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Maternal Health, War, and Religious Tradition: Authoritative Knowledge in Pujehun District, Sierra Leone

In Sierra Leone constraints to ideal maternal health require a primary health care approach that includes collaboration with traditional midwives. They are authoritative figures embedded within local political structures and a powerful women's religion. The local causes of maternal risk are described, including civil war and refugee camp life. Traditional midwives provide vital services in the camp, are respected for their social status, and learn additional skills. Biomedical and traditional systems of authoritative knowledge, based on different kinds of legitimacy to heal, are in a complementary relationship. [midwives, primary care, Sierra Leone, risk, war, religion]

Yema, heavily pregnant, walked several miles on a bush path from her hamlet to the health center in a larger village. In the health center, a simple building in a community where most houses are made of mud and roofed with thatch or galvanized iron, a maternal and child health aide, working cooperatively with a trained traditional midwife, gave Yema a prenatal examination. As they sat chatting, the war came. Young men, some merely boys of 14, came into the village shooting guns, killing, and looting. They stripped the health center of its few basic pharmaceuticals and simple equipment, as well as its furniture, doors, and window shutters. They set fire to the village. Then they told the women in the health center to come away with them as "wives," and to give nursing care to their sick and wounded. As they began to walk, Yema and the nurses whispered a word or two of a plan. Yema pretended to go into labor. The boys with guns, knowing nothing of this "women's business," told them to stay there until the baby was born, then continue on the path to their camp. When the "war boys" were out of sight, Yema and the health center staff ran off on another path through the forest, not knowing if they would meet war on that path or reach a place to hide. But as they ran, real

labor began, Yema gave birth, and continued to safety—until the war came again a few months later.

This article is an account of the strength, indeed the heroic strength in adversity, of birthing women and primary health care workers in coastal Pujehun district, Sierra Leone, where tropical and other diseases flourish, and infant, child, and maternal mortality rates have been among the highest in the world. We will consider the risks of childbirth and constraints to ideal care. This is also a case study of a primary health care approach in which government-trained health workers, if they are wise, work in respectful alliance with traditional midwives, who are usually important political and religious figures. Health workers and midwives each have their own type of legitimacy or authoritative knowledge. Traditional midwives are also key actors in the financing of a primary health care service that is only minimally funded by the central government. This analysis is located in the real world of the arms trade that heaps another layer of misery on these heroic people, and ends by considering the resilience of their culture in a refugee camp.

The narrative revolves around the concepts of authoritative knowledge and the legitimacy to advise and act. When we consider a range of factors affecting women's reproductive health we see clearly that authority and legitimacy are constantly tested by circumstances and renegotiated in practical situations. In Pujehun district of Sierra Leone, as in all regions of the world, there is never one single system of authoritative knowledge, but several. In any particular frame of observation the dominant system either better explains the experienced world to the actors, or is associated with a stronger power base (see Jordan 1993[1978]:152–154). Systems coexist with varying degrees of cooperation and conflict. People seeking help often move from one to another, and practitioners borrow techniques from each other. Indeed, they are even urged to borrow, as in traditional birth attendant training programs, and syncretistic medical systems evolve.

We especially focus on legitimacy and authority as expressed within the local women's religious and political domain, and in interaction with the Western type of health care. A rather constructive postcolonial system of cooperation has been replacing the colonialist mentality of superiority and conflict. War disrupted that process, but it recommenced again under Dr. Jambai's guidance in a refugee camp setting. We hope Pujehun district's farming villages will soon rise again from the ashes of war, and that constructive progress toward primary health care will go home again to the countryside, where most people lived and where most productive work was done.

Methods

This study combines qualitative and quantitative methods. One author (Jambai) has been district medical officer (DMO) in the area under investigation for the past five years, actively extending primary health care services to remote villages. He was taken hostage in war, escaped after three months, was sheltered in one of those remote villages, and was a key actor in setting up a refugee camp. In all settings he has worked cooperatively with traditional midwives. He is a native Mende speaker and deeply steeped in his culture. The other author (MacCormack) has worked intermittently as an anthropologist in coastal Sierra Leone for 25 years.

Both have built up a fund of goodwill and trust that allows gentle enquiry into sensitive or secret matters, such as childbirth.

We have drawn on data collected in several different ways. First, there was routine data gathered through the Sierra Leone national health service. As DMO, and later as an organizer of a refugee camp, Jambai had access to such information at its grassroots source. For example, he knows the figures for immunization coverage in Pujehun district before war and how coverage has dropped since war began. He knows the incidence of neonatal tetanus seen in public health units in his district, and how incidence has been dropping. These are proxy indicators suggesting that immunization coverage and traditional midwife training were having a health impact. Second, special funds for surveys to support planning, implementation, and evaluation of primary health care in Pujehun district had come from the German aid agency Gesellschaft für Technische Zusammenarbeit (G.T.Z.). The quantitative data from both routine health information systems and special surveys were not published, but were accessible to us. We have used figures and tables only where they advance the narrative of this paper.

