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Sterilizing Vaccines or the Politics of the Womb: Retrospective Study of a Rumor in Cameroon

*In 1990 a rumor that public health workers were administering a vaccine to sterilize girls and women spread throughout Cameroon. Schoolgirls leapt from windows to escape the vaccination teams, and the vaccination campaign (part of the Year of Universal Child Immunization) was aborted. This article traces the origin and development of this rumor. Theories of rumor and ambiguous cultural response to new technologies shed some light on its genesis and spread, but explain neither its timing nor its content. For this task we need to examine the historical context of Cameroonian experience with colonial vaccination campaigns and the contemporary contexts of the turmoil of democratization movements and economic crisis, concurrent changes in contraceptive policy, and regional mistrust of the state and its "hegemonic project." Drawing on Bayart's *politique du ventre* and White's thoughts on gossip, we explore this rumor as diagnostic of local response to global and national projects. This response, expressed in this case through the idiom of threats to local reproductive capacity, reveals a feminine side to local-global relations, a politics of the womb. [rumor, immunization, public health, Cameroon, fertility]*

In the early months of 1990, Cameroonian schoolgirls squeezed through doorways and leapt from windows, fleeing the vaccination teams that were visiting their school as part of a campaign to decrease neonatal tetanus. The schoolgirls, and numerous significant adults surrounding them, feared the vaccines would sterilize them. Some even interpreted the anti-tetanus campaign as a government plot

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to harm the unruly West and Northwest Provinces, often referred to as the Grassfields, during a period of political unrest that had gripped this central African nation. Opposition parties and democratic movements were being formed in Cameroon in the months surrounding the launching of the anti-tetanus vaccination campaign. A general strike, named by anglophones "Operation Ghost Town" and by francophones "Mouvement Villes Mortes," was called by the national opposition and maintained throughout 1991–92, the two years following the vaccination campaign. Kumbo, the probable site of the origin of the rumor, was known as Baghdad due to its opposition politics (Goheen 1996:15, xii). In addition to growing regionalism in Cameroonian politics (Konings and Nyamnjoh 1997; Nkwi and Nyamnjoh 1997; Nkwi and Socpa 1997), the vaccination campaign was launched simultaneously with a major shift in state population policy, specifically, the legalization of contraception and a campaign promoting family planning (Balépa et al. 1992:45). This concurrence only heightened suspicions that the government public health services were threatening this highland Grassfields region's most culturally valued resource—human fertility.

The rumor and the dramatic events it caused emerged at the intersection of several contexts, involving the public health services, the state, a local rhetoric of reproductive threat, and the increasingly strained position of women in a period of economic and political turmoil. Each of these contexts has a history that produces memories and shapes actions and interpretations in the present.

After presenting the case and our methods, we examine the 1990 rumor of sterilizing vaccines first by contrasting the points of view of the public health workers and the young women who fled their campaign. This contrast allows us to interpret the event in terms of theories of rumor and in terms of a Geertzian "cacophony of voices," the miscommunications emerging from a clash of perspectives and interests (Geertz 1973). Continuing the communication-miscommunication theme, we then seek to understand the rumor in terms of the related interpretive framework of local response to "new" and "foreign" technologies. Although social historian Luise White disputes that there is anything new about needles and injections in late 20th-century Africa (1997:8), the rumor of sterilizing vaccines does appear to reveal "the cultural conflicts and transformations occurring when technologies fashioned in accordance with the values and structures of one type of society are transported to another possessing different assumptions, ideals, and constraints" (Pearce 1995:195).

We then propose that these related frameworks are insufficient to understand the particular event of the 1990 rumor. Placing the rumor in the context of historical and contemporary relations between the state and local communities helps us better understand both the event and the role of public health services in ongoing political struggles in Africa. In a methodological study of rumor and gossip in African social history, White (1994) points out that rumor is diagnostic of local response to global and national projects. In Cameroon in 1990 this response was expressed through the idiom of threats to local reproductive capacity and reveals a feminine side to local-global relations. Focusing on the gendered aspects of these relations sheds light on the content of the rumor (i.e., fear of sterilization; mistrustful attitudes toward fertility control) and recovers an important and neglected level of local experience. It allows us to build upon Bayart's (1989) idea of a "politics of the belly" to uncover a "politics of the womb."

Methods

Data collection specifically related to the 1990 rumor of sterilizing vaccines was carried out in the Northwest and Center Provinces of Cameroon from September through December 1995 by Ndonko, Schmidt-Ehry, and a team of interviewers from the Pan-African Association of Anthropologists. Interviews were conducted with informants in eight towns of the Northwest Province, the starting point of the rumor. Additional interviews were conducted with informants in the Center Province, where some of the girls vaccinated during the 1990 anti-tetanus campaign had become students in institutions of higher education. Yaoundé, the capital of Cameroon, is located in the Center Province. Yaoundé is the seat of the Ministry of Public Health as well as of several NGOs that intervene in the health sector; it is thus the center of health policy creation and implementation.

The sample was composed of two categories of informants, institutional and individual. Institutional informants included the authorities and personnel of vaccination teams, health clinics, schools, and religious institutions involved in the 1990 anti-tetanus vaccination campaign. We sought out those who were present in the institutions during 1990. Because a few of the key players in the 1990 vaccination campaign and rumor were deceased or unavailable in 1995, we also interviewed personnel who had not been present at these institutions in 1990. In addition, 20 parents or guardians of vaccinated girls were interviewed.

