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Bulletin of the History of Medicine, Volume 77, Number 1, Spring 2003, pp. 133-162 (Article)

Published by Johns Hopkins University Press
DOI: https://doi.org/10.1353/bhm.2003.0003

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SUMMARY: This paper utilizes ethnography and oral history to examine local perspectives on one aspect of the health transition, the female life cycle, in postcolonial Botswana. Botswana has undergone a remarkably rapid epidemiologic transition in recent decades, and it thus provides a unique context within which local actors analyze the interaction between biological and sociocultural change. Improvements in the standard of living have resulted in both an earlier onset for puberty in girls and an increased incidence of stroke among older women, thus refashioning the female life course. Local analysis and commentary on the shifting norms of women's bodies read this phenomenon alongside broader historical transformations. In the process they complicate basic assumptions in international health about the meanings of health and development.

KEYWORDS: Africa, health transition, life cycle, development, international health, ethnography, Botswana

Earlier versions of this paper were presented at the Emory University History of Medicine Roundtable, 22 March 2000; the Seventy-third Annual Meeting of the American Association for the History of Medicine, Bethesda, Md., 20 May 2000; the North-East Workshop on Southern Africa, Burlington, Vt., 28 October 2000; and the Walter Rodney Seminar at Boston University, 2 October 2000 (see Julie Livingston, "Breast Sweeping, Cesarean Section and High Blood: Ideas about Aging in Post-Colonial Botswana," Boston University African Studies Center Working Paper no. 230, 2000). I am grateful to the audiences at each of these meetings for their helpful comments—particularly Jean Hay, Judith Van Allen, Diana Wylie, Paul Landau, and Ivan Karp—and especially to two anonymous reviewers from the *Bulletin* for their comments on an earlier draft. While in Botswana I had the good fortune to work with Dikeledi Moloi, whose perceptive analysis has informed this work. I would also like to thank Dikeledi, Tshepiso Moremi, and Condril Mosala for their assistance in interviewing informants. All errors are, of course, my own. Thanks also to the staff at the Botswana National Archives, and the Botswana Collection at the University of Botswana. I am grateful to Fulbright-Hays, the Center for the Study of Health Culture and Society at Emory University, the Emory University Fund for Internationalization, the Emory University History Department, and the Institute of African Studies at Emory University for funding this work, as well as to the Botswana Government for granting me permission to conduct research.

In this paper I will examine local perspectives on the interaction between biology, epidemiology, and historical change in Botswana. Over the past three decades, improvement in diet and medical care have altered the normative female life cycle in Southeastern Botswana. Puberty, and often, by extension, pregnancy are coming at a younger age than in previous generations, and owing to a rising incidence of stroke, senescence is also arriving earlier than expected for many women. People in Botswana interpret these changes in the life cycle, and their accompanying social challenges, against a broader backdrop of postcolonial history. In what follows, I will examine changes in puberty and the onset of stroke in tandem to gain a clearer picture of how people bring transformations in biological norms and social life into a unified historical analysis. This analysis challenges basic assumptions underlying international health policies.

Since Thomas McKeown published his seminal work on the health transition in England, there has been much scholarly debate on the specific causes and patterns of the decline in mortality rates, and the accompanying epidemiologic and demographic changes, in the West since the middle of the nineteenth century.[1] In turn, various international health programs have attempted to generate a similar type of transition in developing countries through family planning and primary health care initiatives, positing the Western example as a model. Yet, though we know much about how the medical and public health professions and their institutions and technologies have responded to epidemiologic transitions, we know less about how local people have experienced and interpreted such changes as they occur in terms of broader historical trends. Recent research by demographers and anthropologists indicates, not surprisingly, that epidemiologic and demographic transitions have not been uniform across historical or geographic contexts, and that local actors respond to disease, health, and the desire for children in culturally and ecologically specific ways.[2]

1. See, for example, Thomas McKeown, *The Role of Medicine: Dream, Mirage, or Nemesis?* (Princeton: Princeton University Press, 1979); Simon Szreter, "The Importance of Social Intervention in Britain's Mortality Decline c. 1850–1914: A Re-interpretation of the Role of Public Health," *Soc. Hist. Med.,* 1988, *1:* 1–38; James C. Riley, "Why Sickness and Death Rates Do Not Move Parallel to One Another over Time," *Soc. Hist. Med.,* 1999, *12:* 101–24; Bernard Harris, "Morbidity and Mortality during the Health Transition: A Comment on James C. Riley, 'Why Sickness and Death Rates Do Not Move Parallel to One Another over Time,'" ibid., pp. 125–31.

2. Deborah Potts and Shula Marks, eds., *Fertility in Southern Africa,* special issue of *J. Southern Afr. Stud.,* 2001, *2;* Caroline Bledsoe, Fatoumatta Banja, and Allan Hill, "Reproductive Mishaps and Western Contraception: An African Challenge to Fertility Theory," *Pop. & Dev. Rev.,* 1998, *24:* 15–57.

My aim here is to bring an explicitly local (in this case Tswana) perspective to our understanding of the history of health transitions, through an ethnographic exploration of a single aspect of what Margaret Lock has termed "local biology." This concept argues against universality in physical experience by suggesting not only that "cultural beliefs influence the construction, experience, and interpretation of aging and other biological processes but that biological difference—sometimes obvious, at other times very subtle—molds and contains the subjective experience of individuals and the creation of cultural interpretations."[3] Thus, by exploring biological and social change together, we gain insight into the complex history of embodied experience. Below I will examine contemporary ideas about the changing female life cycle in southeastern Botswana as a vehicle for exploring how people interweave and make sense of recent epidemiologic, biological, cultural, and socioeconomic history.

Anthropologists have shown that an examination of various discrete stages in the life cycle provides a unique context for interrelated analyses of both biology and popular narrative meaning-making. Both forms of knowledge are "socially" constructed, and yet through their particular (and differing) structures of knowledge production they reflect upon one another. Here I wish to build on these insights by adding a specifically diachronic analysis to the picture.[4] What happens when historical transformations produce new biological *and* sociocultural norms, given that both biology and sociocultural life shape experience? Southeastern Botswana provides an excellent setting to explore these issues because it has undergone a remarkably rapid health transition in recent decades. In this case, Tswana actors are uniquely situated to question the relatively simplistic models of epidemiology and public health, which posit a unidirectional model of development. Their analysis illustrates how even seemingly positive developments in environment and health (in this case, improved diet) may have a more complex biosocial impact on local experiences of development than expected.

By explicitly focusing on Tswana perspectives on health and history, I am joining an emerging trend in African medical historiography toward concern with African experiences of and ideas about health, history, and

3. Margaret Lock, *Encounters with Aging: Mythologies of Menopause in Japan and North America* (Berkeley: University of California Press, 1993), p. 39.

4. See for example, ibid.; Lawrence Cohen, *No Aging in India: Alzheimer's, the Bad Family, and Other Modern Things* (Berkeley: University of California Press, 1998); Carol Worthman, "Interactions of Physical Maturation and Cultural Practice in Ontogeny: Kikuyu Adolescents," *Cult. Anthrop.*, 1987, *2:* 29–38.

medical pluralization. Beginning in the 1980s, historians of colonial and missionary medicine (in Africa and elsewhere) began exploring the ways in which colonial medical practices and "scientific" knowledge production served the economic, political, and moral interests of empire.[5] In Shula Marks's 1997 presidential address to the Society for the Social History of Medicine, she explained that this new orientation in colonial medical history, away from positivist narratives and into political-economy and social-history perspectives, was spurred by "four or five major impulses"—namely:

> The development of social history and with it the social history of medicine as an academic subject in Europe and the USA over the last thirty years or so; the growth of social constructionist analyses in the social sciences under the influence of Foucault, which have underlined the importance of medical discourses, and shown their centrality in the evolution of the modern state and its powers of surveillance; the creativity of medical anthropology and the increasing recognition of the centrality of health and disease as social metaphor and biological condition—made all the more urgent with the rise of new infectious diseases, such as AIDs and the resurgence of old ones, such as tuberculosis and chloroquine-resistant malaria.[6]

This historiography has produced a wealth of insights. But as Warwick Anderson has recently suggested, there are limits to what can be seen from the vantage point of colonial medicine.[7] Inspired by the richness of patient-based histories and postcolonial studies, we are now restless to "resurrect indigenous modes of thought and representation, not as

5. Notable examples include David Arnold, ed., *Imperial Medicine and Indigenous Societies* (Manchester: Manchester University Press, 1988); idem, *Colonizing the Body: State Medicine and Epidemic Disease in Nineteenth-Century India* (Berkeley: University of California Press, 1993); Roy MacLeod and Milton Lewis, eds., *Disease, Medicine, and Empire: Perspectives on Western Medicine and the Experience of European Expansion* (New York: Routledge, 1988); Randall Packard, *White Plague, Black Labor: Tuberculosis and the Political Economy of Health and Disease in South Africa* (Berkeley: University of California Press, 1989); Megan Vaughan, *Curing Their Ills: Colonial Power and African Illness* (Stanford: Stanford University Press, 1991); Jonathon Sadowsky, *Imperial Bedlam: Institutions of Madness in Colonial Southwest Nigeria* (Berkeley: University of California Press, 1999); John Farley, *Bilharzia: A History of Imperial Tropical Medicine* (Cambridge: Cambridge University Press, 1991); Maryinez Lyons, *A Colonial Disease: A Social History of Sleeping Sickness in Northern Zaire, 1900–1940* (Cambridge: Cambridge University Press, 1992); John L. Comaroff and Jean Comaroff, *Of Revelation and Revolution: The Dialectics of Modernity on a South African Frontier,* vol. 2 (Chicago: University of Chicago Press, 1997), chap. 7.