Both authors had participated in aspects of G.T.Z.-funded surveys. For example, MacCormack worked with a very senior Mende public health nurse. Together they met with high officials of Sande, the women's religious sodality ("secret society") (MacCormack 1972, 1979). Those officials were also traditional midwives and healers. Working through a network of local chiefs and Sande officials we did group interviews in various villages, meeting within the women's own sacred space. Those were self-selected samples, and groups of Sande officials ranged in size from 6 to 20 women, with a total sample size of about 300. Conversations were guided by a brief memorized list of topics we wished to cover with each group. All relevant comments and observations were recorded in field notebooks and postcoded, and an index was created for data retrieval. We also drew on coded and indexed field notes MacCormack had collected over a quarter century.

The two authors have known each other for many years, and we principally wrote this article by telling each other stories. The article's validity draws as much on Mende canons of authentic narrative as on Western scientific conventions. When war came, Jambai, as a physician, had to deal with atrocities and other inhumanities that cut to the core of his heart. He also had to deal with moral dilemmas. For example, when insurgents were approaching Pujehun town he put his wife, young children, and others from his household in his vehicle to leave. He went to the hospital compound to get petrol and found his staff there, waiting for him to take them to safety. There was only one vehicle. He stepped down, asked that his close family might remain, and invited the rest to either stay with him in the hospital or find a place in the vehicle if they could. Then came the descent into chaos, and the need to make sense of it by telling the narratives. In both the anthropological tradition and the caring tradition in medicine, this study is based primarily on participant-observation.

The Setting

By understanding in some detail the national and local setting of this study we begin to understand the very real constraints to ideal maternal health care. The study is focused on Pujehun district, one of the 12 administrative areas of Sierra Leone.

The district, located along the Atlantic coast of West Africa, about seven degrees north of the equator, forms part of the national boundary between Sierra Leone and Liberia.

In Sierra Leone the centrally organized national health service reaches only 35 percent of the population. Among the poor in urban areas, and in most rural areas, the majority of health care comes from self-treatment or the traditional sector. Of all the former British colonies, Sierra Leone alone was known as "the white man's grave." Any Sierra Leone medical officer will give you a wry smile and tell you the grave calls to all, not only white men in their prime, but local children, women in the midst of their productive and reproductive years, and others as well. Pujehun district, a remote rural area, had an infant mortality rate of about 308 per 1,000 in 1980 (Kandeh and Dow 1980). Of every 1,000 children born in the previous year, over a quarter were dead by their first birthday, and more than half did not reach their fifth birthday. With government effort, and special assistance from G.T.Z., death rates dropped. Following five years of an integrated agriculture and primary health care project emphasizing appropriate training and appropriate technology at the village level, the infant mortality rate in 1988 had dropped to 127 per 1,000, compared with a national average of 165. Especially in the health sector, the approach was not to provoke a clash of authoritative knowledge systems but to work cooperatively within the indigenous structure of chiefs, and with the indigenous religious structure, notably Sande, in which virtually every woman is socially, emotionally, and conceptually embedded (MacCormack 1979). However, since the civil war in Liberia spilled across the border into Sierra Leone in April 1991 there has been civic chaos, and the infant mortality rate has been rising.

Women between ages 15 and 45 are considered to be in their childbearing years and make up 24 percent of the Sierra Leone population, but the true maternal mortality rate is difficult to know. Only an estimated 34 percent of all births in the country, and far fewer in rural areas, are supervised by people with any medical training, even a few weeks of training (World Development Report 1993). If Yema had died on the path, who in the Central Statistics Office would have known? Had she not walked those miles to the health center, who in the Central Statistics Office would have known she was pregnant? Who, beyond her immediate locality, would even have known her name? The national maternal mortality rate is only an estimate of 7 deaths in childbirth per 1,000 births. Because women have so many pregnancies, the chances of their remaining alive until age 45 become increasingly slender. Nevertheless, the population of the country is growing at 2.3 percent per year, and 20.8 percent of the population is under the age of five. About 85 percent of the nation is illiterate, and the proportion of people who cannot read tends to be higher in rural and remote areas, and among women, than the national average. Traditional midwives, especially the older and much respected ones, are seldom literate.

About 95 percent of the people in Pujehun district speak Mende or the closely related Krim language. The population of 137,000 people covers 1,585 square miles. Sparsely populated, with an average of 86 people per square mile, the coastal part of the district is intersected by unbridged broad tidal rivers and vast areas of swamp and shallow lake. It is an ideal habitat for *Anopheles gambiae* and other malaria mosquito vectors. There are other vector-borne diseases as well. For example, women more than men stand in water to transplant rice, wash clothes, or

collect drinking water, and are especially vulnerable to bleeding from *Schistosomiasis hematobium* (White et al. 1982). Malaria is holoendemic; it is always there, but intensifies as the rainy season, which drops from 160 to 200 inches of rain on the coast, leaves vast areas of wetlands. Pregnant women are especially vulnerable as they lose their acquired immunity to malaria during pregnancy.

There was one medical officer (Jambai) for this district. With only one doctor, a primary health care structure with many paramedical workers is essential. In addition to his hospital staff, the DMO was supported by a district health nurse, a health superintendent, a district pharmacist, an operations officer, a social mobilization and health education officer, two people doing monitoring and evaluation, and a specialist in maintaining a cold room and a cold chain for vaccines. The district also had seven community health officers and four community health nurses in rural health centers, linked with 22 maternal and child health (MCH) aides in satellite villages. There were eight vaccinators, some with enough additional training to man rural health posts.