Individual informants were girls or women who had taken at least one dose of the anti-tetanus vaccine during the 1990 campaign. Based on a pretest and preliminary field data, we left the minimum age of the girls at time of vaccination open; because the campaign was carried out in schools, we established a maximum age of 25 years. Two hundred fifty individual informants were interviewed. In 1995, 130 of these informants (52 percent of the sample) were secondary school students and 64 (26 percent of the sample) were university students. Sixteen percent of the total informant pool occupied diverse professions, including housewife, teacher, nurse, secretary, tailor, hairdresser, gas station attendant, apprentice, or businessperson, and 6 percent were unemployed. A majority (85 percent) of our sample of individual informants were single in 1995, 13 percent were married, and 2 percent were divorced. Fifty-eight women in our sample (23 percent) had at least one child less than five years old at the time of this research.

Specific data collection instruments (a questionnaire and an interview guide) were conceived for the different groups of informants and pretested. Most interviews lasted 30 minutes. Quantitative data were analyzed with the software EPI-Info, while qualitative data were manually analyzed.

Data for the contextual segment of this study were gathered through ethnographic research on Grassfields women's reproductive health beliefs conducted by Feldman-Savelsberg in 1983, 1986, and 1997 (see Feldman-Savelsberg 1994, 1995, 1999) and through ethnographic research on beliefs regarding health and hygiene conducted by Ndonko in 1988–90 (see Ndonko 1987, 1993). Additional contextual data are derived from research in colonial, trade, and mission archives conducted in 1984 and 1987 by Feldman-Savelsberg.

The Case

They just came and told us in school that we have to take the vaccinations. It was the time of exams. So, if one didn't take it, she was not going to be admitted in class. We were then forced to take it. (Elizabeth, 24 years, Bali)

The school authority forced us out for the vaccination. (Genevieve, 23 years, Bambili)

The school authority gave an order that all girls should be vaccinated. (Patience, 16 years, Bali)

The school gate was locked and all mature girls were told to go for vaccination. (Esther, 20 years, Bamenda)

Elizabeth, Genevieve, Patience, and Esther, four young women vaccinated in 1990, thus recollect their experience at the time of the anti-tetanus vaccination campaign, when they ranged in age from 11 to 19 years. Why was this vaccination campaign such a frightening experience for them? And how representative are their anxious memories of it and of the rumor of sterilizing vaccines that surrounded it?

In the context of the World Health Organization's Year of Universal Child Immunization (UCI), Cameroon changed its vaccination policy from utilizing permanent health centers and targeting infants and pregnant women to launching universal vaccination campaigns using mobile teams. Before 1989, immunization in Cameroon depended largely on the initiative of a child's parents, allowing those close to the child choice and control of timing, personnel, and health care institution delivering the vaccine (see, e.g., Atangana and Guyer 1977; Guyer and Atangana 1977). The reintroduction of universal vaccination campaigns may have awakened negative collective memories of French colonial medical efforts to wipe out sleeping sickness and smallpox and to control leprosy. Run by the military, the French medical services in Cameroon fought these target diseases through mass forced vaccinations and treatment regimens beginning in the 1920s (Farinaud 1945:3, 113; LeVine and Nye 1974:50-60). The mobile teams of the colonial Service d'Hygiène Mobile et de Prophylaxie (SHMP) were also concerned with growing rates of gonorrhea and its effect on fertility in the Grassfields (Farinaud 1944:79). Given this history, it is not surprising that vaccination and reproductive health might be linked in the local consciousness.

Such collective memories were easily linked to troubling contemporary events at the time of the anti-tetanus vaccination campaign and its associated rumor; 1990 was a time of suspicion. Six people had just been killed at a demonstration launching a newly created opposition party in Bamenda, the capital of the Northwest Province. Party sympathizers were arrested at the University of Yaoundé, provoking a massive exodus of students toward the provinces (Kamto 1993; Mehler 1993; Onana 1994). Cameroon was in the midst of an economic crisis, experiencing negative economic growth, currency devaluation, and the degradation of the standard of living in both urban and rural areas. Patterns of reciprocity within kin groups as well as patterns of migration between the countryside and the cities were transformed by the economic crisis (Eloudou-Enyegue 1992; Timnou 1993). In the Grassfields, even such cultural obligations as death celebrations showed adaptation to new, often desperate, economic conditions (Mouafo 1991). Government radio broadcasts proclaimed the importance of population control in

responding to economic crisis and announced a major shift from the pro-natalist policy and mores of 1960–88 to the legalization of commercialized contraception. In late 1989, two health care initiatives were launched in Cameroon: a family planning campaign and the ill-fated campaign to reduce neonatal tetanus through mass vaccination of girls of childbearing age in schools. In this context, schoolgirls, their parents, teachers, and religious leaders questioned the purpose of a vaccine administered only to girls by order of *Yaoundé*, (i.e., the central government). Many also questioned the motives behind the concurrent family planning initiative, some developing conspiracy theories (Lukong 1993, n.d.; Ngo 1990). Suspicion was greatest in the Grassfields of the Northwest and West Provinces, a region of Cameroon with a long history of strife between local polities and the central state (Feldman-Savelsberg 1999; Goheen 1996; Nkwi and Warnier 1982).