6. Shula Marks, "What Is Colonial about Colonial Medicine? And What Has Happened to Imperialism and Health?" *Soc. Hist. Med.,* 1997, *10:* 205–19, quotation on pp. 205–6.

7. Warwick Anderson, Essay Review, "Where Is the Postcolonial History of Medicine?" *Bull. Hist. Med.,* 1998, *72:* 522–30.

pristine entities, but as forms of knowledge that are shaped by, and reflective of, the legacy of the colonial era"; in order to further our understanding of medicine and health, we have begun to seek and empower "alternative visions of modernity."[8]

For Africa, the best examples of this new medical historiography are recent works by Luise White, Nancy Hunt, and Steven Feierman, all of which privilege African perspectives on embodied experiences, health, and medicine.[9] White's and Hunt's books explore how local people perceived, appropriated, and interacted with Western medicine as part of a wider experience of colonialism; Feierman provides a close analysis of health-seeking behavior and diagnostics aids in the long-overdue project of historicizing "traditional medicine." I seek to join this burgeoning mode of inquiry by probing the ways in which laypersons and "traditional" medical practitioners see their health-related challenges and embodied experiences of aging, as emblematic of the perils of postcolonial historical transformations.

The Tswana, like most people, view themselves as active agents of their own health, and health promotion for them is as much a moral as a physical project.[10] Patients embed moral and political-economy critiques into their integrative knowledge of differing medical epistemologies, and so an examination of local historical analyses of biosocial change is key to our understanding of health-related thought and practice.[11] If we are to comprehend these intricate means through which local actors think about and seek health, however, we must first understand indigenous

8. Randall Packard, "Post-Colonial Medicine," in *Medicine in the Twentieth Century,* ed. Roger Cooter (Amsterdam: Harwood Academic Publishers, 2000), pp. 97–112, quotation on p. 97.

9. Luise White, *Speaking with Vampires: Rumor and History in Colonial Africa* (Berkeley: University of California Press, 2000); Nancy Hunt, *A Colonial Lexicon: Of Birth Ritual, Medicalization, and Mobility in the Congo* (Durham, N.C.: Duke University Press, 1999); Steven Feierman, "Explanation and Uncertainty in the Medical World of Ghaambo," *Bull. Hist. Med.,* 2000, *74:* 317–44. See also Sadowsky, *Imperial Bedlam* (n. 5). Sadowsky's work is remarkably sensitive to the experiential and other concerns of Nigerian mental patients, but given the difficult nature of the topic he was necessarily more constrained in his methodological choices.

10. See Allan Brandt and Paul Rozin, eds., *Morality and Health* (New York: Routledge, 1997).

11. As Paul Farmer has suggested, Western medicine is not necessarily incompatible with other systems of thought. Binary constructions, which posit Western and non-Western medicine as opposites (or as "science" versus "superstition"), are misleading. Patients are capable of more complex and multistranded analyses of health and political economy than they are often given credit for. See Paul Farmer, "Sending Sickness: Sorcery, Politics, and Changing Concepts of AIDS in Rural Haiti," *Med. Anthrop. Quart.,* 1990, *4:* 6–27.

ideas about physiology and biological processes. As laypersons seek to nurture and maintain their own health and that of their family members, and as they respond to illness in the medically pluralistic world of colonial and postcolonial Africa, they necessarily engage and utilize a range of health-related ideas and practices that marry indigenous and imported knowledge in complicated ways. Thus, we need a primary understanding of indigenous medical knowledge if we are to properly explore the often fuzzy and complicated ways in which laypersons and health workers alike have entangled Western and "traditional" medical knowledge about health, medicine, and the human body—at times even producing new "traditional" knowledge in the process. I will try to show how such a locally conceived bio-history might look, as one example of how we might think about health in a postcolonial society.

To make sense of how people negotiate meaning amid these streams of knowledge and their accompanying health-related practices requires the use of ethnography and oral history, methodologies that are already central to much African historical research.[12] The following is based on ethnographic observations and oral histories collected during fieldwork in southeastern Botswana.[13] My ethnographic research was mainly conducted through work with a local NGO that provided decentralized rehabilitation services to debilitated patients living in three rural villages. I accompanied the local rehabilitation worker (and often other local health workers) on these home visits, and during regular trips to village clinics and the central hospital. I resided for twelve months in one of the villages where I worked, and thus was able to participate in community life and casual conversation on a range of topics. In addition I conducted approximately one hundred oral interviews with patients, family members, elderly villagers, colonial physicians, and *dingaka* (traditional healers, also called "Tswana doctors").[14]

While such methods produce rich insights into patient and community experiences of biosocial change, they also raise problems of transla-

12. This is not to suggest that Africanists have an exclusive claim to such methods. The past year alone has seen the publication of two outstanding books in American medical history that utilize oral sources to great effect: Barron Lerner, *The Breast Cancer Wars: Hope, Fear, and the Pursuit of a Cure in Twentieth-Century America* (Oxford: Oxford University Press, 2001); Ronald Bayer and Gerald Oppenheimer, *AIDS Doctors: Voices from the Epidemic: An Oral History* (Oxford: Oxford University Press, 2000).

13. My fieldwork was carried out intermittently over a three-year period: July 1996; September to December 1997; and September 1998 to September 1999.

14. Most interviews were conducted in Setswana with the help of a Tswana research assistant.

tion and precision. As we will see, medical vocabularies in Setswana and English refer to different epistemologies, and translation between the two languages often collapses meanings or engenders confusion. Furthermore, especially in developing countries, the quantitative data necessary to buttress anecdotal or ethnographic evidence and to ground discussion of physiological change are often vague, dubious, or simply nonexistent. Thus, in what follows I offer a look into local bodily experience and historical analysis, but I cannot consistently provide the type of hard data on physiological change and epidemiologic history that I, and the reader, might wish.

Throughout this article I rely on the terms "local" and "Tswana" to streamline discussion. "Tswana" is a general term referring to ethnicity (people who speak Setswana and share other cultural norms) and nationality (the citizens of the modern nation of Botswana), and is descriptive of cultural orientation (e.g., Tswana medicine, Tswana architecture). In this case, I use the terms "Tswana" and "local" to describe the people with whom I lived/worked, and their cultural norms. These people were not members of the educated elite, though some had other claims to status (e.g., they had aristocratic backgrounds, or were traditional healers or community-based health workers). Many had little or no formal schooling; none had a university education. They were mostly residents of periurban and rural villages, though many had had experience working or residing in large towns, the capital city, or various sites in South Africa. A significant portion of the men had worked as migrant laborers in South African mines. Thus, though my terminology tends to homogenize a complex population, "Tswana" and "local" here refer to a specific, though mainstream, rural subset of the larger national population. I expect that many of their experiences and concerns would resonate with peers residing in similar communities throughout southeastern Botswana, especially given the degree of residential fluidity in the country.[15] Having alerted the reader to this terminology, let me now briefly provide some historical context necessary to understand the changing female life cycle in postindependence Botswana. Then we will turn to the life cycle, and its recent history of change.

The Historical Context

The modern nation of Botswana emerged out of a planned and peaceful transition from British protectorate status in 1966. Botswana (then

15. It would be interesting to explore whether and how similar transformations may have occurred across the border among Tswana in South Africa.

Bechuanaland) had suffered greatly under its eight decades of colonial rule. Taxation, land alienation, and consumer wants combined to push Tswana men to sell their labor for remarkably meager wages as migrant mine workers in neighboring South Africa. Meanwhile women (whom industry explicitly excluded from mine work), children, and the elderly struggled to continue agropastoral pursuits in the absence of robust male labor. By the 1930s a process of oscillating male migration had come to dominate social and economic life.[16] This migration pattern continued well into the postcolonial period, until a series of retrenchments, starting in the mid-1970s, began to reverse the trend.

