and their attainment are insecure. Such a claim is best evaluated against a simpler model that would generate similar quantitative results: a kind of refined null hypothesis. Arguably the most elegant would be as follows: each woman begins with a set of fertility targets by age, where uneducated women intend to start early and have moderate birth intervals throughout reproductive life, and women who have been to secondary school intend to start later and have slighter longer intervals, stopping after having only four children.[5] In this model, the uneducated could only bear children *slightly* too early, whereas some highly educated women might bear a first child many years earlier than intended, and then get back on track, bearing the second and subsequent children on the intended schedule.

If this model were correct, we would observe very high variability in the timing of the first birth, and high variability in the duration between the first and the second among the educated, as in fact we do. However, such a model would also predict among educated women an inverse correlation between the age at first birth and the duration to the second, as well as substantially higher variability in the age at first birth than at the age at second.[6] Neither of these predictions is supported by the data. The standard deviation of the age at second birth is slightly *higher* than that at first (3.72 versus 3.49), and the correlation between age at first birth and interval to the second is a mere −0.048 among the educated, only a little higher than the −0.032 for the whole sample. A few women having births earlier than their targets cannot therefore explain the greater variability in the timing of the second birth found among educated women.

This simple model does not suffice in accounting for the empirical reproductive patterns in Cameroon because it rests on the assumption of stable target fertility. Lee (1980) has demonstrated that the relationship between stated reproductive intentions at one point in time and later reproductive action or outcome is weak not only because of failures to achieve stated goals, but also because goals change. In the case studied by

Lee, desired completed family size was declining over time, so that women's earlier intentions systematically overestimated their fertility. Although the case here is different – the relevant reproductive intentions are contingent on changes in life circumstances, rather than a secular trend – the general principle is similar. Target fertility is a moving target, perhaps all the more so when the targets are further tied to chronological age (cf. Greenhalgh, 1995, p. 22). Educated women do not have large and variable durations between their first and second births because of early failures to achieve target fertility, but rather because the reproductive goals themselves are changing, as are the circumstances of choice, and the moral economy of alternatives.

3.1. LA CRISE AND THE UNCERTAINTY OF MEANS

Throughout the 1990s, young Cameroonians faced life transitions in school, work, marriage and childbearing under a "routinised state of crisis" (Mbembe and Roitman, 1995), where not only were the consequences of action unknown but also its moral valences constantly contested. Planning and management became paradoxically impossible and highly valued, as people tried to make sense of a life world characterized most of all by its uncertainty (see Whyte, 1997; Bledsoe, 2002, p. 22). The crisis – arguably the clearest and most dramatic expression of the uncertainty of means – has affected all Cameroonians, educated and uneducated, rural and urban, male and female, although its consequences have been qualitatively different for these different groups. Loss of formal sector jobs is not interchangeable with declining demand for agricultural products, and male unemployment has different social outcomes than female unemployment. Because the differences are qualitative rather than quantitative, I do not claim that the educated have been more affected by *la crise* than the uneducated – although in interviews educated women themselves certainly make that claim. Rather, the crisis and concomitant uncertainty of means are common to all, but relate to the statistical variability in reproductive timing only when conjoined with the uncertainty of ends.

The Cameroonian crisis closely resembles the economic and political decay seen in other sub-Saharan countries over the past 20 years. As elsewhere in Africa, its consequences have been far-reaching (Hyden, 2000, p. 43): transport is unreliable, petty credit impossible to attain, and even lovers are distrustful of one another. The values assigned to specific social action are highly contested, with sometimes devastating consequences. Witchcraft accusations are rife, and are motivated by anything from the slaughter of a goat to a season of drought to wide discrepancies in school performance (cf. Feldman-Savelsberg, 1999, p. 185). In interviews, casual conversation, and columns in the newspaper, Cameroonian women emphasize how in their present condition any kind of planning is impossible. No kinds of futures can

be reliably envisioned, no plans made with confidence. Many Cameroonians have thus become habituated into a kind of agnosticism about the future: life is so uncertain that plans are always tenuous, partial, as much a hope as a conviction. For example, one woman explained that she wanted to become a doctor, but when asked what she planned to do in order to achieve that goal, she answered:

> ''That I do not know. If God wants me to do it, I will be able to. But if He doesn't want it, no matter what I do, I will never be able to be a doctor. Things have become uncertain now in our country. You don't ever know what will happen'' (TT3a: 206ff.).