The generalized mistrust of the state in Cameroon, sharpened through regional history in the Grassfields, was exacerbated by two sets of relationships on the ground. First, the public health workers responsible for delivering the vaccine were preoccupied with a national (and international) initiative to attain the challenge goal of 80 percent vaccination coverage before the end of 1990 (Federal Ministry of Health Lagos 1988; Laforce et al. 1987:215). Their relationship with school authorities and with the vaccinated schoolgirls was oriented toward practical efficiency rather than communication and persuasion. Second, some very local relationships contributed to the rumor. Strained relations existed between two Catholic institutions, the Family Life Association of Cameroon and Shishong Hospital on the one hand, and the government public health center in the Northwest Province town of Kumbo on the other hand. This tension led to a series of misunderstandings regarding the anti-tetanus vaccine and its effect on the future fertility of girls in the diocese school. Sermons at the cathedral in Kumbo warned parishioners to be vigilant regarding the vaccine. Following a sharp exchange of words, the vaccination team received a telephone call warning them against going to St. Augustine College in Kumbo. This was the first manifestation of resistance to the administration of the vaccine in a school. Then, on May 24, 1990, Father Fontegh, the administrator of St. Augustine College, was found assassinated in his residence on the school grounds. Although a gang was later convicted (*Cameroon Post* 1991), many assumed that Father Fontegh was murdered because of his resistance to the vaccination teams, and this tragic event became woven into elaborations of the sterilizing vaccine rumor.

The local, regional, and national contexts of the 1990 vaccination campaign and its associated rumor were tied to global political movements as well. The first “news” spread by the nascent rumor had been that the anti-tetanus vaccine was “bad” and unhealthy. When anti-abortion groups became involved in the dispute over the vaccination campaign, the rumor grew from that of a “bad vaccine” to “a vaccine that renders girls sterile.” E. N. Lukong of the Family Life Association of Cameroon sent a letter of inquiry to the World Federation of Doctors who Respect Human Life (WFDWRHL) in Ostend, Belgium, in January 1990. Dr. Scheppens, the federation’s General Secretary, responded with warnings against accepting a vaccine that focuses on the same population as that of a family planning initiative (see also van Geldermalsen 1991). In the rumor, Lukong’s letter of inquiry was transmuted into “vaccine samples sent to Belgium.” The response of the WFDWRHL became the “results of the analysis.” Resisting vaccination became a

means for girls to protect their reproductive potential and for the local community to protect a bit of its autonomy from the state and from international agencies.

While our description has focused on the Northwest Province, the rumor of the sterilizing vaccines spread rapidly throughout the country. The regional political and economic context was similar in the francophone eastern Grassfields of the West Province, as was the distrust of the vaccination campaign (Dr. Victor Ananfah, personal communication, 1995). In the Littoral Province, parents broke into school premises to take their children away and thus avoid vaccination. Doctors' and parents' testimonies during the period of the 1990 vaccination campaign revealed a similar situation in the Far North and East Provinces, both relatively isolated and situated far from the center of health policy making and from the origin of the rumor. As one physician stated, "The health unit heads . . . were complaining that one cannot approach a school without observing children escaping through doors and windows. Even in far away villages, there were also very strong reactions. The rumor had circulated fairly rapidly, even in distant villages of the Far North" (Dr. Jean-Louis Ledecq, personal communication; translation by the authors, 1995). The rumor and the fear it engendered led to the immediate end to vaccination in the schools.

We now turn to our interpretation of the case, first in terms of communication and theories of rumor, and then in terms of local response to national and global projects.

Communication and the Clash of Perspectives

Public Health Workers' Perspectives

Through their participation in the 1990 anti-tetanus vaccination campaign, public health workers assumed that they were contributing to the vaccination coverage of an unprotected population. They considered the population of girls of childbearing age (and their future children) unprotected not because DPT vaccine was unavailable in Cameroon, but because reliable records of children's previous immunizations were impossible to obtain. This is because individual patients' health records are kept by the patients themselves (or their parents) in small booklets that continually get lost and replaced (see Hours 1985). In addition, the system of health statistics collection in Cameroon is far from trustworthy (Ndumbe 1993:24). The public health personnel were working on orders of the national Ministry of Public Health, itself responding to goals set by the international World Health Organization through their Universal Child Immunization Program (UCI). The UCI's objective was to reach 80 percent vaccination coverage. A debate exists among international health scholars and practitioners regarding the most effective strategy for delivering immunization to prevent neonatal tetanus (immunization of women during pregnancy vs. mass immunization campaigns of all women of reproductive age) (Rahman et al. 1982a, 1982b). Nonetheless, 80 percent vaccination coverage could best be documented through a vaccination campaign conducted by centrally organized mobile vaccination teams. For concerned public health workers, UCI and the vaccination campaign associated with it legitimated public health expenditures and were a means to do at least some vaccination in a time of cutbacks in medical services and supplies.

Thus, public health workers had several agendas in 1990. They wanted to increase vaccination coverage, to document vaccination coverage, to mobilize resources in a time of economic crisis and scarcity, and to legitimate their mission at both national and international levels. Their descriptions of actually implementing the vaccination campaign are matter of fact; they record action and contain none of the terror of the girls jumping out of windows to avoid vaccination. For example, one nurse said, "We went to the schools and asked, and the children were gathered in one room where we vaccinated them." Local-level public health workers were proud that this vaccination campaign was a free service at a time when public health centers had just implemented a fee-for-service system. This very inconsistency, however, raised the suspicions of the local populace and became woven into the rumor of the sterilizing vaccines.