The British, for their part, were primarily interested in Bechuanaland for strategic reasons, and invested little in developing the arid protectorate, which became a de facto labor reserve for South African industry. Throughout the colonial period Western medical and educational institutions (provided by Christian missions and the colonial government) remained extremely sparse. At independence, in 1966, Botswana was one of the poorest countries in the world, with only five kilometers of tarred road in a country roughly the size of France, and a population largely dependent upon wage remittances returned by migrant workers in South Africa.

This situation soon changed. Beginning in the early 1970s, the discovery and development of a series of rich mineral deposits (most notably diamonds) fueled a process of rapid economic development carefully stewarded by the Botswana government. In the fifteen years following independence, the GNP per capita growth was the highest in the world at 9.9 percent. In the subsequent thirteen years the GNP per capita remained the third fastest growing in the world, behind only Korea and Thailand. The real GDP per capita in Botswana more than doubled in the 1980s, rising from $U.S. 2,510 in 1985 to $U.S. 5,220 in 1993.[17] The democratic government invested its newfound wealth prudently and heavily in domestic infrastructure, including roads, telecommunications, schools, hospitals, and clinics. They supplied clean water in every village

16. For example, in 1938 and 1940 Schapera found that on any given day 40.3 percent of the adult men in southeastern Bechuanaland were absent, having gone to South Africa for work; the total percentage of men who had ever gone abroad to work was 83.9 percent, which further illustrates the centrality of labor migration in social life: Isaac Schapera, *Migrant Labor and Tribal Life: A Study of Conditions in the Bechuanaland Protectorate* (New York: Oxford University Press, 1947), pp. 39, 43.

17. Pelani Siwawa-Ndai, "Some Facts and Figures about Quality of Life in Botswana," in *Poverty and Plenty: The Botswana Experience, Proceedings of a Symposium Organized by the Botswana Society, October 15–18, 1996,* ed. Doreen Nteta and Janet Hermans, with Pavla Jeskova (Gaborone: Botswana Society, 1997), pp. 25–32, on pp. 27–28.

through municipal water taps, and provided food transfers to various sectors of the population through regular targeted food aid, as well as through "food for work" programs during the frequent drought years. The mineral boom and ensuing period of development meant upward mobility for many, but this process of wealth-generation also provoked social tensions and moral questioning in a society where more than half the population continues to live in poverty.

The Tswana first encountered Western medicine through missionary doctors (most famously David Livingstone) in the early nineteenth century. During the colonial period only those living in select major villages would have had access (had they wished) to Western medicine. The majority of men, however, experienced Western medical practices through medical recruitment examinations given by mining companies to determine fitness, and to a lesser extent during possible stays in mine hospitals. With post-independence development this all changed, as Western rather than Tswana medicine remained the preferred mode of governmental health-care provision. Access to Western medical care expanded rapidly through governmental efforts. The nurse/patient ratio rose steeply from 1 nurse per 2,564 persons in 1968 to 1 per 462 in 1996; in the same period, the number of clinics grew from 16 to 209.[18] While statistics are not available on the percentage of medically supervised births in the mid-1960s, all agree that the incidence then was very low; by 1993, however, fully 77 percent of women delivered with medical supervision.[19] In addition, a number of private allopathic practices have opened for patients with the means to pay.

Throughout all of these changes, Tswana medicine (*bongaka*) has continued to flourish and evolve. Thus, within a generation, Western medical institutions and practices have become commonplace alongside a still-thriving indigenous medical system, and people of all economic and social strata mediate between a range of health practitioners and ideas in seeking health.[20] Even many low-level health workers and some (though certainly not all) nurses—the staff whom patients see most frequently (most patients do not have access to a physician except under very serious circumstances)—continue to accept many Tswana notions of

18. Permanent Secretary Edward Maganu, "Access to Health Facilities in Botswana and Its Impact on Quality of Life," in ibid., pp. 291–301, on pp. 296–98.

19. Ibid., p. 297.

20. The picture is slightly more complicated than my brief sketch allows. Alongside *bongaka* and Western medicine, the range of other therapeutic alternatives continues to expand—including, most notably, independent healing churches, individual healing prophets, *sangomas,* and Chinese acupuncturists.

illness causation and physiology, and to accommodate biomedical and Tswana medical epistemology into a complex universe of meaning.

The Tswana Life Cycle and an Introduction to "High Blood"

Since the late 1970s in Botswana, health-care workers (both Western and Tswana) and lay persons alike note a marked increase in two seemingly unrelated phenomena: stroke, and an earlier onset of puberty and often, therefore, pregnancy. On closer examination, these events share the distinction of being markers of life-course transition. Puberty signals the potential for movement into adulthood, and stroke is one means of passing out of adulthood and into old age (*botsofe*) with the signs of death already imprinted on the patient's body. The Setswana term for stroke—*go swa mogama*—describes the resulting hemiplegia (paralysis on one side of the body) and literally means "to be half dead."[21] All agree that modern living and its changes in diet, exercise, health care, and culture have transformed the life course—yet when these categories are unpacked they hold very different meanings for the Tswana than for health workers.

From a biomedical perspective, the changing life cycle is evidence of a society in the throes of "demographic transition"—moving out of a period of endemic malnutrition and infectious disease that characterized Botswana until the late 1970s, and into a new era of reduced mortality rates for children under five, longer life expectancy, and a "healthier" population. For the Tswana, on the other hand, the shifting life cycle illustrates the loss of social control over the human body. To them, bodies seem to be moving through life too fast, expending—not replenishing—their life force.[22] The "average" person may be living longer, but the "average" person's body is weaker, more polluted, and out of harmony with the proper rhythms driven by nature, but shaped by

21. This is not to suggest that stroke is necessary for the transition to old age, but rather that it is one possible route to *botsofe.* The term *go swa mogama* describes hemiplegia, not a blood clot or hemorrhage in the brain, and thus is not used to refer to a stroke that affects both sides of the body, nor to a mild stroke with no (or very limited) perceptible paralysis. Bilateral paralysis would not necessarily be seen as a closely related medical phenomenon in Tswana medical nosology, and thus does not share the same terminology.

22. Caroline Bledsoe et al. write about a similar phenomenon in the Gambia. They call this model "body resource expenditure": Caroline Bledsoe et al., "Constructing Natural Fertility: The Use of Western Contraceptive Technologies in Rural Gambia," *Pop. & Dev. Rev.,* 1994, *20:* 81–113.

social values of restraint and deference. Social control over the human body was historically exercised through rituals and practices designed to strengthen, protect, and cleanse the body and to set a proper pace for physical development and decay. Over the past century, however, many of these rituals and practices have ceased, and people feel increasingly vulnerable to the chaos and pollution of modern life.

Here I will discuss the changing life cycle in Botswana and illustrate its meanings through cases drawn from recent fieldwork. In this discussion I will locate popular perspectives in the context of post-independence historical change in Botswana. Part of this analysis requires that we rethink the crude categories of "youth" and "old age" to gain a more nuanced understanding of the internal gradations within them. These gradations, I argue, are central to how such categories are understood and analyzed locally.

I am concerned primarily with transitions in the female life course, since they have been easier for me to document, though I do think that the male life cycle has undergone a similar set of changes. Where possible, I will refer to both male and female aging processes, since there is an overlapping, or meta-sense of human bodies in transition, at play in contemporary Botswana. However, there are different sets of social disjuncture in a quickening male life course than in a quickening female life course, given the gendered meanings and experiences of aging and the locally understood differences between male and female bodies. I do not want to overstate the case for a unified or singular type of transition here.

I will begin by describing an idealized model of the Tswana life cycle, since it is the paradigm through which early puberty and adult hemiplegia have been understood. This model is based on the ethnographic research of anthropologists over several decades beginning in the 1930s, and from what I gleaned through my own research, it appears to still hold true for the Tswana today.[23] This model, though problematic in that it draws material gathered over several decades into an overly static ethnographic present, is necessary in order to abbreviate my analysis. My

23. See Isaac Schapera, "Premarital Pregnancy and Native Opinion: A Note on Social Change," *Africa,* 1933, *6:* 59–89; idem, *Married Life in an African Tribe* (London: Faber and Faber, 1940), esp. chaps. 2, 7, 9, 11; Hoyt Alverson, *Mind in the Heart of Darkness: Value and Self-Identity among the Tswana of Southern Africa* (New Haven: Yale University Press, 1978), chaps. 6, 7; Elizabeth Arnold Guillette, "Finding the Good Life in the Family and Society: The Tswana Aged of Botswana" (Ph.D. diss., University of Florida, 1992); Benedict Ingstad, Frank Bruun, and Sheila Tlou, "Care by the Elderly, Care for the Elderly: The Role of Elderly Women in a Changing Tswana Society," *J. Cross-Cult. Geront.,* 1992, *7:* 379–98.

project here is not to precisely date changes in age-related rituals and traditions, though I will point out general historical changes within the model I present. Rather, I am interested in how popular understandings of the body, the life cycle, and the incidence of teenage pregnancy and stroke are used to make sense of sudden new wealth and "development," and I will attempt to illustrate how these perceptions are embodied in practice as people cope with social problems and illnesses they see related to a changing life cycle. The categories described below may appear to confound Western understandings of aging, and so it is necessary to provide this model to aid the reader.

