

culture (as in our example of the perception of random and patterned visual displays in Chapter 1) rather than direct cross-cultural comparisons.

The education variable, by itself, would seem to depend solely on the child's grade level. However, even grade is not an absolute because the achievements of Liberian children at a given grade level are not comparable to those of American children at the same grade. In many studies, for a number of reasons, we treated the first two grades as equivalent and representative of a rather low level of achievement. The higher grades (fourth through sixth) were chosen as representative of a higher level of achievement, assumed to include literacy and a relatively good command of English. High-school groups were also included in certain of the experiments, although the number of students attending high schools in Kpelleland is extremely small.

The degree of acculturation presents the most serious problems of measurement because of the vagueness of this much-used concept. Our solution, easier to justify on pragmatic than on theoretical grounds, was to select as "tribal adults" nonliterate rice farmers in the eighteen- to fifty-year-old age range who spoke no more than a few words of marketplace English. In this case also the judgment of our assistants was an important factor in deciding who belonged to this group. We chose Westernized subjects, called by the Kpelle *kwii*, from persons engaged in some semitechnical work who spoke enough English to communicate with members of other linguistic groups.

We must mention finally that perhaps 70 percent of our subjects, except in the case of the youngest children, were male. Females in general lead a more sheltered life and are not expected to participate, except within their own secret society, in worldly matters. This is a potential variable of interest that we have not systematically investigated.

Having sketched some of the major variables determining the choice of subject groups, we turn now to an informal description of the lives and abilities of the groups defined by these variables. In so doing, we emphasize those facts and features of Kpelle life that appear relevant to our experimental concerns.

While this description has the surface appearance of an ethnography, we intend it to serve two different but related functions. First, and most generally, we seek a natural context for the artificial realities of our experiments and elicitation. Second, we wish to highlight the cultural and cognitive achievements of the Kpelle because they provide important

clues to the level of sophistication of cognitive processes involved in the technology and social life of the people.

Our description begins with a general treatment of the Liberian context and of the place of the Kpelle within that context. We then turn to a more detailed look at the two groups at the polar opposites on the dimensions of education and Westernization, namely the nonliterate tribal adult and the schoolchild.

The Kpelle Background: Natural and Political

The Kpelle tribe consists of some 250,000 persons living in central Liberia and perhaps an equal number in southern Guinea, where they are called the Guerze. Our work was confined to the Liberian side of the border. The Kpelle share linguistic and cultural features with a large group of forest and savanna tribes extending from Senegal in the northwest to Ivory Coast on the southeast. The general features of these peoples are described by Murdock (1962).

The Kpelle live in tropical rain forest, most of which, following several hundred years of cultivation, is secondary growth rather than virgin forest. Kpelle country consists of low forested hills interlaced with swamps, small streams, and an occasional river. Superimposed are the upland rice farms, paths, and villages of the Kpelle tradition, as well as the plantations, motor roads, and Westernized towns of *kwii* Liberia. The rainfall varies from 200 inches on the coast to 80 inches in the interior and is concentrated mainly from April to November. As a result the vegetation is heavy and lush. The soil is poor and lateritic, yielding restricted opportunities for diversified agriculture.

Today's Kpelle are a part of the Republic of Liberia. However, contacts between Kpelle tribal people and Westernized, urbanized representatives of the national government are not as old as the republic itself, now a nation of 43,000 square miles and slightly more than one million persons. Liberia was founded in 1821 as a haven for freed American slaves. In the four decades prior to the American Civil War, approximately 19,000 ex-slaves were sent from the United States or taken off slave ships in transit to the United States and settled in Liberia. They were aided by a handful of missionaries, agents of the colonization societies, and traders to form a government on the American model. The

new nation of Liberia, independent in 1847, consisted at first only of a few settlements on the seacoast and on the short navigable portions of several major rivers, even though it claimed a large interior area. The best overall summary on Liberia is contained in the U.S. Army Handbook (1964). For a critical survey of current economic conditions, see Clower et al. (1966); for an account of political development, see Liebenow, (1969).