Another responded to my question regarding her desired family size by saying:

> ''Those are the things of the future. We cannot know them... Because there are, you know, you can propose to do what you like, but you cannot know if it will happen... There is first a stage when one is ignorant of certain acts. But then you become aware, and you say 'But life is not what I thought! It is bizarre. It is ambiguous.' Therefore, you must be wise'' (TT9a, pp. 335–320).

On one level, these quotes are unremarkable. An economic analyst for a European venture capital firm would likely have a similar view. But venture capitalists can manage probabilistic outcomes by diversifying risk, whereas individual women trying to plan their lives cannot. Going 60% into childbearing and 40% into education is not a feasible option. Here we begin to see the experiential difference. Everyone in contemporary Cameroon, educated and uneducated alike, faces the uncertainty of means – the institutions and structures that made the consequences of action predictable in the past have dissolved with *la crise*, and new structures have not yet emerged to replace them.

Bledsoe explores how Gambian women make ''contingency plans'' in order to ''smooth the roughest edges of risk'' (2002, p. 24). Similarly, Cameroonian women work hard and get by, finding acceptable rather than optimal solutions to the problems they face. This idea of getting by, or ''*se débrouiller*,'' plays a central role in the organization of social life, and perhaps offers a way out of the apparent paradox that Cameroonians constantly claim an inability to act effectively, but they do not simply give up and cease acting. Rather than optimising, or coming as close as possible to attaining an outcome defined along some single parameter, people envision a range of more or less acceptable outcomes, and work toward attaining whichever seem most feasible at any given conjuncture. It is strategic opportunism, rather than rational choice, that works under these conditions. To understand social actors in these kinds of situations, rational maximizing

does not work. We need a model more like improvising, where people have a sense of what is aesthetic, ethical, or desirable, but will accommodate to a wide range of ways of achieving it (cf. Wagner-Pacifici, 2000, p. 217–235). Under a routinised state of crisis, the uncertainty of means applies amply in contemporary Cameroon: people are often unsure of which means will most likely lead to their ends, or – even if they do know that – of how to attain those means. In the next Section, I will seek to demonstrate that educated Cameroonians, specifically, *also* face the uncertainty of ends in trying to manage their reproductive lives. Unlike the uncertainty of means, this is not due primarily to *la crise*, but rather to the irreducible conflict of goals associated with their structural position.

3.2. MANAGING THE UNCERTAINTY OF ENDS

When social actors cannot determine, for whatever reason, which goals they should attempt to attain, they face the uncertainty of ends. For educated Cameroonian women, the uncertainty of ends arises because three central social goals to which they aspire are incompatible: achieving any two precludes attainment of the third. However, the goals are not clearly ranked, such that women are willing to forfeit the less important goals in order to have the more important ones. Of course, some women attain only one of these goals, or none at all; the key, however, is that no one can attain all three. Which possibility a young woman pursues depends on choice, chance, and circumstance; she negotiates through variously acceptable, rather than preferable, alternatives. At issue are the goals of beginning childbearing while still young, staying in school, and marrying before having children.

The social importance, throughout much of sub-Saharan Africa, of having at least a first child while still young has been noted by many scholars (e.g. Lesthaeghe, 1989; Caldwell, 1996), and Cameroon poses no exception. The reasons for this are numerous, including not only the high social value placed on reproduction, but also widespread infertility; if a woman does not have a child while young, it is socially perceived as an open question about whether she will ever be able to give birth. Although educated women are more willing than are the uneducated to consider postponing childbearing, they both subscribe to the ideology of early childbearing, and are subject to substantial social pressure to conform. In both interviews and informal conversations, schoolgirls emphasized both their own beliefs in the importance of early childbearing and the social practices of their families that reinforce those beliefs. Regarding the first, one high-school graduate explained why she regretted having waited so long:

> ''The body is not made to wait forever like that. There is a certain time [for having children]. (JJH: At what age is it time?) I can't say for everybody,

but for myself I would say perhaps at 20 you are already old''. (TT4a: 388–401).

While regarding the second, a woman in the tenth grade explained how her relatives treated her nulliparity as evidence of witchcraft:

''They [her aunts] brought me to the diviners to learn why I could not conceive. I told them I was avoiding [using contraception]! But they still took me ... Now when they see me, still going to school and not having a child, they look down on me''. (TT9b: 106–132).

Thus, early childbearing is supported both by schoolgirl's own beliefs and by the social practices of those around them.