The Tswana historically recognized differences between physical and social maturation. Movement through the life cycle was mediated by rituals and daily practices in an attempt to synchronize biological and social development. Age was further understood as a matter of both intergenerational *and* intragenerational hierarchy: birth order was always relevant among siblings and cousins, and from a young age individuals had a clear sense of the finely gauged age-based hierarchy within their community. Over the last five or six decades yet another category, chronological age, has become increasingly salient, as the registration of births by church and government, the institution of identity documents, and Western education have made people more and more aware of their birth dates. Those who are in their fifties today often seem to evaluate age in chronological as well as biological and social terms.

The Tswana, like many people, conceptualize the life course as a circle. Historically, infants were thought to come in a spiritual sense from the *badimo* (ancestral spirits) who governed the human world through their acts, and the elderly moved through a final period of childhood before rejoining the *badimo* as one of their own. Now, it is more common to see this in Christian terms, with children bestowed by God (*Modimo*) and a return to him upon death.

The fetus itself is formed through a mixing of the blood of the woman with that of her male partner. In Setswana the word for blood (*madi*) is the same as that for semen, and *madi* is the vital force necessary for life. When a woman stops menstruating during pregnancy, the Tswana consider that the blood she was previously expelling is now being used to form the fetus. The father of the child is expected to continue to have regular intercourse with the mother during the first several months of her pregnancy, so that his *madi* can add to and build the fetus as it develops in the womb. In the 1930s anthropologist Isaac Schapera found that a few months after the birth the mother and father would end the confinement period with intercourse, after which the father would rub some of his semen (*madi*) along the infant's back to "strengthen its

spine."[24] With the rise of male migrancy beginning in the 1930s, however, men were not always able to be present at the end of the confinement period, and it seems that the practice may have gradually died out as a result. The mother, meanwhile, is also strengthening the baby through her breast milk, and ideally children are not weaned until they are close to two years old. For the many women now employed in wage labor, however (a situation that rapidly expanded in the 1970s), sustaining breast feeding for this lengthy period has proved impossible. Thus, two of the principal methods of strengthening infants for childhood have declined in the past century.

It seems that before the 1970s, puberty for girls usually began around age fifteen or sixteen with early breast development. Girls were then taken aside by their mothers and taught practices that were intended to slow breast development, staving off menstruation and womanhood until the rest of the girl's body had grown strong. They were given a traditional Tswana broom, which was worn short from months of sweeping. A mother would instruct her daughter to rise early each morning before anyone else, go to the back of their compound, and sweep off her bare new breasts. People understood this to slow the pace of puberty, which would not be completed by the onset of menses until the girl reached seventeen or eighteen.[25] As Sebete Phatshwana, a Tswana doctor, explained, "early in the morning you sweep so that when you reach puberty . . . you will grow healthy and strong enough to reach the older ages."[26] Since the late 1970s, however, puberty has started coming at an earlier biological age, and twelve or thirteen, though still not the average, is no longer an uncommon age for girls to begin menstruation.[27]

24. Schapera, *Married Life* (n. 23), p. 236.

25. The women and men with whom I discussed breast-sweeping could not elaborate on the reasons why this practice inhibited or slowed the pace of puberty. Women in particular said that they had not asked their mothers *why* they should do this, because they considered such questions rude. Unfortunately, I neglected to pursue the underlying medical theory with the Tswana doctors I interviewed.

26. Interview with Sebete Phatshwana, 2 July 1999 (except where otherwise specified, all cited interviews were conducted by me). Owing to the sensitive personal nature of some of the material, interviews remain in the author's possession.

27. This observation was the topic of several conversations I witnessed while in Botswana. I knew a handful of girls who had become mothers in their early teens. Such births (and the pregnancies that led up to them) often acted as mnemonic devices, which spurred observers to remark on their perceptions of the changing normative ages of puberty and pregnancy. For a comparative case, see Joan Jacobs Brumberg, *The Body Project: An Intimate History of American Girls* (New York: Vintage Books, 1997), chap. 1.

In the nineteenth and early twentieth centuries, puberty for both boys and girls was further marked by participation in rituals of initiation.[28] The ceremonies were held only once every four to six years and so might not happen for several years after the beginnings of puberty. Boys' initiation, called *bogwera,* included circumcision and lasted for several months; girls' initiation, *bojale,* was much shorter, and did not include circumcision, though a cut was made on the inner thigh and a piece of hot metal twisted inside the cut. Initiates of both sexes were expected to demonstrate physical fortitude during these operations by not crying out or showing their pain. In *bogwera* and *bojale* youth received instruction about sexual activity, sexual taboos, and sociocultural rules during their stays in the initiation camps. In passing through these rites, they were ritually reborn as adult members of society. Women could then marry, though only after a lengthy process of marriage negotiations. Men, on the other hand, were ideally expected to remain celibate for roughly a further five years, or until they could play their role in the next initiation ceremony. After initiation, women and men could also drink beer, which was prohibited for youth, and men could take part in the political life of the lineage and village.

Beginning in the late nineteenth century, however, as more Tswana paramount chiefs converted to Christianity and mission stations opened in their territories, Christian leaders sought to bar the initiation rites, and by the early twentieth century the practice began to die out.[29] I should note that a number of communities continued to initiate their youth in clandestine ceremonies, though this was in direct defiance of their paramount chief, and if discovered it was met with fines or even imprisonment. The village where I lived and conducted much of my fieldwork was reputedly the last in the southeastern region of the country to hold initiation rites, which finally ended in 1964, two years before independence. Even without initiation it was still expected that women would marry in their early to mid-twenties and begin bearing children soon thereafter, while men would marry in their late twenties or early

28. The following description is based on Rev. W. C. Willoughby, "Notes on the Initiation Ceremonies of the Becwana," *J. Roy. Anthrop. Inst. Great Britain & Ireland,* 1909, *39:* 228–45; Rev. J. Tom Brown, "Circumcision Rites of the Becwana Tribes," ibid., 1922, *51:* 419–27; I. Schapera, *Bogwera: Kgatla Initiation,* pamphlet (Mochudi: Phutadikobo Museum, 1978); Jean Comaroff, *Body of Power, Spirit of Resistance: The Culture and History of a South African People* (Chicago: University of Chicago Press, 1985), pp. 85–118.

29. The reason why some chiefs began to bar *bogwera* and *bojale* is open to debate: Christianity may have been an excuse more than a direct motivation. In at least one case (that of the Bakgatla), the move appears to have been politically as well as religiously motivated.

thirties.[30] Marriage and parenthood were the final stage necessary in the transition to adulthood.[31]

Though people recognized the graduated seniority of age, accomplishment, and knowledge for political and social reasons, and notions of personhood were tied to finer gradations in personal development, there was no *physically* distinctive life-course marker after parenthood until the onset of old age. Old age encompassed two basic stages. The first came when a person's children had reached adulthood and the accomplishments of aging became manifest; these accomplishments might include, for example, control over the labor and wages of adult children, mastery of certain difficult discursive styles that marked the speaker as particularly eloquent and wise, expertise in skilled endeavors such as the castration of bulls or the decorative arts, ownership of herds, and development of domestic compounds and fields. Men and women in their sixties whose parents had passed away and who had accomplished a great deal might begin to be called *monna mogolo* (old man) and *mosadi mogolo* (old woman), terms that equated aging with social power and reward.[32] Records from tax defaulters in the 1920s through the 1950s and oral interviews both suggest that men and women well into their seventies, despite their changing social status, considered themselves physically vital adults, with agropastoral responsibilities.[33] When general physical

30. Schapera, *Married Life* (n. 23), pp. 71–72.

31. Since the 1930s marriage has become less important as a route to parenthood. This will be discussed in more detail later.