The district has only a few miles of paved road, and most villages and hamlets are not accessible by motor vehicle. They can only be reached by foot, or a combination of taking a boat along the dangerous margin of the sea, up tidal rivers, and then walking. Given these constraints, the district had done very well in beginning to build a primary health care structure. The proportion of fully immunized children rose to 82 percent in early 1991, but since war began coverage had dropped to 45 percent in 1993 and is still falling. In 1991, 86 percent of women in the district had at least one vaccination for tetanus, a disease that can kill them and their newborn infant. However, with the chaos of war few are receiving booster shots, and risk is rising.

Sierra Leone now allocates less than 1 percent of government expenditure to health, a proportion that has been falling steadily since the colonial period (MacCormack 1984:199). Most of the health programs in the country are vertical programs funded by outside donor agencies, rather than a rationally planned and integrated national primary health care structure. Donors include national bilaterals (e.g., Germany), multilaterals (e.g., UNICEF) and nongovernmental organizations (e.g., Save the Children Fund). The Ministry of Health is caught in a paradox familiar to many African countries: it has lost much control to the donors, but without those special program funds the ministry would have a much-attenuated function. The donors, because they have the money, tend to rank at the top of the hierarchy that decides what constitutes real or useful knowledge. They sometimes, but not always, have pushed ready-made inappropriate programs onto a district. Coordination and rational planning, when it occurred, was often at the district level, as was the case with Pujehun district. However, with war, the donors have withdrawn funds in Pujehun district as they saw the tangible signs of their efforts destroyed. People had to flee their farms, health centers were looted and burned, and authority came out of the barrel of a gun. But the intangibles remain. Training given to local people, which is perceived by them as useful, remains an excellent investment, the skills surfacing again in a refugee camp. In time people may return with their skills to their rural villages.

Much of the country is following the Bamako initiative, attempting to recover the cost of health services by having primary health care workers sell basic

pharmaceuticals at a profit. This burden of cost recovery falls heavily on the rural population during the rainy season, the time of hunger, when most diseases peak and people have little cash. Acute cases referred to the 45-bed Pujehun district hospital had fallen to only eight or nine inpatients, most of them obstetric emergencies or dying children. Through the export of diamonds, gold, bauxite, and rutile, Sierra Leone earns foreign exchange for use of such things as importation of basic pharmaceuticals. However, most of the diamonds and gold are smuggled out of the country, and the wealth is therefore not available for building a health infrastructure. Some of the income from bauxite, rutile, and other sources leaks away through financial mismanagement, a problem not unique to Sierra Leone and somewhat endemic in Africa. The internal economy of Pujehun district is based on subsistence agriculture and fishing with small-scale marketing and barter. These transactions are not taxed and do not yield government income for local and national health services.

Sierra Leone once had a national health service patterned on the same type of service Britain has had since 1947. By degrees the Sierra Leone health service has collapsed into a fee-for-service system, which many of the donors favor for ideological reasons. Hospital patients buy their own drugs and supplies. However, a DMO and his staff, all of them on the most meager salary, function to a large extent in a barter economy. A patient may, for example, bring a five-gallon tin of locally made palm oil to the DMO, who shares it out with his staff. Much emergency work is done without a fee, and the grateful family may, at some time, bring gifts. For example, a mother brought in her severely anemic son, with malaria, hookworm, and other simultaneous infections. Although he was near death on arrival, he survived, and the DMO did not attempt to collect a fee. Some time later the mother appeared at the hospital to tell the DMO she had left a gift at his house. There he found 12 large live chickens. (The magnitude of this gift can be measured against the observation that some whole villages do not have as many as 12 mature chickens!) Another more subtle reciprocity is the many children named for the DMO and other health workers in appreciation of their services.

Traditional Midwives and Primary Services

In the 1940s, decades before the World Health Organization began to advocate the training of traditional midwives (traditional birth attendant),¹ a medical officer in Pujehun district began to work with women who were paramount chiefs, and women who were high officials of Sande, the women's religion in the district (MacCormack 1972, 1979). Virtually all women in the district are active members of Sande, a religion that includes much practical knowledge about birth and healing, wisdom evolved over centuries and conferred upon the living by ancestresses. High officials tend to be skilled in midwifery. In the 1940s a young medical officer, Milton Margai, introduced some practical European health and hygiene skills into the curriculum of the puberty initiation ceremonies, and gave additional practical skills in obstetrics to Sande officials already providing childbirth services (Margai 1948). Some of those Mende midwives Margai trained, officially called village maternity assistants, are still alive. They are addressed with great respect and affection as "Mamma Nurse." They may say "I am Margai trained" and the listener falls into a respectful hush. The irony is that Margai was driven out of Pujehun

district by officials of Poro, the men's religion, and by male political leaders (see Little 1965, 1966). They said "this man is playing with our wives," but when that man became Sir Milton Margai, the first prime minister in the newly independent nation of Sierra Leone, those same local leaders went very apologetically to the capital city to make their peace with the great man.