At the same time as valuing early childbearing, educated women often stress the importance of remaining in school ''until the end'', that is the high school diploma. The point of school is the degree, and if you attend for 10 years before dropping out, those 10 years were wasted (cf. Bledsoe, 1990, p. 285–286). This conviction is expressed in a variety of ways, such as the shame (*honte* in French, or *osón* in Eton) that drop-outs are said to feel in the presence of educated people, the centrality of school attainment in both Catholic novenas and requests to traditional diviners, and the salience of school-leaving – whenever it occurs – in women's life-history accounts. Whereas many of my interlocutors would account for the timing of other consequential life-transitions, even including the birth of a first child, as a random coincidence, all of women who left before completing high school gave careful explanations of the circumstances that forced them to do so.

Lastly, educated Cameroonian women emphasize that children should be born only within marriage, primarily because of the harm done to children by the economic disadvantages of growing up without a co-resident father. Although there is certainly also a moral component to the discourse on the importance of marital childbearing (see Johnson-Hanks, 2002), it is the ''hardship'' and ''problems'' that draw most comment, as in the following, highly typical, interview quotes.

''Women who are going to school are instructed and so they reflect logically. For example, a woman who went to school cannot have children like that [outside of marriage], in disorder, because they showed her at school the hardships that could bring... but a woman who has not been to school, she doesn't know any of that''. (TT5a: 311–324).

''I don't want to have children before my marriage because I don't want my children to suffer. Because experience has shown that children who grow up with a couple who isn't married, who is perhaps separated, those are children who have too many problems. If you are not married yet, ...

and you already have children ... that will cause too many problems''. (TT4b: 274–299).

These three aims of early childbearing, only marital childbearing, and school completion have different original sources, modes of social enforcement, and zones of validity. But, similar to the Kenyan situation analysed by Watkins (2000), these different cultural models coexist, and the tensions between them persist through time. The crux of the problem is that honourable educated Cameroonians aspire to achieve all three, but any two preclude the attainment of the third. By postponing marriage and childbearing, a woman may persist in school and bear her children within marriage, but at the cost of ''waiting forever like that''. The only way to bear a child before getting old while still staying in school is give birth while still a student. Many women follow this path, dropping out temporarily and then returning to school. However, it is nearly impossible to combine this path with the aim of bearing a child within marriage, because the limitations on being a married student are substantially greater than on being a student-mother.[7] This path increases the likelihood of a long second interval, as it provides a middle solution – a child to prove fecundity while continuing in school – that is partly predicated on maintaining a partial identity as a young woman without familial obligation. By contrast, to bear that early child within marriage, a young woman will have to leave school. This conflict is the uncertainty of ends. The problem is not simply how to achieve some given goal – which means will be most effective, or how to maximize my self-interest. Rather, the question is which social goals are worth striving for.

This ambivalence of ends is a very broad feature of contemporary life, from Yaoundé to Shanghai to Chicago. But in poor countries, particularly those that – like Cameroon – have seen a vast widening of the horizons of possibility at the same time as a shrinking of concrete opportunities, this ambivalence becomes a true dilemma. Given the unpredictability of life in *la crise*, even if a young woman were able to select which compromises she would be willing to make, she can have no confidence that it will work out. After all, for these plans to succeed, a viable husband must show up with the bride wealth, someone must pay her school fees, she must pass the exams, and a pregnancy must come when she wants and not before. Instead of rational choice, *se débrouiller* requires a willingness to take what comes and make the best of it, to make ''contingency plans'' (Bledsoe, 2002) and revise them as rapidly and radically as necessary.

Educated women confront not only the uncertainty of means – itself the general condition of *la crise* – but also the uncertainty of ends, where the ends to which they aspire are mutually incompatible, and therefore indeterminate. There is not, or perhaps is not yet, an established social role as ''educated mother and wife'' which schoolgirls may work to attain. Instead, educated

women are confronted with competing ideals of honour, modernity, and propriety, which do not crystallize into a single institutionalised future to be sought out. Women's education has only since independence become widespread; how women's education should be integrated into local understandings of women's honour, and how those forms of honour will have to change to accommodate it, are very much under contention. I argue that these multiple possible pathways that an educated woman may pursue following the birth of her first child account for the broad variation in transition times to a second birth.

If it is true that educated women experience greater variability in the transition to second birth because of the uncertainty of ends, four things will follow. First, a significant number of women who have had a child should continue in school, but very few married women. Second, the proportion of births that are non-marital should be substantially higher among the educated than among the uneducated. Third, the association between age at first birth and marital status at first birth should be strong for all women, but even stronger among educated women than in the sample as a whole. Fourth, the educated women who wait years before having a second child should primarily be those who followed the path of bearing a first child while single in order to persist in school. Therefore, being single at first birth, being in school at first birth, being educated, and the interactions between them should all be negatively associated with the hazard of a second birth. All four of these hypotheses are supported by the data.