32. The adjective *mogolo* comes from the verb *go gola,* which means to grow up and to gather as the fruits of one's labor. It is interesting, however, to note an archaic meaning that might offer a clue about previous characterizations of aging: to tire of a thing; to cease to like what one has previously liked. See Z. I. Matumo, *Setswana-English-Setswana Dictionary,* 4th ed. (Gaborone: Macmillan Botswana, 1993).

33. The testimony by colonial officials (including physicians) and Tswana chiefs and administrators in tax-exemption cases often included a review of a given individual's circumstances leading up to the application for exemption. In many cases, this testimony indicates that elderly men had continued to labor in agriculture and cattle-keeping in order to pay tax and to contribute to their families' welfare until extreme frailty prevented them from doing so—at which point the chief or his tax collector might decide to apply for exemption on behalf of the elderly man. See Botswana National Archives (BNA) DCK 13/7, Exemptions from tax 1947–56; BNA 2 DC-Mol/22, Bakwena Tribal Administration Court Cases, tax-exemption cases 1936–64; BNA 2DC-Mol/21, Bakwena Tribal Administration Court Cases 1930–49, tax-exemption cases; BNA 2 DC-Mol 2/23, Bakwena Tribal Administration Court Cases 1932–38, tax-exemption cases (there are too many relevant cases in each of these files to list each one separately). Though it is difficult to be precise about the ages of the men involved, regimental membership is listed for some, and in other cases a man's age is implied by reference to a historical event, such as the Anglo-Boer War. This emphasis on continued participation in agriculture and cattle-keeping is also borne out by

decrepitude and frailty set in, however, adults were seen as moving past *bogolo* (early old age) into *botsofe,* the second major stage of old age.

Botsofe was a complex state embracing three independent aspects or phases, any or all of which could be experienced by a given individual: *godile* (grown up), a spiritual and emotional state of inner peace and knowledge, which transcends even the achievements of *bogolo;*[34] *tsofetse* (senescence), a state of growing physical decrepitude; and *ngwana* (old-child), in which the elderly return to infancy, requiring physical and often mental assistance in living. Since aging was paced through ritual, it was hoped that *godile* (spiritual transcendence) and *tsofetse* (physical frailty) coincided in the individual. *Godile* was the most spiritually powerful of the three aspects of aging, and its attainment was a significant, though intensely personal, event. Not all the elderly could hope to become *godile* before death. Anthropologist Elizabeth Guillette quotes one seventy-three-year-old woman's account of moving into the second phase of old age and reaching *godile* in the late 1980s:

> You cannot look at, or even talk with a person, and tell if they are *godile.* I had been *mogolo* (old) for a long time but it wasn't until a few months ago I felt grown-up [*godile*]. I have learned a lot about life, how people behave, about what is really important to me, my family, and village. I may not be able to change things but I have gained the insights and knowledge I did not have when I became *mosadi mogolo* (an old woman). This does not mean I have stopped learning or know the book learning of the young.[35]

This level of personal knowledge and inner harmony, gained through a lifetime of experience and striving, was matched by a growing proximity to the ancestors (*badimo*). The physical maturation and decline embodied in the final phase of *ngwana* (old-child) marked a return to the point of origin when the *mowa* (breath, spirit, essence) of a person would travel to rejoin the ancestral spirits. The physical body of a *ngwana,* though frail, was infused with spiritual power, as the *motsofe* (elderly person) was on the verge of becoming an ancestor. Illness and debility

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oral sources. Oral informants further point to the lack of gendered difference in this regard, suggesting that women as well as men continued to labor in these pursuits until serious debility prevented them from continuing; male labor migration no doubt contributed to this phenomenon, since most elderly persons could ill afford to retire from agropastoral activities in the absence of their adult sons and grandsons. See interviews with mother of Bantle Sekgogo, 5 November 1997; Wamona Arona Wangura, 24 November 1997; Ponyane Masie, 8 November 1998.

34. Godile is the past participle of *go gola* (to grow).

35. Guillette, "Finding the Good Life" (n. 23), p. 111.

among the young was perceived as unnatural, and thus the result of misfortune brought on by sorcery, witchcraft, ancestral anger, or the retributions of a distant God. The frailties of the elderly, however, were an expected part of the aging process, just as wrinkled skin, grey hair, and failing eye sight were. Mma Mosala, a sixty-seven-year-old woman, explained it to me this way:

> It's old age, it's not disability. You are becoming a child now. . . . yes most of the people know that. Even my movement is becoming short like a baby if it's old age. I cannot go as I was before, I just walk like a child and my mind also is going back to being like a child. . . . Yes it's just like a circle—even if I get very, very old, I am crippled like a child again. Yes, it's a circle.[36]

With this basic sketch of the life cycle in place, let me introduce one last concept necessary for understanding indigenous ideas about changing bodily norms: "high blood." In Tswana medicine, "high blood" (*madi amatona*) is the primary cause of a number of serious medical conditions. Exposure to pollutants and a failure to cleanse the body of them results in a build-up of excess dirty or hot blood, which eventually overwhelms the heart. Since the heart is the center of life and the essential organ for human existence, too much blood in the heart can affect the body in a variety of ways. In addition to stroke, "high blood" can cause *madi* to move from the heart up to the head, causing mental illness. It can also send too much blood through the kidneys, causing below-the-waist pain and even paralysis, and it is the primary cause of epilepsy, which can also result in hemiplegia. In addition, more-generalized symptoms such as swelling, weakness, and arthritic joints are all related to "high blood," since pollution builds up in the joints and other points of intersection (such as the waist and sites of inter-organ connection).

Many Setswana speakers regularly use the English phrase "high blood" interchangeably with its Setswana counterpart, *madi amatona*. Thus, both biomedicine and Tswana medicine share this diagnostic term. However, a Tswana diagnosis of "high blood" actually stems from a different etiology than do biomedical understandings of hypertension. It seems that diagnoses of "high blood" at the clinic reinforce the validity of indigenous ideas about "high blood," so that even patients who do not utilize traditional medical services still ultimately understand their situation in local rather than biomedical terms.[37]

36. Interview with Mma Mosala, 1 December 1998.

37. Here I should remind the reader that my ethnographic observations and interviews were conducted with villagers, most of whom would not have received a university education, and many of whom had received minimal or no Western schooling. It has been

With these various biocultural concepts laid out, I now turn to an examination of life cycle changes brought about by an earlier onset of puberty and an increased incidence of stroke. I will begin by introducing a specific case of early puberty and teen pregnancy as a way to orient this part of my discussion.

Early Puberty: The Case of Mmapula Seleka[38]

In 1999 Mmapula was a seventeen-year-old girl living in the small village of Kumakwane. I first met her family in 1997 through my work with the Community Based Rehabilitation Program in their village. The Selekas were relatively poor, and lived in a compound with only two small round thatched huts and no latrine. They had no cattle but managed to keep a few chickens and goats. Mmapula was the third of four children in her family, and the mother of a two-year-old. Her older brothers were off working as laborers in town, and her younger brother, Kgabo, then aged twelve, was confined to a wheelchair with a very spastic case of cerebral palsy that developed after a serious episode of meningitis in infancy. Her father was the ward headman, and himself had only just recently recovered from a tubercular spine and a lengthy below-the-waist paralysis. While her father was incapacitated, her mother was unable to earn enough to support the family, since she needed to devote a lot of time to caring for Kgabo, upon whom she dotes. Therefore Mmapula had been sent to work as a child-minder for the family of distant relatives living in town. She had returned several months later, fifteen years old and pregnant. It was anticipated as a difficult labor because of Mmapula's young age and she was therefore taken to the clinic when her labor pains started, but she was subsequently moved to the hospital in town and given a cesarean section.

Though her parents were quite displeased, both with the pregnancy and with the resulting C-section, this did not shock them. They had resigned themselves to what they saw as Mmapula's disobedience, which had already resulted in early puberty, and they had assumed that sexual activity would soon follow. Her father explained to me how Mmapula had come to be a "pregnant child":

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pointed out to me that professorial colleagues at the University of Botswana and other highly educated professionals used the biomedical term "hypertension" in its biomedical sense rather than "high blood" (Diana Wylie, personal communication).