Today a "mamma nurse" is such a politically strong person that in one case, when she opposed the building of a health center in her area, none was built until after she died. She was the authoritative person on childbirth and did not wish to share power with young government-trained workers, and the chiefs were in solidarity with her. She controlled the thinking about health care in the area, and if one were so foolish as to go over her head and post a maternal and child health aide there, the social ostracism would be so great that the aide would not stay. Medical officers know the cases where such young women soon reappear at district headquarters saying, "Doctor, I don't want to stay there." Without any questions asked they are posted elsewhere.

This kind of interplay between aides and traditional midwives illustrates the postcolonial process of conflict and reconciliation between European and Mende systems of legitimacy to heal. Aides are the lowest grade of government health worker. They have completed form three (ninth grade), are 21 or older, and are recruited in their local district and serve communities, especially rural areas, in their district. Because they are relatively young and inexperienced in the praxis of reproductive health, the authoritative knowledge of new MCH aides is not derived from experience and religious respect but from professional qualifications, however minimal. But that rational-legal legitimacy must be negotiated within larger contexts that include the powerful traditional legitimacy of Sande officials (see Weber 1947). In the early days, when government health expenditure was higher, aides had a small salary. Now few have a salary unless it comes out of donor project funds. Economically they are like traditional midwives, relying on gifts from grateful patients. If people do not feel the aide is helping them they will not give gifts for service. However, they have the advantage over traditional midwives of having access to more training programs, and they have a few pharmaceuticals such as antimalarials, oral antibiotics, analgesics, iron for anemia, and injectable ergometrine to control postpartum bleeding. In lieu of salary, they keep 10–20 percent of the sale price as profit. For some, of course, there is a temptation to overcharge and maximize profit, or resort to polypharmacy, taking their percentage off each item. Before the war in Pujehun district, some nurses were working with officials of Sande, negotiating agreement on fair prices for basic drugs, but now with rampant inflation and unstable prices no one knows the true price of anything.

Medically, socially, and economically, the best strategy for an MCH aide is to collaborate with local trained traditional midwives. They can share practical skills; the Mende midwives usually have done far more deliveries than young school-educated aides. From the point of view of a traditional midwife, working with a good MCH aide gives her access to knowledge about the use of pharmaceuticals and other health techniques. Since there are only three qualified pharmacists in government service in all of Sierra Leone, availability of pharmaceuticals is not well regulated, and they can therefore be purchased by anyone who knows what to ask for.

If MCH aides antagonize local traditional midwives, who are usually high officials of Sande, they seldom remain in their post. Where a respectful working relationship is negotiated, the traditional midwives may mobilize local women to make a farm for the aide, provisioning her household and perhaps giving her a surplus to market as well. Those occasions of harmony based on shared traditional and European medical authoritative knowledge result in a win-win situation for both women, and better health for all.

Today, a relative of Sir Margai, a very senior public health nurse, has overall responsibility for training and supervising MCH aides and traditional midwives in Pujehun district and three neighboring districts. Sister Onita Samai is effective because she is steeped in the local religio-political tradition, and she is a skillful nurse. When she enters an area for any purpose she greets the local chief first, pays her respects with a small gift, informs him or her of her intentions, and asks permission to train or supervise. She may wait until the chief and elders, or prominent men in Poro, "hang heads" to talk through her request and reach a consensus agreement on how to respond. For example, if she informs a male chief that there will be a new training cycle for traditional midwives, he will typically have a cursory discussion with his elders. Then, by rather strict rules of cultural convention, he will meet with the religio-political domain of women. These robust conventions of political etiquette help information and scarce resources cross the gender barrier. Sande women then choose the trainees, usually the traditional midwives' younger assistants. Since the traditional midwives, who are also senior women of Sande, are often wives or kin of local chiefs and leaders, lines of communication are further facilitated. But the crucial decisions about this kind of "women's business" are taken in the female domain.

Training in maternal and child health under Sister Samai has gone beyond the mere training of a few traditional midwives. Before war came, 234 traditional midwives in the district had been trained. But Sister Samai was well into the process of extending training to all the *soweisias*, the senior officials of Sande, in each local congregation. Some officials in a local congregation are midwives and the rest are intelligent respected women in other roles. In those training programs local chiefs were consulted first. Then they sent out word to all the villages under their care that the *sowesia* should come to a village on a particular date. As many as 50 women might come together and go with Sister Samai, a senior woman in Sande herself, to the sacred grove or sacred house of the women, the places where childbirth occurs. No men, not even little boys, go near. Women sit comfortably, hitch up their skirts, fan themselves, put a child to the breast, and talk about the most intimate and powerful things women know. When they discuss avoiding risks in birth a pregnant woman among them serves as demonstration model. When they discuss diagnosis and treatment of malaria, a feverish infant may provide an example. They actually taste antimalarials so as to better distinguish them from aspirin, counterfeit chloroquine, and all those other white tablets swilling around in developing countries. Because their knowledge about birth and health is not overtly shared with men, their secret skills help to underpin the relatively high social status women have in Mende country.