Contacts between settlements of those who came to be called Americo-Liberians and the interior tribes were limited at first to labor on farms and trade in agricultural goods. The Americo-Liberians were drawn originally from tribes extending all the way from Senegal to Angola and had little or nothing in common with the tribes of the Guinea coast. Many of those who returned from the Americas spoke English, which became the official language of the new nation. Many were Christians who considered it their duty to rule and civilize the natives. Their model was the ante-bellum American South, and their aim was to build a prosperous Christian republic with the help of tribal lands and labor.

Contact with the Kpelle tribe was very limited at first. Missionaries reached Kpelle towns toward the middle of the nineteenth century, and in the 1860s the Liberian explorer Benjamin Anderson passed through the northern portions of Kpelleland. By the 1870s Kpelle laborers were found on settlement farms, and regular trading points were established at the upper edges of Liberian settlements where Kpelle farmers brought their produce in exchange for Western goods.

Until 1910, the various groups of Kpelle dealt with the Americo-Liberians as one tribe with another. But in 1910, in response to British and French encroachments on lands claimed by the Liberian Department of the Interior, central authority was imposed on the people of the interior. The American-based system of government applied directly only to those who had become "civilized," but provided the ultimate authority for all others. In 1965 this dual system was abolished, and the interior tribes were brought within the same political framework as the rest of the country, under the unification policy of President W. V. S. Tubman.

Until 1945 the Liberian presence in Kpelle country was limited to taxation, recruitment of labor for rubber plantations, the administration of justice, and the maintenance of border posts. There were also foreigners, mostly missionaries and Lebanese traders, but these were few in numbers and weak in influence. During the years before 1945, the

number of Kpelle men who had worked for Firestone Rubber on its plantation at the southwest edge of Kpelleland increased, and so did the appetite of Kpelle people for the goods and ideas that could be obtained from the new world outside.

Since World War II there has been vastly increased contact between Kpelle society and the Western cultures represented not only by the Americo-Liberians, but also by the many Americans and Europeans who came to Kpelleland on missions of mercy and money. In 1946 the all-weather road, which had previously reached only peripheral Kpelle towns, was pushed to the Guinea border right through the center of Kpelle country, following a traditional Kpelle path. Branches of this road now lead also to Sierra Leone and Ivory Coast. The first branch of the road represents a rapidly growing focus for Westernization. On the junction of this road and the branch to Sierra Leone, what had formerly been a temporary war camp now became the administrative and trading town of Gbarnga; there foreigners and members of every Liberian tribe live together in a community of perhaps 5,000 persons. Near Gbarnga are an agricultural research station, Cuttington College (which was the base of much of our research), two hospitals, several mission schools, and a number of farms owned by educated Liberians.

The road has clearly been the greatest instrument of change in Kpelle country. Towns that had been extremely isolated because a government official, missionary, or trader could reach them only after a five- or six-day walk through tropical rain forest were now exposed to the outside world. Today a rough index of the extent to which a town maintains Kpelle traditions is its distance from the main road, even though every town has to some extent felt the influence of the rapidly encroaching, Afro-urban culture of the coastal region.

A few years after the road was completed, the American government, through the Agency for International Development (AID) began an extensive program of building schools in the interior. Prior to that time, only missionaries or an occasional literate Liberian had provided Western education in Kpelle country. But today most principal towns along the road have elementary schools, which begin instruction with the teaching of English in a pre-first-grade preparatory class and terminate at the sixth grade. Of those children who begin school, only a small percentage complete the sixth grade.

Participation in the money economy is likewise increasing at the present. There are Lebanese stores in almost every road town, and money with which to buy goods is available from a variety of sources. Most

Kpelle men either sell farm produce or work for a plantation, iron mine, or other foreign enterprise for some period in their lives. In one recent year every householder had to pay approximately fifty dollars in taxes of one kind or another, requiring at least a minimal participation in the national economy. Except for people living in the most remote areas, the traditional life as it once existed is impossible, although many persons deviate from the past as little as they can and often with the greatest reluctance.