38. Personal names in case materials have been altered to protect the subjects' privacy.

> Long time ago life used to be easy. You would tell a child not to do something and the child will just follow that, not even asking why. But children of today, they are told not to do this or that, or this tree is not to be eaten, and they will ask you why. . . . Like long time ago, someone of Mmapula's age you wouldn't even think she would have a child. She would even be putting on *makgabi* [a beaded apron only prepubescent girls wear]. Maybe someone of your age, that's when we think of her having a child. Long time ago these home deliveries they were fine. Even in the hospital sometimes this normal delivery is fine, it goes on well. But then these days, these small daughters of ours are still young when they fall pregnant, and their bodies are not yet strong enough to carry the child and the owner. So in the end when they are to deliver, because they are not fit for that, they end up with this cesarean section, and with cesarean section immediately after delivery they suture. Then because they actually don't want her to bleed that much they give an injection to stop the bleeding, to try and monitor so that it doesn't flow heavily which is not good. They have actually closed some of the bad blood in there, the dirty blood, which would have come out with a normal delivery. So then that person would have one, two, three children and then would be told [by the clinic staff] ok now you have to stop, you can't carry any more children. So then they'll go again and sterilize her.[39]

Mmapula's case and her parents' reaction are typical of what I found in Botswana in the late 1990s. This cycle of early puberty, leading to early pregnancy and then a cesarean section, has contributed to local images of a generalized decline in health that have gained much ground during the current AIDS epidemic. The pollution thought to build up in women who have had C-sections is dangerous both to themselves and to their male partners: it can lead to debility, illness, mental illness, and even death; and the resulting sterilization is abhorrent in Tswana culture. But how did this situation come about, and why did it begin in the 1970s? In exploring possible answers, let me emphasize that I am not simply talking about unwed motherhood, which has been becoming increasingly common since the 1920s, to the point where today it is the norm.[40] Rather, I am suggesting that the earlier onset of puberty for boys and girls, and thus the shockingly young age of potential parenthood, have fractured the meanings of premarital pregnancy so that teen pregnancy has become a powerful symbol of collective social, cultural, and physical decline.

While conventional wisdom in public health would assert that an earlier onset of puberty is a benign indicator of improved general health and nutrition, for the Tswana it is anything but that. Instead, early

39. Interview with Rra Seleka, 11 April 1999.

40. Schapera, "Premarital Pregnancy" (n. 23).

puberty is a symbol of the disobedience of young girls and the collective decay of parental authority. Mmapula had staunchly refused her mother's advice to sweep her breasts each morning, and so she had shot through puberty at a rapid pace. Since the mid-1970s this type of refusal has become increasingly typical, and is seen as a prime example of the dire consequences of loss of parental control. Children who attend school, in particular, question the teachings of their parents, which run counter to the already confused messages they receive from teachers and textbooks. Furthermore, dating has become more common among young boys and girls, and young girls want breasts in order to attract boyfriends who may buy them sweets and snacks and small gifts. Until the 1960s, most young teenage boys would spend much of their time out at distant cattle posts herding the family livestock; thus they were segregated from young teenage girls, who were either in the villages or out helping with agricultural work on their mothers' fields. Since independence, however, with the rapid development of a public education system, many young teens remain in the village throughout the year to attend coeducational schools; many, in fact, even live in school dormitories in central villages often far from their parents' homes. Since breast development is still generally assumed by young and older people alike to be a necessary precursor to sexual activity, girls who want to date resist attempts to slow the growth of their breasts. As Ditirwa Mooki, a fifty-year-old woman, lamented to me, the practice of sweeping breasts is rapidly dying out:

> Yeah they are no longer doing it. . . . I don't even know because nowadays the moment your daughter gets her breasts out and you tell her to sweep them she says no I want to have my own breasts![41]

Early puberty might not be such a terrible thing, despite its indication of youthful rebellion, if it did not so often lead to pregnancy. Mmapula was certainly not alone. Between 1971 and 1988 the percentage of pregnant girls aged fifteen to nineteen rose from 15.4% to 24%.[42] The Botswana Family Health Survey conducted in 1984 found that 20% of girls aged fifteen to nineteen had already borne one child, with another 3% having had two children.[43] In 1992 the Ministry of Education again

41. Interview with Ditirwa Mooki, 12 May 1999.

42. Isaac Mazonde, "Poverty in Botswana and Its Impact on the Quality of Life," in Nteta, Hermans, and Jeskova, *Poverty and Plenty* (n. 17), pp. 61–74, on p. 67 (Mazonde cites "Women and The Law, 1996: 18" as his source for this statistic).

43. W. G. Manyeneng et al., Botswana Ministry of Health, Family Health Division, *Botswana Family Health Survey 1984* (Gaborone: Westinghouse Public Applied Systems, 1985), p. 56.

found an overall teen pregnancy rate of 23%, though some districts were considerably higher.[44] There are a number of social reasons why people generally complain about the increase in teen pregnancy. For girls, it may mean expulsion from hard-won places in secondary school: 60% of school dropouts in 1992 were pregnant girls.[45] Teenagers lack the financial means to support themselves, much less offspring, so the burden of care tends to fall on grandparents, or aunts and uncles. These difficult circumstances are of course not unique to Botswana—but here I am focusing on the physical aspects of early puberty and teen pregnancy, which are interpreted within the framework of the life cycle already described.[46] People agree that these young bodies are simply not ready for sexual activity and motherhood. Without the slowly paced timing achieved by breast-sweeping and sexual abstinence, the blood and energy seen as necessary to flesh out and strengthen the body for pregnancy and motherhood are being diverted or shed through menstruation and intercourse. Though young teenage girls may outwardly appear to be physically mature, their seniors suspect that these girls' bodies are not as strong as they should be. Despite the ubiquity of teen pregnancy, Tswana adults today indicate that the early to mid-twenties are the right age for women to begin bearing children.[47]

One of the reasons why adults fear for young pregnant teens is the likelihood of cesarean section. The perceived negative ramifications of C-section apply to women of all ages who undergo the surgery, but teenage girls are seen as particularly at risk for the operation. As Mmapula's father explained, many Tswana think that C-section prevents the *madi* that has built up during pregnancy from being fully expelled with the afterbirth during labor. It then collects in the body, causing "high blood." High blood can result from any number of factors and is not limited to cesarean section, but nonetheless is firmly associated with the consequences of the operation. Several people described to me the various

44. Irene Kwape, "Access to Education," in Nteta, Hermans, and Jeskova, *Poverty and Plenty* (n. 17), pp. 209–29, on p. 225.

45. Ibid., p. 223.

46. For more on the social construction of fertility and infertility in Botswana, see Rebecca Upton, "'Infertility Makes You Invisible': Gender, Health, and the Negotiation of Fertility in Northern Botswana," *J. Southern Afr. Stud.,* 2001, *27:* 349–62.

47. This is the age that was generally cited to me in casual conversations about the topic. The Botswana Family Health Survey in 1984 found that 12% of women surveyed (aged 15–49) thought that the ideal age at first pregnancy should be 18 to 19 years; 59% felt that 20–21 years was ideal; 11.5% cited 22–24 years; and 10.4% thought that a woman should be 25 years or older before bearing her first child: W. G. Manyeneng et al., *Botswana Family Health Survey* (n. 43), p. 111.

difficulties caused by high blood from cesarean section. This is a typical layperson's description:

> If someone delivers through an operation that person may end up having high blood because the blood in the womb is very hot. Most of the women who deliver through these operations they become fat. So I think it is because of the blood, yeah, that blood builds up. . . . Yeah, I think that person might become mentally sick because of too much blood. It is going from the heart to the head because all the blood didn't come out during delivery.[48]

Mental illness, which includes severe postpartum depression, is not the only possible ramification. Ntene Moilwa, a *ngaka* (Tswana doctor), commented to me on the problem he termed "children having children before their time." I asked him about the physiological effects of early pregnancy, and he explained:

> It makes them sick and thin. They can get tuberculosis or *bolaya ka popelo* [death of the womb]—they will have problems with the womb, it will stick to the *ditshika* [nerves, or veins], and then she will not be able to have any other children. After birth they are injected and they don't pass out blood well after the injection and after giving birth. So then that blood is staying in the womb. . . . That woman then she is dangerous to others. Too much! Too much! She is really too much dangerous for men.[49]

Aside from the dangers of "high blood," girls who have a cesarean section are told at the hospital that they cannot deliver vaginally in the future. They are then limited to only two subsequent births at most (a situation that also existed here in America until recently). People interpret this medical constraint on potential fertility as a further indication of the problems inherent in early puberty and pregnancy, as Rra Moilwa, Rra Seleka, and others explained.[50]

It is not only girls who are moving through puberty too fast and too young. Though children might look bigger or stronger on the outside—a phenomenon lauded by public health professionals, who use anthropometric data to assess rates and levels of "stunting" and childhood development—youth in general, both boys and girls, are seen by their elders as physically weaker than they were in earlier times. Tswana culture does

48. Interview with Ditirwa Mooki, 12 May 1999 (n. 41). See also interviews with Mma Mantshadi, 2 July 1999; Rra Seleka, 11 April 1999 (n. 39). Tswana doctors, of course, can go into much greater detail about the intricacies of high blood than can laypersons, but their analysis does not contradict that of the laypersons with whom I spoke.