In those training sessions Sister Samai first confirmed what the healers already knew about diagnosis of a range of diseases and conditions. She emphasized such

common things as diagnosis of anemia in pregnancy, the correct dosage for antimalarial drugs for pregnant women and young children, and other lifesaving skills. Knowledge about correct dosage, for example, was often composed into songs on the spot, becoming part of future initiation ceremonies, and other women's celebrations. Not only the trained Mende midwives, but all women, had become much more aware of the benefits of vaccination and the need for clean hands and a new razor blade to cut the umbilical cord in delivery. In Sande puberty initiation rites, when girls go into the forest to begin the liminal stage of the ritual, they are traditionally "washed" with protective traditional medicine. They are also washed again a few weeks later when they reemerge in the new status of women. Under Sister Samai's culturally sensitive guidance, vaccination with tetanus toxoid had become part of the protective washing upon entering, and the booster was given as part of the concluding cleansing ritual. Neonatal tetanus is now culturally defined in much of Mende country as an offense to the ancestors/ancestresses, and incidence of neonatal tetanus had dropped to only 0.1 percent of diseases seen in public health units in Pujehun district in 1989. Women were also coming to know more about the stages of dilation and therefore not to encourage their laboring kinswomen to push too soon, causing them to become exhausted in the birthing process. They were becoming better at spotting signs of risk in pregnancy, encouraging women who might be at risk to go to a health center or hospital in good time, rather than arriving as a dire emergency. Some groups of women have formed revolving credit associations so that funds for transportation and drugs might be had at short notice. The benefits of a range of basic vaccinations had become widely known, and a trained traditional midwife accompanying a mother and newborn on a visit to the nearest health center for vaccination had become a ritual act. In these ways health improved and the social status of women who have acquired these practical skills improved as well.

Belmont Williams, the former Chief Medical Officer of Sierra Leone, conducted a survey with Sister Samai in the Pujehun area and found that most of the senior women she interviewed did not feel that government trained traditional midwives were any better than the other traditional midwives. The explanation is probably that the two-week government training course is very short compared with a traditional apprenticeship that commonly lasts between one and five years, and may continue as long as ten years. Government training teaches only technical things rather than the holistic Mende approach that sees mind-body-spirit as a socially embedded unity. Perhaps of most importance, Sande puts much emphasis on social unity. Choosing only one traditional midwife from a local congregation or local community splits the group of *soweisia*, setting one above all the others. Sande women resist this imposition of state bureaucratic thinking. They do not particularly recognize the legitimacy of government or donor attempts to confer status, especially when a not very adept woman has been chosen for traditional birth attendant training for political reasons.

However, should all the *soweisia* in each district become trained, and if that training is done well, as under Sister Samai's direction, the conflict of authoritative knowledge systems is minimized. In Pujehun district the training language and the conceptual system was Mende. The prior skill and social status of Sande officials was honored, and in the best situation useful skill-enhancing European medical

knowledge was shared. In the worst cases, however, trainers do little more than attempt to confirm their uneasy status by trying to teach dependency. They lecture at Sande officials, saying "you must never touch a woman with breech presentation, you must never touch a woman with twins," and so on. However, in the real world of Pujehun district, as Sister Samai well knows, villages are often remote and isolated, and when labor begins twins just appear. There is no one but the Sande officials and their assistants to see the births through. Young government-trained health workers either remember to be respectful to their elders and learn fast, or have little job satisfaction and are an ineffective drag on the health system. The effective ones are like influential chiefs: they are effective leaders because the people love them.

The Social Power of Women

The health of women is related to their social status. When they are active in production and distribution of goods and services, and have overt political and religious offices, they survive in greater numbers compared with men than in other societies where they have little social power (MacCormack 1988). Pujehun district has a very labor-intensive economy in which the work of women is crucial. About 40 percent of the edible palm oil in Sierra Leone comes from Pujehun district. Men cut the palm fruits from the tops of trees, but women do the remainder of the laborious tasks which render the fruits into marketable oil. They plant, weed, and harvest rice, cassava, and other crops, and prepare them for market. They prepare parched cassava, which they sell as gari. They dry fish and trade it. Along the coast they do the heavy hard work of making briny mud into salt, and sell it. They are the chief actors in fixed markets in larger towns, and in the seven-day periodic markets that characterize the area.

Women also have some overt political offices. Pujehun district is internally divided into 12 chiefdoms, 3 of them headed by women who are paramount chiefs. Each chiefdom is subdivided into between six and nine sections. At least 15 of the sections are headed by women chiefs, and some towns are headed by women town chiefs. A political candidate cannot hope to be elected unless he has the endorsement of Sande women. They meet in local congregations, discuss issues, reach consensus, and block vote. The high officials of Sande, if secular political leaders in their own right, tend to also be influential wives or sisters of paramount chiefs and other leaders. In the religious domain, as in the economic domain, the roles of men and women are somewhat separate. In Sande women are not subsumed under a single male religious hierarchy as is common in the "great" religions (see Sered 1994). Childbirth and much healing also takes place in this feminine-religious domain; it is literally "women's business."