The interaction between traditional and modern life is particularly evident in a typical road town. A close look at Sinyee, an average-sized (approximately 125 huts) town 115 miles from the capital city of Monrovia, located on a small feeder road off the main highway, suggests that it is a transitional town, subject to a great deal of Western influence. The Western anthropologist or educator entering the town for the first time will see the road leading to the town, the government school on his left, and many square houses with corrugated iron (called zinc in Liberia) roofs. Two rather substantial shops serve as general stores; in addition, there are many smaller shops. Many of the people wear Western-style clothes, and virtually all of the cloth worn by the people, even when not sewn into Western-style clothing, is commercially printed. Many of the townsmen work for nearby Cuttington College; many have worked at some time for the Firestone Rubber Company plantation eighty miles to the southwest or one of the other large economic concessions. All pay yearly taxes to the government and all are ultimately subject to the national legal system. Approximately 300 children between the ages of five and eighteen attend the government school. The Western anthropologist or educator might be tempted to ask if there are *any* traditional Kpelle people in the town, or anywhere nearby.

In fact, much of the ethnographic material on the Kpelle was gathered in this and similar transition towns, which contain many traditional elements. Although more traditional Kpelle towns could be found, especially towns that are far from the nearest motor road, virtually every town in Kpelleland has been touched to some extent by Western culture; at the same time virtually every town has retained important elements of the tradition. We will attempt to describe both the important aspects of this tradition and the changes that have taken place.

We have adopted different stances toward the question of what constitutes a Westernized (*kwii*) Kpelle, depending on the task at hand. In

accord with the argument outlined above, we have as a rule used school attendance as the major contrast with traditional Kpelle culture.

Since Western material goods can be found in so many country stores in the Liberian hinterland, access to shotguns, lanterns, canned goods, and radios would not seem to differentiate *kwii* and traditional Kpelle. Yet not all partake of commercial conveniences in equal measure—to acquire zinc for one's roof, one must earn money. To earn money, one must either grow an excess of rice, grow a cash crop, or work for wages. The people we have characterized as traditional tend to do these things to a lesser degree than the *kwii* people; when they do them, they tend to share the profits with their relatives. Involvement in the money economy (working for Firestone Rubber, an iron mine, Cuttington College, or some other Western institution) brings one in contact with English speakers, for in this multitribal country, English is the lingua franca. In order to reach areas where wages are offered, it is often necessary to leave Kpelle country. The person who does so can no longer depend on his tribe and family, but must turn to new forms of nontraditional, perhaps multitribal, organizations (Little, 1958). When the traveler returns home, he finds the traditional authority considerably less imposing; after all, he has experienced alternative social organizations and belief systems which are more powerful and rewarding in terms of the new currency. He keeps more for his own immediate family and beings to seek ways to escape the zero-sum economy of the extended family. Even though such a person is not educated, he is well on his way to becoming *kwii* rather than traditional.

Yet many people remain close to the traditional ways: the town chief, the leaders of the men's and women's secret societies, and many families who engage in traditional agricultural activities with a minimum of involvement in the money economy. It is to this traditional, relatively less *kwii*, group that we now turn our attention.