The first three hypotheses can be tested simply with descriptive statistics. Is it the case that women can and do continue to attend school after having a first child more readily than after marriage? Yes. In the DHS data, 27.5% of women who had ever attended school and ever borne a child continued to attend after the birth, whereas only 19.4% of ever-married, ever-schooled women persisted in school after the marriage. Further, as the DHS does not distinguish between different marriage forms (formal betrothal, bride wealth marriage, civil marriage, church marriage, cohabiting "common" marriage, etc.), some of the women listed as attending school after marrying may be retrospectively antedating the onset of their legal marriage to the date of their public betrothal. In a survey of 184 women who had attended at least some secondary school, I collected the dates of the different marital events separately. Although this sample is small, and not nationally representative, the distinction of marital events is useful. Using civil marriage (the registration of the marriage at the court, required for inheritance, child support in case of separation, and tax status as a married person) as the key marital event, the difference between first births and first marriages is even more significant than in the DHS. While only 13% attended a full year of school after completing the civil marriage, 31% of the sample attended at least one more year of school after bearing a first child.

The second prediction – that educated women should have higher non-marital fertility rates than do the uneducated – also holds. Johnson-Hanks (2003) calculates age-specific non-marital fertility rates for educated and uneducated women, and finds statistically significant differences in the predicted direction. In Cameroon, uneducated women who are still unmarried at higher ages are not trying to balance mutually incompatible goals of schooling and family-building, but are single for other reasons; therefore, they are less inclined to bear a child while single. The third prediction holds as well: regardless of educational status, women who bear a first child later are more likely to do so within marriage, and among educated women, the relationship is even stronger. The correlation between age at first birth and being married at first birth for all women is 0.119; for women with secondary education it is 0.224. Thus, the first three predictions of the uncertainty hypothesis are supported.

The fourth prediction can be tested with Cox regression, a method of estimating the relationships between a set of covariates and the likelihood of undergoing a transition event, here transition to the second birth (see Table 5). The coefficients shown here are the exponentiated Bs, the proportional change to the hazard rate. Thus, coefficients smaller than 1 decrease the hazard of transition, and coefficients larger than 1 increase it, while the *p*-values show the probability that the exp. B is different from 1 (two-tailed test). If the hypothesis that the uncertainty of ends generates the observed

Table 5. Proportional hazard of transition to second birth (Cox regression, Exp. B): CDHS 1998

	All women		Women who ever attended school
	Model 1	Model 2	Model 3
Age at first birth	0.9929	0.9870*	0.9826*
No school	reference	reference	
Attended primary school	0.7653***	0.9020*	
Attended sec. school	0.5754***	0.7697***	
In school at first birth			0.8404**
Single at first birth		0.6124***	0.6038***
First birth in *la crise*		0.8653**	0.7897***
First child is female		1.0030	1.0293
First child died		1.1772**	1.0952
Ideal family size		1.0013*	1.0028**
N	3709	3636	2549
Chi-Square	140.605	259.121	174.331

Relative hazard differs from 1, at: * = $p < 0.05$; ** = $p < 0.01$; *** = $p < 0.001$.

patterns in the transition to second birth is true, then being single at first birth, being in school at first birth, and being educated should all be negatively associated with the hazard of a second birth. Furthermore, if *la crise* is partly responsible for the increasing uncertainty, then the hazard of a second when the first birth was in *la crise* should also be lower. In table 5, we see that all of these predictions are supported.

Model 1 shows only the effect of the age at first birth and of school attendance. Model 2 adds the remaining covariates, including the most commonly cited covariates of interbirth interval durations – the sex and survival of the preceding child and the ideal family size. We observe that schooling, non-marital births, and *la crise* are significantly and negatively associated with the hazard of progressing to a second birth; age at first birth has a small and negative association with the hazard of a second; the death of the first child, and to a lesser extent, the ideal family size are associated with a significant increase in the hazard; the sex of the first-born child is not significant. Model 3 is limited to those women who ever attended school, and considers whether they were still in school when the first child was born. Like level of schooling achieved, being in school at the birth of the first is significantly associated with a substantial decrease in the hazard of a second birth. The other covariates are largely unchanged, with the exception of the death of the first child, which is no longer significant. Together, these models provide support for the hypothesis that educated women have longer and more variable durations to the second birth *because* of the uncertainty of ends. The hypothesis is further strengthened by the fact that in parallel models for third and fourth births, only *la crise* is significantly associated with changes in the hazard rate (not shown).