Risks and Preferences

There is a Mende way of thinking about risk, and there is the perspective of international health planners. Although Mende culture does not define pregnancy as a disease, women are aware of risk, but few appear in hospital for obstetric services. To some extent that is as it should be in a country with considerable economic constraints. A primary health care system is working well when only

high risk pregnancies and a few women from the professional and commercial elite appear for hospital deliveries. But of course many rural women truly at risk do not appear for assistance that might save their lives because of constraints of distance, transportation and mobilization of social support for resort to hospital. There are also more subtle reasons. Mende women think holistically and do not make the kind of separations between mind, emotion, spirit, society, and cosmology that European medicine has made in the past few centuries. For example, a woman tense and fearful among people she feels hate her will not go to hospital for help with an obstructed labor. Hospital staff are not trained in social mediation, which is the cure for witchcraft. Thus Mende women see a wider range of risk than do the medical and nursing professions (MacCormack 1994).

However, attempts to relate professional and Mende perspectives have been made and are sometimes fruitful, as when immunization for tetanus was integrated into the Sande society's puberty rites. Girls are initiated into Sande at puberty and are then legitimately eligible for marriage and pregnancy. But the skeletal development of some is not completed, their pelvis is still narrow, and the first delivery may be difficult if not life threatening. There is the potential in the kind of primary health care system Pujehun district is developing, with a degree of mutual respect between Mende and European systems, to delay the age of marriage. With guidance from someone such as Sister Samai and other wise women and men, chiefs and elders of both the men's and women's religious societies might be approached. Discussion in those separate but linked domains could begin. Since there is a great deal of local autonomy, one at a time a village and/or a local congregation of Sande or Poro might reach consensus on delayed age of marriage. Everyone knows, by looking at girls clad only in the traditional wraparound skirt, if they are biologically mature. Throughout much of the developing world maternal mortality rates would drop dramatically if first pregnancy could be delayed by just one or two years (Liljestrand and Povey 1992). Where women have little social power it is not likely to happen, but in Sierra Leone it is just possible through the process of shared authoritative knowledge we have been describing.

Epidemiologically, maternal mortality risk everywhere takes a U-shaped curve and rises again with high parity. The placenta attaches at a new place in the uterus with each pregnancy. After many pregnancies the "good" places, high in the uterus, are used up. When the placenta attaches low in the uterus it does not attach so firmly, increasing the risk of excessive bleeding, or it may even block the birth canal. A much-used uterus in a woman who may also be generally depleted may simply lose its power to contract sufficiently. Women literally say "I have grown tired of childbearing." Might a range of contraceptives, with enough choice to suit women's different physiologies, be discussed in traditional forums? They are hardly available in rural Pujehun district now.

Anemia is the shadowy specter, always in the background. In 1989, 959 (6.2%) cases of serious anemia were treated in public health units in Pujehun district. Malaria is one cause of anemia in pregnancy. Pregnant women lose their acquired immunity to the disease and plasmodium parasites may destroy large numbers of red cells. Malaria pressure in Pujehun district is intense, and malaria cases accounted for 44 percent of all diseases diagnosed in public health units in Pujehun district in 1989. Because of the sexual division of labor, women are also more likely

to lose blood from Schistosomiasis hematobium (White et al. 1982). Hookworm, other infections, and seasonal famine may also reduce hemoglobin and compromise the body of a woman in labor, leaving her with insufficient energy to sustain several hours of uterine contractions or infections that may follow birth. Nor can an anemic woman afford to lose much blood. Another of the many risks is eclampsia, when blood pressure soars and muscles go into spasms. Uncontrolled eclampsia progresses to convulsations, as if the laboring body had been possessed. Then, what began as birth usually ends as death for both the mother and the unborn child.

Table 1 shows risk factors among new prenatal clinic attenders at public health units in Pujehun district in 1989. Given these and other risks, and the attribution of risk to physical, social, and cosmological domains, it is not surprising that women prefer to be cared for in childbirth by people they know and trust. Traditional midwives do not work alone but in small teams in the sacred space of the Sande society. A woman facing labor prefers to be cared for by women of the same ethnic and language group who may also be her kin. They trust the midwife who safely delivered their first child, or if that midwife has grown too old, a younger midwife trained by her. In Mende country residence following marriage tends to be patrilocal, and older women often prefer a midwife in their community of marriage residence. But young wives usually prefer to return to their mother's village and the Sande congregation in which they were initiated at puberty. In polygynous families, if the first wife has chosen the second wife, her "little wife," to help her, both women may feel comfortable giving birth in their marriage residence village. But if the husband alone has chosen a second—or sixth—wife there is sometimes mutual distrust among them. Under those circumstances a young wife would feel vulnerable in labor, and wish to return to the safety of her mother's village. Similarly, if the first wife had not yet borne a child there is the possibility of jealousy (witchcraft). This kind of emotional experience, perceived locally as risk, is foreign

TABLE 1
Risk factors of clinic attenders.

Risk	Number	%
Age under 15 or above 35	372	12.5
More than five previous deliveries	728	24.4
Twin delivery	150	5.0
Stillbirths	347	11.7
Miscarriages	476	16.0
Previous cesarean section	26	1.0
Prolonged labor	218	7.3
Postpartum hemorrhage	323	10.9
Retained placenta	89	3.0
Death of child by seventh day	215	7.2
Cough more than four weeks	31	1.0
Total	2,975	100.0

to European donors and planners, who often try to impose the place of birth on women, or advocate training only one traditional birth attendant in a village.