49. Interview with Ntene Moilwa, 3 August 1999 (n. 48).

50. See also, for example, interview with Mma Mantshadi, 2 July 1999 (n. 48).

not necessarily prize body type or size when assessing health; rather, variations in size are part of the normal spectrum of human difference. As one Tswana doctor explained, "people can be born with thin body, thick body, and in between and that is how it is—they can all be healthy."[51] Larger bodies, for example, might even belie internal pathologies, such as the connection between fat bellies and cesarean section–induced hot blood. Tswana parents and grandparents do not read bodies in isolation; instead, they see their children's rapid pace of physical development as accompanied by new behaviors in clothing, diet, and sexuality. They feel that over the long term, these new behaviors pollute and deplete children's bodies prematurely.

Postcolonial developments, which have accompanied the rise in the national standard of living, have altered children's clothing and diet. Older people see both these changes as threatening healthy physical development. Until recent decades prepubescent girls wore a beaded apron, *makgabi,* while young boys wore a small loincloth, *tshepa:* both enabled air to circulate around the child's body, which was considered important for proper physical development.[52] Since the 1970s, however, parents have been increasingly replacing *makgabi* and *tshepa* with Western-style children's clothes, which are of higher status and are also required for school attendance. Many girls continue to wear the *makgabi* underneath their clothes, but this does not serve the same physical purpose as older modes of children's dress.

As for the changes in children's diet, wild foods, in particular, are eaten less and less.[53] Though the conventional wisdom in development circles assumes that wild foods are most valuable to rural populations as a hedge against famine and as dietary supplements, for the Tswana, they have an additional significance. Oral sources suggest that in the recent past people considered wild foods vital to proper physical development, especially of children, and adults today lament children's lack of foraging knowledge.[54] Wild foods, like many medicines, are gathered from the

51. Interview with Ntene Moilwa, 3 August 1999 (n. 49).

52. Interview with Sebete Phatshwana and two unknown women, 2 July 1999 (n. 26).

53. There are some notable exceptions to this process. For example, *mmopane* worms and *mmilo* and *morula* fruits are all relished and marketed locally in their seasons. And many of the people I met regularly ate the soil from termite mounds—which one Tswana co-worker told me was rich in iron. For more on the role of wild foods in the changing diet of southern Africans, see Diana Wylie, "The Changing Face of Hunger in South African History, 1880–1980," *Past & Pres.,* 1988, *122:* 159–99.

54. Interviews with Makotu Tsiane, 29 January 1999; Mmamontsho Segwatse, 18 April 1999 (interviewed by Tshepiso Moremi); Mmasetadile Seneo Tshukudu, 18 April 1999

bush. Thus they were planted by *Modimo* (God) and the ancestors, and are therefore imbued with special spiritual and physical potency. Also, wild foods are seen as free from the pollution brought by proximity to human settlement, and thus as purer in their nutrient qualities.

Urbanization and schooling have both prompted the decline in children's consumption of wild foods: children simply do not spend as much time in the bush as they once did. But in part, the shift is also the result of young mothers' interpretations of nutrition information disseminated by health workers and teachers. Thus, many young mothers spend precious resources to feed infants and young children mayonnaise, Coca Cola, and processed snacks with names like "Nik Naks" and "Shooters," in the belief that packaged Western foods will be beneficial to their children's physical development. Since rumors abound that children are no longer able to digest wild foods as they once did, these women simultaneously avoid feeding them wild foods, fearing chastisement by clinic staff should a child develop an upset stomach or worse.[55] There may be some truth to underlying fears about the dangers these foods pose to young children, given that these young parents increasingly lack knowledge of the procurement and processing necessary for the safe consumption of gathered food.

While changes in dress and diet have allegedly impeded the regular purification and strengthening of children's bodies, early sexual activity is seen as simultaneously depleting youth of their vitality. This is not a new concern: Tswana elders in the 1920s and 1930s complained of young men off at the mines, "spending their vitality" in a foreign place, and Schapera described the rise of extensive premarital sexual activity, and thus a younger age for initial sexual encounters, in his ethnography in the 1930s.[56] But again, the age of first sexual activity appears to be dropping for many, further exacerbating what is seen as an already

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(interviewed by Tshepiso Moremi); Rra Seleka, 11 April 1999 (n. 39). For a fascinating study of the relationship between personhood and foraging knowledge and practice, see Tamara Giles-Vernick, "Leaving a Person Behind: History, Personhood, and Struggles over Forest Resources in the Sangha Basin of Equatorial Africa," *Internat. J. Afr. Hist. Stud.*, 1999, *32:* 311–38.

55. I did not witness such chastisement myself, but I heard numerous stories from others. Further, this resonates with the type of stern language that many older women (including clinic staff) use to educate young mothers.

56. BNA 436/12, "Labour, Native Migration Social, Moral, Economic Effects of Withdrawal from Bechuanaland Protectorate." Especially see letters in this folder from Seboko Mokgosi, Chief of the Bamalete, to Resident Magistrate Gaberones, 28 June 1935, and from Matlala Gaborone to Resident Magistrate Gaberones, 5 June 1935; Schapera, *Married Life* (n. 23), pp. 44–45.

destructive pattern. While it is expected that young men should require intercourse on a regular basis lest the *madi* build up in their bodies to dangerously high levels, the opposite is true for children. According to Tswana medicine, sexual intercourse expels part of the life force of the young, which is infused in their *madi*. Until persons are fully grown, this vital substance is necessary to build up their own potency, and should not be spent excessively.[57] Therefore, when early and rapid breast development leads to earlier sexual activity, this change is seen as contributing to an earlier onset of *botsofe* (old age) as well as the potential complications of teen pregnancy. As part of his explanation for why *botsofe* was beginning at an ever-younger age for many, Modise Thebe, another local doctor (*ngaka*), explicitly linked this early sexual activity to a more rapid movement through the life course. In his explanation of why so many people were "becoming old before their time," he remarked: "Beer destroys blood. Having sex at an early age can also affect it. Today these people are having sex at an early age so that is also why."[58]

It is not only the front end of the life cycle at puberty which is coming sooner; *botsofe* (old age) is also happening at a much younger age than previously. Whereas earlier generations saw old age (*botsofe*), marked by extremely wrinkled skin, gray hair, and bent posture, as beginning in one's late seventies or even eighties or nineties, today many people in their late fifties and early sixties are called *motsofe* (old person). One of the major causes of early movement into *botsofe* is stroke (*go swa mogama*). Though stroke is not a new problem in Botswana, its incidence has become increasingly common over the past two and a half decades.[59] I will introduce this section with a case of stroke.

57. Interviews with Modise Thebe, 16 July 1999; Ntene Moilwa, 3 August 1999 (n. 49).

58. Interview with Modise Thebe, 16 July 1999 (n. 57).

59. This is based on the impressions of physicians who have worked in the country since the colonial period. See interviews with Dr. Alfred Merriweather, 8 October 1997; Dr. Karl Seligmann, 3 August 1999. And see Alfred Merriweather, "The Changing Face of Medicine in Botswana," *J. Med. & Dent. Soc. Botswana,* 1982, *2:* 1–10. These impressions are also borne out by available statistics: data gathered by the Ministry of Health show that by the mid-1980s cardiovascular diseases had become the third leading cause of death reported, and that in 1992 hypertensive disease had become the sixth leading cause of inpatient morbidity among women and the eighth leading cause among men; statistics cited in Sheila Tlou, "Indicators of Health," in Nteta, Hermans, and Jeskova, *Poverty and Plenty* (n. 17), pp. 303–14, on pp. 308–9.

Early Old Age: The Case of Batsheba Morwa[60]

Batsheba was a sixty-three-year-old single woman with five children from the large village of Thamaga when I first met her in 1997. She was a client of the local Community Based Rehabilitation Program (CBR) to which I was attached. Batsheba had spent most of her adult life working as a maid in neighboring South Africa to support her children, alternating with extended stays back home where she would work on the fields of her relatives. She had a reputation for being a particularly hard worker and an excellent farmer until 1995, when she suffered a stroke while working on her brother's fields and was eventually taken by donkey cart to the primary hospital in her village. In the following weeks a dispute ensued among her family over who was accountable for Batsheba's misfortune, and who should take responsibility for her care. Her children felt that their wealthy uncle was responsible, since Batsheba had been working in his fields at the time and since he had built his prosperity in part out of her labor. Besides, his wife was a former nurse who now owned a shop selling traditional medicines, and his house was more comfortable. The sister-in-law felt that Batsheba should be brought to her mother's compound, where a grandchild could be given to the old woman to help her in caring for her sick daughter. The granny rejected this plan, seeing the problem as *botsofe,* not illness, and blaming her daughter's early movement into old age on the pace of Batsheba's life and her son's greed. Senior family members, including the uncle, felt that it was now the responsibility of Godi and Naledi, Batsheba's daughters, to care for their mother, since it is expected that daughters will care for their mothers in old age.