Once the rumor forced the end of the anti-tetanus vaccination campaign, researchers at the Ministry of Public Health identified the problem as a lack of adequate "sensitizing" of the population, that is, lack of adequate information and advertisement before and during the campaign (Ndonko and Schmidt-Ehry 1995). This initial report on the rumor of the sterilizing vaccines rests on the assumption that adequate communication and knowledge will increase health care compliance. Cases from the United States regarding health education for cancer prevention (Balshem 1991, 1993) and genetic counseling for amniocentesis patients (Rapp 1988, 1993) indicate that communication is often not enough to change health-related behavior when a significant difference in power and/or cultural orientation exists between the health care personnel and their clients. Often, assent rather than consent is reached (Anspach 1993). Experiences with fertility surveys in sub-Saharan Africa show the creativity that local populations can muster to avoid communication regarding reproductive health that seems meaningless or threatening to them (Riedmann 1993:79-95). Given these cross-cultural examples of communication and power in the health sector, what were the perspectives of the less powerful in the vaccination campaign of 1990, the vaccinated girls?

The Vaccinated Girls' Perspectives

The vaccinated girls received little or no information before the vaccination teams arrived at their schools. More than 47 percent of the girls interviewed in 1995 first heard of the vaccination campaign on the day they were vaccinated; 52.8 percent were informed about the arrival of the public health team before the vaccination date. Most girls had been informed by the principal during a school assembly; principals said that "vaccination is important to girls who have attained child-bearing age" or "this vaccine fights against tetanus and is for women only." Many girls were confused about the nature of the vaccine. Only 18 percent could remember that the vaccine was against tetanus; 9 percent cited a broad range of illnesses they believed were being addressed through this immunization, including female diseases, yellow fever, tuberculosis, meningitis, malaria, and venereal diseases.

The girls describe their experience of vaccination as one of submission to authority. They assented to vaccination because they feared not being admitted to exams or because the school gates were locked. Once the rumor started, the girls were shocked and upset, fearing that they had been sterilized.

I heard the news from students that the vaccine was to stop delivery. My heart was bubbling and I was afraid. (Eusekia, 21 years, Kumbo)

I was very annoyed. I could not eat for a day because I was afraid. I was thinking that maybe in future I won't be able to deliver. (Eurika, 22 years, Bali)

"News" that the assassinated priest had had irrefutable proof that the anti-tetanus vaccine would sterilize girls spread through schools and churches, in markets, and in motor parks. The tragic drama of the priest's murder added to the girls' anxieties regarding the safety of the vaccine and the integrity of their reproductive potential.

Over time, once the vaccination campaign had been discontinued, new versions of the rumor developed among the "victims" of the campaign, the vaccinated girls. These versions claimed that the anti-tetanus vaccine would sterilize women only after the second or third dose.

I was very disturbed and was consoled because we had to take three doses before it goes effective. [Olivia, 26 years, Yaoundé]

I was afraid and they told us that it can only be effective after all the doses. [Georgina, 20 years, Bambui]

I felt bad, but it was not serious because I had taken only one dose. [Evelyne, 18 years, Bamenda]

There seem to be two sources of these alternate versions of the sterilizing vaccine rumor. One source was the public health personnel themselves. Following the vaccination campaign, 10 percent of the interviewed girls consulted biomedical and/or tradipractitioners about the risk of sterilization. Many reported receiving "counter medications." Personnel at public health clinics informed the girls that even if the vaccine could render one sterile, it would only be effective after two or three doses. This equivocal response, probably meant to lessen the girls' anxiety, served to confirm the rumor that the vaccines threatened girls' reproductive health. The health personnel's reinterpretation of the vaccination calendar (number of doses, spacing of doses, duration of effectiveness) was further reinterpreted and even made its way into the national independent press: "Street information specialists are saying already that this vaccine has an objective to block girls from conceiving within a period of fifteen years" (Demhem 1990:13; translation by authors). The health personnel's answer also offered a rationalization should the girls later become pregnant.

Indeed, the second source of the later versions of the rumor is found in the sexual and reproductive actions of the girls themselves following the vaccination campaign. There are some indications that the fear surrounding vaccination precipitated sexual experience for these girls. Of the 250 vaccinated girls we interviewed, 94 percent were engaged in sexual relationships at the time of the interviews. The average age of this group during vaccination was 16.19 years (standard deviation of 2.7), while the average age at first sexual experience was 16.46 years (standard deviation of 1.94). The proximity of these two average ages, along with the girls' testimony, indicates that many sought to test the vaccine's alleged sterilizing effect, either to prove their fears or to reassure themselves of their reproductive potential. Of the 236 informants who had engaged in sexual relationships

before their interview, 167 did not use contraception. Among them, 102 became pregnant (41 percent of the total sample). Of those who became pregnant, 40 percent ($n = 41$) attributed their pregnancy to the rumor of sterilizing vaccines. In other words, 20 percent of the girls interviewed in 1995 claimed to have explicitly "tested" their ability to conceive following the rumor.