War

On April 4, 1991, the civil war in Liberia spilled across the border into Sierra Leone. Some local youths, restive under the authority of elders, became recruits and enjoyed the power of a gun. By April 20 this confused combination of outsiders and insiders overran Pujehun town, taking the DMO (Jambai) and his staff captive. Houses, the hospital, and all health centers in the district were looted; some villages and health centers were burned. Crops were looted or abandoned in the fields. The DMO and his staff, using the medical supplies left them by their captors, dealt as best they could with gunshot wounds, bone fractures, and unspeakable war atrocities. On July 14 Sierra Leone government forces retook Pujehun town, and by the end of July most of the district was under government control. By late August people had decided it was safe and drifted back, but that was nearly the end of the rainy season, too late to start a new crop cycle. Médecine sans Frontière, Catholic Relief Services, and other donors reequipped the hospital and provided some temporary mobile clinics. By March 1992 the hospital and 10 health centers had been restored. There was peace for about a year, with only a few skirmishes. Not uncommonly young men would appear in a sleeping village, shoot off their guns, and demand food stores, women, and other prizes in a kind of "freelance" war. Then, on January 20, 1993, there was a massive incursion, Pujehun town fell, and refugees from all over the district fled. Dr. Jambai and others set up a refugee camp on the banks of the Sewa River, seven miles from Bo, the old provincial capital in the center of the country. Later, government forces retook Pujehun district, but there were so many skirmishes, and so many uncontrolled men with guns about, and so many scores to settle that people are still afraid to go back.

From the perspective of maternal health this mass migration could not have come at a worse time. It was the end of the rainy season. Women, whose bodies had been doing domestic work and the "work" of growing a fetus, had also expended maximum energy in farming. In the rains most diseases peak, and food stores are running very low, leaving everyone malnourished. In January the rice harvest would have begun, and palm oil making would begin to produce a cash surplus. In addition to these physical blows, the grief of war deaths and mutilation, and the grief of leaving farms, animals, and homes adversely affect immune system function. All people, especially pregnant women, arrived as refugees in a state of added risk.

Shared Authority in a Refugee Camp

The refugees traveled west, away from the Liberian border, to the banks of the Sewa River. Some walked as far as 60 or 70 miles, deep into the Mende ethnic area. Most of the refugees were ethnically and linguistically Mende; most were women and children. Virtually all women were members of Sande. At first they built simple palm leaf shelters anywhere along the river bank, thinking they would soon be returning home. Instead, more and more people came, until there were more than 40,000 in June 1993. The six-month dry season ended and a new rainy season

began, washing away some shelters and pouring through the inadequate roofs of all the rest. There were many child deaths from diarrhea as people used the Sewa River for drinking water at the same time the rains were washing excreta into it. Later a few wells were dug, and people began to build houses of mud if they could. However, almost all the country is now in the chaos of war, and refugees from Sierra Leone are appearing as far away as The Gambia.

Dr. Jambai is ethnically and linguistically Mende, and had been in Pujehun District long enough to build good working relationships with all types of health workers, down to the village level. When a refugee camp was still possible within Sierra Leone, he and senior nurses took stock of health workers who had come as refugees and began to rebuild a primary health care structure in exile. There were three Margai-trained "mamma nurses," with daughters and other junior kin who had been trained by them. Forty government-trained traditional midwives were also in the camp. They usually lived very active lives, farming, marketing, doing domestic work, and healing. However, the forced leisure of refugee camp life was an opportunity to provide additional training for them. They received in-service training, and 80 additional traditional midwives among the refugees were given the standard two-week training course. Eight exiled MCH aides assisted in this training, backed up by other community health nurses in various categories. There were four vaccinators, a dispenser, and sufficient vaccines given by UNICEF and other donors. Areas of the camp were set aside for general clinical work, prenatal care, under-five clinics, vaccination, and dispensing pharmaceuticals.

Politically, the camp replicated the district's 12 chiefdoms. If the actual chiefs were not there, others were chosen to act as substitutes. They met with health workers, and soon there was a primary health care structure in each chiefdom-in-exile. Birthing huts were built where pregnant women, Sande midwives, and MCH aides congregated. The huts had three rooms: a clean room for deliveries, a room for teams of midwives and aides to rest, and an oral rehydration therapy room for children with diarrhea. A hut sometimes facilitated as many as four deliveries in a single night.

Those flimsy huts offered little privacy from the surrounding crush of refugees, and were not the same for women in labor as going to the Sande house at the interface of village and forest, perceived by them as a safe and spiritually powerful place to give birth. However, if the refugee women did not feel safe in the birthing huts they had few alternatives. If they had a politically secure home area where they might have gone before the onset of labor, there were frequent ambushes along the road. Also, refugee women had to leave their farms before the palm oil and other crop marketing season. They therefore were without cash for transportation if they could even find a vehicle going the right direction. Furthermore, some people in the area around the camp blamed those from Pujehun for "bringing" war into the country, and with this animosity it was often not safe to leave the camp.

In general, though, we see a picture of the adaptability and resilience of culture. A culture, including its political, social, and religious systems, is portable. People carry culture in their heads and can re-create it anywhere. Stressed people may even be very open to re-creation in innovative ways if they see a clear benefit.