Eventually Batsheba, crippled with hemiplegia and unable to speak, was brought to Godi's already crowded and poor compound and put in a hut with Godi's daughter and the daughter's newborn, who were still in confinement. Since then Batsheba's daughters have shared the work of caring for their mother, though over the several years I have known them, the level of care that they provide has slid downhill, and by 1999 Batsheba had become extremely depressed, especially over the fact that her mother had not visited her since the stroke. In May, an overburdened Godi complained to us (the CBR team) that she already had children and grandchildren of her own to care for, and now her mother was yet another child (*ngwana*), a "half dead" (*go swa mogama*) one at that, and so the burden was too much. She ceased giving her mother the tablets from the clinic to control her high blood, and also stopped providing proper

60. Personal names in case materials have been altered to protect the subjects' privacy.

hygiene for her, so that when we visited we found Batsheba with a massive weeping rash on her thighs from lying in her own urine for days at a time. Eventually, after much debate, the family resettled Batsheba in her former compound, which Naledi had since taken over, and we brought in her elderly mother to visit with her. By the time I left, in late 1999, that seemed to have improved the situation somewhat.

For Batsheba, stroke has precipitated a movement out of adulthood and into *botsofe* at a much younger chronological age than is normal and expected. Thus she is far from *godile* and its transcendence, while already "half dead." Her stroke itself, like all stroke, is seen as resulting from "high blood." Over the past several decades Tswana lifestyle has changed in a number of ways that contribute to a growing epidemic of high blood: aside from the problems associated with teenage pregnancy and cesarean section already described, changes in diet, a trend toward excessive alcohol consumption, the stresses of modern life with its fast pace and worries, and changes in sexual behavior with a decrease in regular bodily purifying rituals have all increased the incidence of high blood, weakening bodies and often causing stroke.

In the interest of space I will focus here on only one of these causes of "high blood": the stress and pace of modern life. The discovery of diamonds and the resulting economic growth in Botswana beginning in the early 1970s, with their accompanying social problems, lie at the root of this factor. Uneven material accumulation has generated jealousy and competition among relatives and neighbors, fracturing social fields and spawning a wave of witchcraft accusations and practices. Furthermore, the lifestyle and motivations necessary for upward mobility have altered the tempo of life and the rate of social, political, and economic interactions.

People today remark that the pace of life has changed in fundamental ways, and that these changes have had serious health implications. As roads were built, cars and buses became regular forms of transportation, enabling people to move farther and faster than ever before. Meanwhile, the gradual development of the economies of towns and the new city of Gaborone increased local employment opportunities and brought more and more Tswana into the regimented time structure of industrial work rhythms, which had been dislocated in neighboring South Africa. This was especially life-changing for women, as a large percentage of men had historically worked in South African industry, and thus had experience with a new work culture. Though some women had also worked as migrants, particularly in seasonal agriculture and domestic service, the massive transition to wage work for women began in earnest in the 1970s. Keletso Atkins has written a superb exploration of the tensions inherent

in this type of transition among the Zulu in the nineteenth century, in which she explores how the very fundamentals of work and personhood were at issue.[61] In Botswana, similar changes have occurred, though here I am interested specifically in how a changing ethos of work and ambition based on these new rhythms affected ideas about physical well-being.

Tswana cited to me the faster pace of life, and the accompanying aspirations of many, as prime risk factors for high blood. For example, when speculating about the causes for mental illness (which, as you will recall, is engendered by high blood), people told me that there had been an increase in mental illness because of "the worries of modern life" and "people now rushing after money."[62] A related sentiment recurred in conversations when people would suggest that overly rigorous education was the proximate cause of mental breakdowns for many promising young students: too much rigorous activity in the mind drew more and more *madi* into the head, with no way to release it. One Tswana doctor clarified for me why "rushing about" might result in high blood: likening the heart to the timing chain in a car engine, he described how a fast-paced lifestyle threw off the tempo of the heart, causing it to beat too fast and to produce too much *madi,* leading to high blood.[63] Thus, people are not surprised when someone like Batsheba, who worked hard, traveled a lot and worried a great deal, developed high blood and became "half dead." The problem is further exacerbated, of course, by the weakening of bodies discussed earlier. Children's attempt to rush into adulthood is read as part of a larger problem in which many people at different stages of life are hurrying through their life course and, not surprisingly, reaching *botsofe* early.

As Batsheba's case illustrates, this alteration of the life cycle has created tensions between different generations of seniors.[64] Batsheba's mother had not come to visit her and to care for her—a situation typical in my experience with stroke patients whose parents are still alive. In Tswana culture, mothers are expected to nurse adult daughters, often

61. Keletso Atkins, "'Kafir Time': Preindustrial Temporal Concepts and Labour Discipline in Nineteenth-Century Colonial Natal," *J. Afr. Hist.,* 1988, *29:* 229–44. Her analysis is similar to that in the classic text for Britain: E. P. Thompson, *The Making of the English Working Class* (New York: Vintage Books, 1963).

62. See, for example, interviews with Kedibone Mothotha and daughter, 3 December 1998; Kamofera Mokgwetsinyana, 11 April 1999; Masuko Masimo, 12 March 1999.

63. Interview with Andrew Mmanthe, 5 March 1999.

64. Meyer Fortes explores similar sets of tensions surrounding the difficulty of two generations attempting to occupy similar positions in the life course: Meyer Fortes, *Oedipus and Job in West African Religion* (Cambridge: Cambridge University Press, 1959).

moving compounds to do so, while daughters in turn are expected to nurse elderly mothers. I think that Batsheba and other stroke patients are shunned by their mothers because their movement into *botsofe* threatens their mothers' places as seniors with the potential for *godile,* who have earned the privilege of being cared for. This is hard to know for sure, because it was difficult to get elderly mothers to talk to me about this. I did, however, discuss stroke and its reorientation of age and generation with two elderly women during a visit to one of them, Ponyane Masie, a woman in her seventies bedridden with crippling arthritis of the spine. Her friend, Lorato, originally a friend of Ponyane's mother, was in her mid-nineties at least, and together they discussed the increased incidence of stroke. First Ponyane remarked:

> Well, yes it seems that there are many disabled adults today and that most of them are from this stroke [*go swa mogama*]. Yeah, long time ago we had stroke, but it wasn't so common. So these things have changed just recently, they have now become common and it's even attacking some young people, but before we knew that it was for old age only.

Lorato agreed:

> Long time ago people were really growing old, but these days they are called old when they are still very young, when they haven't even reached that age. For example Ponyane is now called old, but according to people of my time she would still be young. I am her mother's age and would be the one to be called old. But now we are both called old woman. It's like long time ago people were really growing long [in years], but these days people are not growing because of illness and they tend to seem like they have grown long, but they are still young. It's because of illness.

Ponyane added:

> Right now I look old because of illness. Otherwise, if it was long time ago, I would be really be so young that if she [Lorato] needed something to be done she would be relying on me, because she is old. Now instead I am the one to rely on her because of the illness. It's like I am young, but I am older than her. Right now things have really changed.[65]

This type of generational inversion in care-giving may be acceptable among friends like Ponyane and Lorato. But among parents and children, where age-based hierarchies are particularly critical to establishing who cares for whom, such reorderings are fraught with tensions and difficulties.

65. Interview with Ponyane Masie and friend, 8 November 1998.

Conclusion

Taken together, these cases of early puberty and early old age suggest the need for a more nuanced analysis of common age-based categories such as "elderly" and "teen." Clearly, to be a pregnant nineteen-year-old is a far different thing from being a pregnant fourteen-year-old. Likewise, to be frail at eighty-six is not the same as being frail at sixty-six.

I have tried to suggest here some of the complexities of biosocial change and the value of engaging local ideas and practices. In southeastern Botswana, physical and social change have gone hand in hand, creating a dialectic in which socio-moral meanings and embodied experiences reinforce and shape one another over time. The emergence of a new moral ethos in relation to sudden new wealth and Western-modeled developments (e.g., education, infrastructure, etc.) has generated wide-ranging effects. Popular Tswana perceptions of health and aging, actual strategies and means for coping with health crises, and related therapeutic and care-giving practices have all responded to these recent socioeconomic transformations, simultaneously providing local people an arena for integrated analyses of biology and morality. By looking at local interpretations of biological change, we are given yet another window into the experiential dimensions of local historical analysis.