Only 58 of the 102 informants who became pregnant had living children at the time of the interview. Although we did not explicitly ask informants about induced abortion, due to its illegality and taboos surrounding the subject, we find two indicators that a large number of the remaining 44 informants who became pregnant following the vaccination campaign did abort. First, three informants volunteered this information.

I wanted to see whether the vaccine had spoiled me. I became pregnant and aborted because I had no means to bring up a child. [Karine, 20 years, Bali]

When I heard of the rumor after being vaccinated, I was very afraid and went to meet my boyfriend. We had sex, and I became pregnant. I concluded that I was fertile. Now I am having my normal period, so I am sure that I can bear a baby. [Clara, 17 years, Bamenda]

I tried to become pregnant and actually took in and aborted. [Grace, 22 years, Bamenda]

Second, the Northwest Province experienced a sharp but brief rise in teenage pregnancies and abortions immediately following the vaccination campaign and its associated rumor (Provincial Delegation of Health, Northwest Province, n.d.). The total number of abortions registered in the Northwest Province was 1,995 in 1990, rose to 2,100 in 1991, and then dropped to 1,492 in 1992, staying around 1,200 thereafter (see Tables 1 and 2). Unfortunately, statistical data only exist for the years 1990–94, and do not include what is most likely a rather high dark figure (i.e., unreported cases). However, anecdotal evidence from health personnel indicates that the number of abortions increased several months after the rumor.

In sum, the vaccinated girls were largely uninformed about the vaccine at the time of the anti-tetanus campaign. They experienced the delivery of the vaccine as coercive. After some consulted medical practitioners or became pregnant, they developed new versions of the rumor. These elaborations on the rumor claimed that the vaccines would have their nefarious effect only after several doses and allowed those involved to neutralize the effect of evidence—post-vaccination pregnancies—

TABLE 1
Total number of abortions registered in the Northwest Province between 1990 and 1994.

Year	Number of Abortions
1990	1,995
1991	2,100
1992	1,492
1993	1,204

TABLE 2
Total number of abortions by girls under 14 years old registered in the Northwest Province between 1990 and 1994.

Year	Number of Abortions
1990	86
1991	61
1992	29
1993	28
1994	27

that would otherwise contradict their beliefs. One-fifth of the girls became pregnant while "testing" the results of the vaccination, and the number of abortions jumped briefly in the two years following the vaccination campaign. The vaccination campaign has left the vaccinated girls and their next of kin worried about effects on fertility. They currently use the vaccine to explain what instead may be a reflection of a rather high rate of infertility, about 14 percent, in Cameroon (Savage 1992:907), as indicated in the following quotation: "I didn't take that vaccination myself, but two of my sisters took it. One is now married in Muyuka, but since she went to meet her husband, she is finding it difficult to have a child. We suspect that it may be because of that vaccination" (unidentified woman, 21 years, Bali).

Was all this misery due to miscommunication? What insights do rumor theorists provide to explain the development of the rumor of the sterilizing vaccines?

Theories of Rumor

In a seminal book, Allport and Postman define *rumor* as "a specific proposition for belief, passed along from person to person, usually by word of mouth, without secure standards of evidence being present" (1947:ix). Theories of rumor developed by social psychologists, folklorists, and specialists in communications studies view rumor as a form of individual and collective information-seeking when a formal information gap exists (Rosnow and Fine 1976). This formal information gap may be due either to incomplete information or to the mistrust of official sources of information. We have already seen that the information the girls received from the vaccination teams was brief, tardy, and often incomplete. Moreover, at the time of the vaccination campaign, sociopolitical tensions had rendered the official media in Cameroon unreliable. Despite a multiplicity of new private newspapers, censorship was strong. The public sought out uncensored news along the streets, in bars, and at cheap eating houses. As the general manager of national radio and television remarked: "It turns out that to a great number of citizens, truth is no longer possible except in the secret of mouth to ear, the famous 'It is said.' Confidence only ends up being established under the table [in whispers and] winks. . . . And everyone pays attention to 'what someone says he heard said'" (Mendo Ze 1990; translation by the authors).

Rumors emerge in an atmosphere of general uncertainty and credulity (Rosnow 1988); ambiguity and importance are essential elements of rumor (Nkpa

1975). For example, during the 1990 rumor in Cameroon, the relation of the family planning campaign to the tetanus campaign was ambiguous, and the widespread perception of threats to reproduction gave extra importance to accusations of covert state-run sterilization.

In addition, as Turner (1993) points out in her important study of rumor in African-American culture, rumor also emerges to explain relationships between groups of unequal political, economic, or social power. Citing Levi-Strauss (1966) and Douglas (1966), Turner points out "how group conflict can foster anxiety about the motives of others regarding the bodies of an entire group," and that African-American rumors contain underlying metaphors that link the fate of the black race to the fates of black bodies (1993:23, 3). African-American rumors concerning cannibalism, corporal control, conspiracy, and contamination often evoke the history of slavery, oppression by the Ku Klux Klan, and mistrust of government. Turner (1993) goes beyond the formal and symbolic aspects of rumor, however, to include the dimensions of inequality and politics. These connections are quite relevant to our study of the emergence of the 1990 rumor of the sterilizing vaccines in Cameroon. And this was not the first time that an atmosphere of (political) uncertainty and the coincidence of events with ambiguous meanings fostered rumors of conspiracy in Cameroon. For example:

on the 16th August 1984, the Monoun, a volcano in the Foubot area (close to the Noun river [in the West Province, the francophone Grassfields]) released a gas that asphyxiated thirty-seven people including a Catholic priest. . . . Two weeks later, on the 31st of August, a Boeing 727 of the national company, Cameroon Airlines, was destroyed by fire as it taxied before take off at Douala airport. . . . The name of the aircraft was "The Noun." Three weeks later, on September 22nd, a bridge collapsed on the Noun River, cutting off the Fouban and Foubot area from the main road network. All three events were interpreted by public rumour as attempts by former President Ahidjo (a Muslim) to regain his position against President Biya (a Catholic) through a demonstration of the superiority of his occult powers in the region of one of his erstwhile enemies, the Bamiléké [i.e., West Province]. [Rowlands and Warnier 1988:128]