Authoritative Knowledge

This case study tells us much about the social uses of authoritative knowledge, especially when two systems of knowledge, Mende and European, come together. We see this coming together in the training of traditional midwives, but also we see it in senior doctors and nurses who wish to be effective in training programs. All health providers in Pujehun district, whether they are in traditional roles or in the government health service, have achieved their status. For all, their status is enhanced if fewer people under their care die. A traditional midwife, for example, has much to gain if she learns new methods for controlling postpartum bleeding.

In Sande, women rise by stages, and a few become much-respected *soweisia*. Their intelligence, social concern, and practical adeptness identify them. Some of those wise women are remembered and talked about with respect for many generations after they have died. Similarly, doctors and nurses earn respect, and virtually all in Pujehun district are embedded within Sande or Poro.

People invest legitimacy in the healers to whom they turn, whether they are scientifically trained physicians in state bureaucracies or traditional practitioners. In investing legitimacy in healers, people reassure themselves that the system of healing has meaning, and they can undertake the quest for health with conviction. As Max Weber put it, practitioners with such legitimacy are able to command patients' "uncoerced obedience" (1947). Weber explored three kinds of legitimacy: rational-legal, traditional, and charismatic. Rational-legal legitimacy was linked to his advocacy of bureaucracy in which ideally a society maintained itself through impersonal, efficient procedures. By passing examinations, for example, people earn certificates to practice according to a specific job description. Giving government-trained traditional midwives a certificate, and perhaps a UNICEF kit for deliveries, is the government's way of conferring legal legitimacy upon them. However, their legitimacy may also derive from other sources.

Traditional legitimacy develops through time as qualities of merit, valor, and holiness become associated with a corporate group such as Sande, or a descent line of a famous midwife and the junior kinswomen she has trained. Indeed, all the wisdom associated with ancestral time is of this nature, and uncoerced obedience arises from personal loyalty to those recognized as the heirs and bearers of that legitimacy.

Charismatic legitimacy is analogous to the idea that God and his manifestations cannot be anything other than pure legitimacy. People of exceptional heroism and sanctity present a vision of hope and health. Believers follow in obedience in order to attain those goals. They have personal trust in the extraordinary qualities of the healer.

Paradoxically, a medical system based upon traditional or charismatic legitimacy may have more flexibility to respond to changing conditions than one based upon rational-legal bureaucracy. In the latter, scientists often find difficulty in thinking outside the established paradigm which has rewarded them. In bureaucracies, people should be loyal to the rules. With traditional legitimacy, however, the obligation of obedience to authoritative knowledge is based on personal loyalty, free from cumbersome rules. As long as the actions of traditional healers follow what Weber called principles of substantive ethical common sense, they are quite free to innovate. Change does not come from legislation; rather it is claimed to have

always been in force but only recently to have become known through the wisdom of the healer.

Charismatic authority is potentially most flexible, even revolutionary. But it has the drawback of being unorganized and not amenable to replication or to systematic administration over wide geographical areas or through time. When charismatic authority becomes organized the system has transformed into one of the other types of legitimacy. Mende doctors and nurses know these kinds of legitimacy by having lived them in their culture, and are well placed to share authoritative knowledge.

Conclusion

Much discourse in industrial countries about primary health care planning in developing countries is a closed loop of Western assumptions about the ignorance and rigidity of "traditional" culture. It speaks authoritatively about the need for "change agents." In the tradition of medical single-cause explanations, it names poverty as *the* cause of poor health while all the while rich countries become richer still on debt interest payments and the arms trade.

In this case study we see dynamic possibilities where there are even a few people of good will within the Western-trained medical system who know their cultural roots and are willing to listen, appreciate what traditional midwives already know and do, and work in respectful collaboration with them. Even as arms pour through international trade networks into the free port of Monrovia, spreading chaos in their wake, culture is not obliterated. Constructive relationships can be re-created, or even enhanced, under the dire stimulus of an ad hoc refugee camp awash in its own excrement in the rainy season. Useful concepts and skills travel with people, in their songs, rituals, and redefined symbols about birthing and nurturing.

NOTES

Acknowledgments. German government aid, through G.T.Z., has made much of the innovative program described above possible. We also wish to acknowledge the assistance of two key colleagues. Sister Onita Samai is a wise woman in Sierra Leone's splendid tradition of public health nurses. More than anyone else she has worked for years in great harmony and respect with traditional midwives and other senior officials of Sande. The validity of research and the quality of training owes much to her maturity and vitality. Hilary Lyons, a physician and Holy Rosary Sister, came to Sierra Leone from Ireland more than 30 years ago to build a small rural dispensary into an excellent rural hospital. For the past two decades she has been committed to the primary health care approach based on indigenous social structures. These two women are among the most respected people in Sierra Leone.

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1. Mende midwives do far more in a health, social, and spiritual sense than attend births. International health bureaucracies, when they designate these women "traditional birth attendants," use a phrase that speaks volumes about who is attempting to authoritatively define whom. Therefore that designation is intentionally not used in this collection. Even the phrase "trained traditional midwife" denies the years of training that apprentices have under the guidance of older women.

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