4. Conclusion and implications

This article has examined statistics regarding the transition to the second birth in Cameroon as the residual of social practice. I have argued that educated women face the uncertainty of ends, where there is no single, institutionalised future that they seek to attain. As the different social goals for which they strive are mutually incompatible, and the conditions of choice highly unpredictable, educated Cameroonian women engage in ''action in the subjunctive mood''. In their own terms, ''on se débrouille''. As a result, educated women do not make clear and clean entries into a life stage of childbearing. The second birth sometimes comes many years after the first, and for some 12%, does not come at all. This specific case has three general implications.

First, the classic demographic model of the female life course as divided into the stages before, during, and after childbearing, while useful in accounting for fertility rates, offers little analytic assistance in explaining

them. It is obvious that to account for a given average completed family size, it is sufficient to divide the duration of childbearing – that is, the age at last birth minus the age at the first – by the average birth interval, and add one. Because of its transparency, elegance, and simplicity, this equation underlies much demographic reasoning, through the standard phrasing of birth *starting*, *stopping*, and *spacing* (see e.g. Livi-Bacci, 1989, cited in Bledsoe, 2002, p. 44). But first births are not necessarily the gateways to regular childbearing. Birth intervals are not necessarily short and stable until desired family size is attained; among the educated in Cameroon, average birth intervals *decrease* with parity. In order to understand the social organization of fertility, we need to look at the contexts of specific births.

Second, the patterns observed in Cameroon depend on the social organization of schooling and family formation. In this case, it is possible for women to continue in school after bearing a child, but far less possible to stay in school once they marry. In other countries, even within sub-Saharan Africa, the social institutions that structure education, marriage and motherhood work quite differently. Most particularly, bearing a first child excludes women from further education in some contexts (Bledsoe, 1990; Stambach, 2000, p.100). Thus, not only the specificity of births, but also the structural parameters that organize them require our explicit attention (cf. Greenhalgh, 1990).

Finally, women or couples may be engaged in strategic, intentional reproductive action without necessarily maximizing their utility or selecting an optimal outcome. At least under the conditions of the uncertainty of means and uncertainty of ends that educated Cameroonian women face, *se débrouiller*, ''action in the subjunctive mood'' (Wagner-Pacifici, 2000), or ''contingency plans'' (Bledsoe, 2002) are all empirically better descriptions. Some recent work (e.g. Kohler, 1997; Potter, 1999) has examined the ways in which population level outcomes are historically contingent or path-dependent. Individual-level experience clearly is path-dependent as well. This may offer a means of integrating Lee's (1980) analysis of reproductive intentions as ''moving targets'' with recent work on reproduction, social networks, and agency (e.g. Watkins, 1990, 2000). Reproductive intentions are orientations toward action in a social world; the structure and perception of that social world are therefore central to an understanding of reproductive practices.

Notes

[1] Johnson-Hanks (forthcoming) contains a more extensive discussion of the philosophical and ethnographic issues implicated here.

[2] Discussions of *la crise* can be found in Eloundou-Enyegue et al. (2000), Feldman-Savelsberg (1999), Geschiere (1997), Mbembe and Roitman (1995).

[3] The first birth interval is calculated from marriage to the first birth. Thus, while every woman with two children has a second birth interval, only married mothers have a first interval; similarly, the first interval is the only one that can be negative.
[4] The moderate degree of correlation between birth intervals and completed family size stands in contrast to the low correlations between different birth intervals themselves. Of the 21 different correlations between the first six birth intervals (excluding auto-correlation), only one (between the fifth and seventh intervals) is in excess of 0.20, and most are between 0 and 0.1 (not shown).
[5] Thanks to Michael Hout for the elegant exposition of this model.
[6] The model would also make several interesting predictions that cannot be tested with available data, such as longer delays following mistimed pregnancies.
[7] Cameroon is somewhat unusual among sub-Saharan African countries in this regard, due to the large proportion of schools that are private and the large degree of school transfer. Although technically, women who have borne a child are not supposed to enroll in public school, they frequently do, by withdrawing from one school before the pregnancy is too visible and enrolling in another after the birth. In addition, the private schools (including the very popular Catholic schools) have no such constraint.

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