In Cameroon and in other parts of sub-Saharan Africa, many rumors involve accounts of similar occult powers, but do so in situations of economic ambiguity. Rumors of children or travelers stolen for their body parts (Comaroff and Comaroff 1998), of firemen who steal and sell blood (White 1994), and of witchcraft among kin (Geschiere 1980; Geschiere with Fisiy 1994) share many elements. They occur in situations of economic and, often, political upheaval, they involve threat to victims' health or life via occult means, and they often involve intergenerational conflict. The forms of social as well as material exchange portrayed in these rumors have recently been termed "occult economies" (Comaroff and Comaroff 1998).

Rumors of sterilizing or poisoning vaccines in sub-Saharan Africa have emerged in similar situations in both the colonial and post-colonial periods. In the early 1990s, residents of Kampala avoided smallpox vaccines that rumor said were poisonous (White 1995). In 1934, workers in northern Rhodesia (now Zambia) responded to a rumor that a smallpox vaccination campaign was a plot to collect blood and bewitch the African labor force (Packard 1993). Five years later, a rumor was documented in Nairobi that inoculation was a means to produce bottled babies

and render African women unnecessary for reproduction (White 1997). In colonial Nyasaland (now Malawi), mothers hid their children from vaccinators in the 1950s, and during a smallpox outbreak in 1960, a rumor spread that vaccinations were a form of sterilization (Vaughan 1994). And at a refugee camp in Tanzania in 1983, Hutu refugees interpreted a vaccination project as a Burundi plot to sterilize their enemies (Malkki 1995:128–129).

Not only vaccines, but also food aid and pharmaceuticals have been the subject of sterilization rumors in 20th-century Africa. In 1948, a drought year, rumors spread in the eastern part of southern Rhodesia (now Zimbabwe) that drought relief maize offered by the government was soaked with sterilizing compounds (Kaler 1998:4). By the 1970s, a period of struggle for the independence of Zimbabwe, the populace read colonial efforts at preventive medicine in Rhodesia as efforts to sterilize or poison the African population. For example, the Secretary for Health wrote in 1973, "The issue of chloroquine tablets [to prevent malaria] remains unpopular, partly because of the unpopular taste but mainly because of rumors about sterilization and other adverse side effects" (Kaler 1998:4).

The ambiguity involved in the 1990 anti-tetanus campaign and its associated rumor allowed varying members of society to respond differently to the rumor depending upon their different perspectives, experiences, and interests. All of the elements discussed by prominent rumor theorists are present in the contrast between the public health workers' and the vaccinated girls' perceptions.

But more is going on in the case of our rumor than a cacophony of voices (Geertz 1973). Miscommunication may be a necessary condition for rumor, but it is not a sufficient condition and may not explain the rumor's content or ramifications. For these we need to know more about what rumor theorists call "contextual features" (social structure, political climate, opportunities, proximity, and relevance) (Knopf 1975; Rosnow and Fine 1976:58). The content as well as the reception of rumor can serve as a primary source, expressing individual states of mind and theories of how the world works (Rosnow 1988), and revealing in sharp outlines local responses to national and global projects (Miller 1992; Paillard 1990; White 1994).

Response to New Technology

We briefly address another way of looking at this rumor in the framework of miscommunication. The rumor that injectable anti-tetanus vaccine can sterilize young women after one, two, or three doses can be seen as yet another example of a local cultural interpretation of "new" technologies. Various studies of cultural interpretations of new medical technologies portray them as misled, quaintly fascinating, or heroically full of resistance. Indeed, in some ways the 1990 Cameroonian rumor of sterilizing vaccines could be placed in a framework of resistance to state authority. A misinterpretation of the purpose of anti-tetanus vaccines is possible among cultures that have no classification for this disease in traditional nosology (Ndonko and Schmidt-Ehry 1995).

Nonetheless, fear of this vaccination campaign could hardly be due to fear of the technology involved per se. After all, needles/injections are by now a familiar technology throughout sub-Saharan Africa (White 1997:8). People of the Cameroonian Grassfields attribute both power and danger to injections. On the one

hand, injections are sought after in health centers; painful, ever present, and carrying a risk of infection, they are a symbol of the positive and negative aspects of biomedical authority and curative powers. Injections were first introduced by colonial and, particularly, by missionary health services. They introduce substances into the body, similar to the way that witches can introduce substances into their victims' wombs (Feldman-Savelsberg 1999). Thus, injections "embody a profound symbolic risk" (Gottlieb 1992:155). But the content of that risk, almost as an anthropological truism, depends upon the symbolic system in which biomedical technologies and practices resonate. Africans have their own medical ideas (Feierman 1986), often connected to realms of experience considered "nonmedical" by public health workers (see also Janzen 1982).

Local Response to Global and National Projects

Explanatory frameworks focusing on failures of communication, as developed both by rumor theorists and by medical anthropological studies of cultural response to new technologies, shed light on certain aspects of the 1990 rumor of the sterilizing vaccines in Cameroon. A fuller understanding of the content of the rumor, its emergence, and its lasting impact, however, requires a return to the historical and social contexts in which it occurred. In this way, we interpret the rumor as a particular local response to global and national projects.

History of Vaccination Campaigns

In our presentation of the case of the sterilizing vaccines, we noted that collective memories of vaccination campaigns in the colonial era may have contributed to the contemporary terror of the 1990 campaign. As rumor theorist Jean-Noel Kapferer states, "A rumor's eternal return thus attests to the realization, on the basis of propitious events, of an explanatory system deeply embedded in collective consciousness" (1990:116). The history of colonial medicine in Cameroon provides an important context for current response to vaccination campaigns, helping to form this "collective consciousness." As we have seen, French colonial health services in both the mandate and trusteeship periods were under the aegis of the military. The main interest of colonial health services was in the productivity of the labor force, and campaigns against *les grandes endémies*, (e.g., sleeping sickness, leprosy, and smallpox) forcibly rounded up and vaccinated large populations. Colonial medicine contrasted with missionary medicine's focus on conversion and mother-child health care (Feldman-Savelsberg 1999). This history conditioned later responses to differing forms of medical care in postcolonial Cameroon.

Placing the Cameroonian response in a broader regional context, we see that vaccination campaigns in Africa are and have been one of the most resisted forms of state control there has ever been (White 1997). Colonial archives, including French reports on Cameroon to the League of Nations and the United Nations, abound with complaints regarding resistance to immunization, and with statistics of numbers of vaccinated, indicating the importance of immunization as a political project. In contemporary Cameroon, we have seen the urgency with which the Universal Child Immunization Program's goal of 80 percent coverage was pursued, due not only to concerns about public health, but also about legitimacy and resource

mobilization. The association between the state (through the Ministry of Public Health) and the World Health Organization (through the UCI) is significant. During the postcolonial era, vaccination campaigns (as well as family planning campaigns and fertility surveys) became associated with foreign aid and the restrictions and condescension of donor countries (Riedmann 1993). Because international agencies have been involved in vaccination campaigns since the turn of the century, the state is weakened (nationally and on the international scene) by negative local responses, such as mistrustful rumor, to the campaign and its protocols.

Memories are deep and form an interpretive framework and set of expectations of varying forms of biomedical care. Just as the layers of state control and international control via medicine in colonial and postcolonial Africa have been complex (Comaroff and Comaroff 1991; Vaughan 1991), so is the local response complex and ambivalent.

Regionalism and Disappointed Democratization

Regionalism and disappointed aspirations to democratization affected the rumor as a local response to global and national projects. During his long rule (1960–82), President Ahmadou Ahidjo officially pursued a nation-building strategy of ethnic and regional integration. Regionalism, however, played an important role in Ahidjo's resignation. Ethnicity became particularly politicized in the Northwest and West Provinces following President Biya's constitutional crisis in 1983. Biya's ethnic compatriots, the Beti and the Bulu, perceived the Bamiléké (francophone eastern Grassfielders) as a tight group pursuing hegemony in the financial and intellectual life of Cameroon and condemned the "ethno-facism" of the Westerners (Bayart 1993:45). Thus, ethnic politics were barely under the surface before the democratization movement started in late 1989 (responding to developments in Eastern Europe). In Cameroon in the early 1990s, the turmoil of disappointed democratization led to an explicit politicization of ethnicity. The new constitution of January 1996 codified the ethnic make-up of political parties, creating what two Cameroonian social scientists have termed the "ethnicization of politics" (Nkwi and Nyamnjoh 1997:9). This ethnicization of politics, already well underway in 1990, led to increasing mistrust of the government in particular regions, especially in regions with a history of tension between the state, local polities, and the sometimes disenfranchised citizens of these local polities. This was particularly strong in both the anglophone (Northwest Province) and francophone (Bamiléké, West Province) Grassfields, with their long history of rebellion and linguistic, cultural, and political differences with the dominant political and ethnic forces in the country. Ethnic competition combined with local symbolic idioms to make Grassfields residents anxious regarding their ethnic survival (Feldman-Savelsberg 1994, 1999). This anxiety, expressed through the idiom of infertility, created fertile symbolic ground for a rumor regarding threatened fertility. Thus, politics and culture worked in tandem to shape the regional aspects of the 1990 rumor of sterilizing vaccines.

Female Poverty and Fear of Infertility

The local turmoil we have just described is felt deeply by Grassfields women, who view themselves as essential carriers of local politico-religious traditions. Longstanding and recently sharpened tensions between local politics and the state threaten Grassfields women on many levels, including their status and self-esteem as guardians of "country fashion," result in their alienation from decision-making bodies in national politics and bureaucracies, foster an increasing sense of vulnerability to forces threatening their fertility, and affect their ability to maintain a viable standard of living for themselves and their families. Thus, the turmoil of the 1990s combines with the dispossession of rural women of the Grassfields (and other parts of Cameroon and Africa; see Goheen 1996; Moore 1994).

Women have responded to increasing rural poverty and female disenfranchisement in several ways, including the development of a rhetoric of reproductive threat. They use this rhetoric to express their fears of declining social mobility. With ever-increasing needs for cash (including for health care services previously offered free of charge), women often sell foodstuffs regardless of whether or not they produce a surplus. Poorer women thus have less food with which to cement ties of exchange maintaining social networks. As their social support networks shrink, these women are at even greater risk of further impoverishment should a health crisis strike. The health crisis of infertility can directly contribute to female impoverishment by diminishing a husband's interest in and favors toward his infertile wife or by provoking divorce. When infertility leads to divorce, women are denied access to land, the means of production in an agricultural community.

Grassfields women also use a rhetoric of reproductive threat to chide husbands, sons, and male political leaders into taking responsibility for the state of their families and their politics. The symbolism of cooking is central to local understandings of procreative processes (Feldman-Savelsberg 1995, 1999). When husbands fail to make their expected contributions to the family household economy, their wives grumble that they are also not contributing to human reproduction. Women may complain directly about threats to reproduction or may prepare a meal without palm oil. Palm oil is both a male contribution to the household economy and a symbol of the blood of childbirth. Serving a meal without palm oil is a symbolic act easily understood by husbands. The symbolism of ingredients, cooking, and feeding is also central to royal ritual in the Grassfields. When a leader is weak, he cannot contribute fully to maintaining human and social reproduction. Women complain about weak political leadership and lax stewardship of "country fashion" through their worries about the effect of weak leaders on their ability to reproduce (for a fuller discussion, see Feldman-Savelsberg 1999).

A rumor of the state attacking Grassfields women by spoiling their reproductive capacity thus found conditions ripe for acceptance. In the resistance to the vaccination campaign, the rumor was expressing not just a hegemonic "politics of the belly" (Bayart 1989), but a (subaltern) politics of the womb. This rumor can be better understood in the context of the place of reproduction and population in local-state relations and in negotiations over domination; these negotiations concern domination along the dimensions of region, nation, class, and gender. The symbolic repertoire surrounding issues of reproduction, population, and the state as an

inducer of infertility resonates in the 1990 Cameroonian rumor of sterilizing vaccines.

Lasting Consequences and Practical Conclusions

The 1990 rumor of sterilizing vaccines has had several consequences. The vaccinated girls see themselves as "victims." Five years after the vaccination campaign, they and their parents were still attributing health problems to the vaccines. Following the vaccination campaign and its associated rumor, we note an increase in early pregnancies, often causing young mothers to halt their education, and of illegal abortions, often with lasting damage to the woman's reproductive capacity. In the absence of pre-1990 data, Tables 1 and 2 show what may have been an increase in the number of abortions registered in the Northwest Province for the two years following the rumor, and a return to previous levels starting in 1993. These data, of course, must be interpreted with great caution; we can expect a large "dark number" of unreported abortions when the procedure is illegal, as well as fluctuating reporting practices in response to current public concerns.

Due to the rumor, fewer potential mothers were vaccinated against tetanus, which could later result in otherwise avoidable neonatal deaths. Overall vaccination coverage for all women and children seems to have suffered at the national level. Two reports, one to UNICEF and one at the national level, indicate a noticeable effect three years following the rumor (Osseni 1993; République du Cameroun 1993). The national Children First report states that "The rumor that circulated since 1990 and according to which anti-tetanus vaccination was meant to sterilize girls has not been sufficiently contradicted to enable a good acceptability of this vaccination by the target group" (République du Cameroun 1993:30). Five years following the rumor, vaccination levels against tetanus were only at 13 percent (WHO 1996).¹ Not only has confidence in immunization been badly undermined, but trust in health personnel has also deteriorated. Health personnel have been shunned and threatened, and vaccination teams have been stoned by villagers (van Geldermalsen 1991). Rumors surrounding vaccinations and their potential sterilizing effect were still springing up in 1997; national television reported resistance to vaccination in the large port city and commercial center of the nation, Douala, in June 1997.

Epidemiological studies continue the debate about the best mode of delivering anti-tetanus vaccine, and may even suggest a preference for vaccination only of pregnant women (Rahman et al. 1982b). Nonetheless, the lasting effects of the 1990 rumor of sterilizing vaccines in Cameroon indicate that vaccination of pregnant women, along with health education to convince patients to seek out vaccination on their own accord, may provide a better strategy than vaccination campaigns. It is a strategy that depends upon, but also makes possible, female clients' agency in the health sector. Broadening the concept of reproductive health and maternal-child health care to incorporate local beliefs and concerns, including the practical and symbolic importance of fertility in interethnic relations, will make public health policy more responsive to a local politics of the womb.

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1. Vaccination coverage against tetanus, at 13 percent, was considerably lower than coverage for other antigens in 1995, as reported by the World Health Organization: BCG (62 percent), DPT (48 percent), Polio 3 (50 percent), Measles (31 percent) (WHO 1996). The 1998 Demographic and Health Survey, unfortunately, does not include data on tetanus vaccine (TTV). Percentages of vaccination for the other antigens for 1998 include: BCG (74.8 percent), DPT3 (50.5 percent), Polio 3 (47.1 percent), Measles (54.2 percent). Children completely vaccinated (those who had taken BCG + three doses of polio vaccine + DPT + measles) represented 35.8 percent (Fotso et al. 1999).

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