The Traditional Kpelle

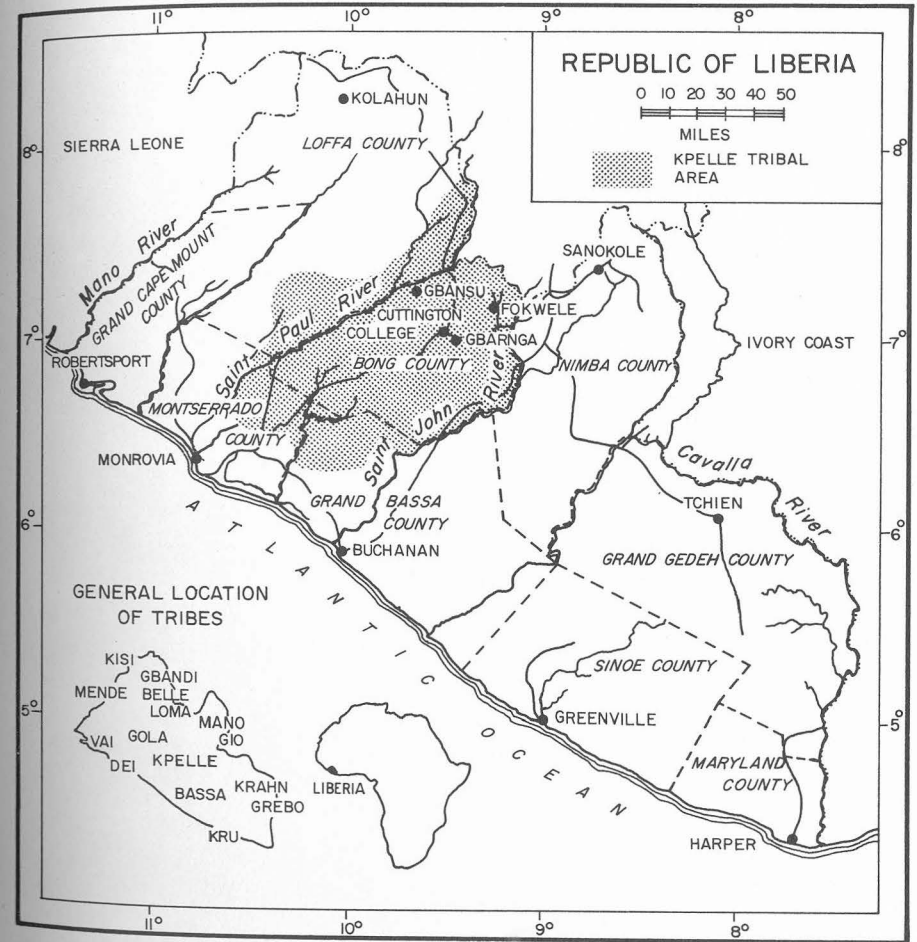
Farming is the major skill mastered by all adult Kpelle. As J. Gibbs points out (1965, p. 200), there is a Kpelle term that may be translated either *farm* or *work*. The major crop, upland rice, is so important that a Kpelle proverb states that a man has not eaten if he has not eaten rice.

The Kpelle distinguish more than twenty varieties of rice and the basis for classification are many: color (white, red, and black), length of germination, yield, place of growth (upland or swamp), and size of grains. Our informants indicate that which rice is planted depends, among other things, on the type of seed available, the type of land to be farmed, whether the rice is to be sold or used for one's family, the time of year, and the reserves of rice from last year's crop.

Although, like farmers everywhere, the Kpelle must know his crop and his land and must work hard, the actual technology of Kpelle rice farming is simple, by American standards. The farming cycle begins in February or March, toward the end of the dry season. A plot of land that has lain fallow for at least seven years is cleared of brush by the men, usually working in one of several types of cooperative work groups called *kuu*. Trees such as the citrus and palm, which are economically useful, and certain cottonwood trees, which are thought to have supernatural powers, as well as stumps of other trees are left standing. After the cut foliage dries, the entire area is burned, then cleared and burned again, and left to stand until the rains arrive to soak the ashes into the soil and loosen the soil for planting.

At this point the women take over and plant the seed rice, scratching the surface of the soil with short-handled hoes and planting the seeds in the furrows. From the time the rice is planted until the harvest, some four to five months later, the family spends a good deal of time on the farm. The men build a small lean-to ("kitchen"), which serves first as a home away from home for the family when work demands that they sleep at the farm, and later as a storage shed for the crop. A fence of sticks held together by vines is built around the farm to help keep out small foraging animals, and traps are made to catch those animals that bypass the fence. Children, who participate in earlier portions of the work according to their strength, have primary responsibility for protecting the ripening crop from the ubiquitous rice birds. Sticks and slingshots are the main weapons in the child's arsenal. In November and December the whole family harvests, dries, and stores the rice.

The Kpelle have what we would consider a very elaborate system for measuring rice in its harvested and processed form. Cut rice is measured by bundles, which are bound together into stacks and then stored in sheds. When the people need the rice, which has been stored on the farm, the women thresh it and beat it. The rice so prepared is measured by the cup, bucket, tin, and bag. Rice is normally sold for ten cents a cup, which is the size of two English measuring cups or one pint dry



Map of Liberia and Adjacent Areas, Showing Kpelle Land.



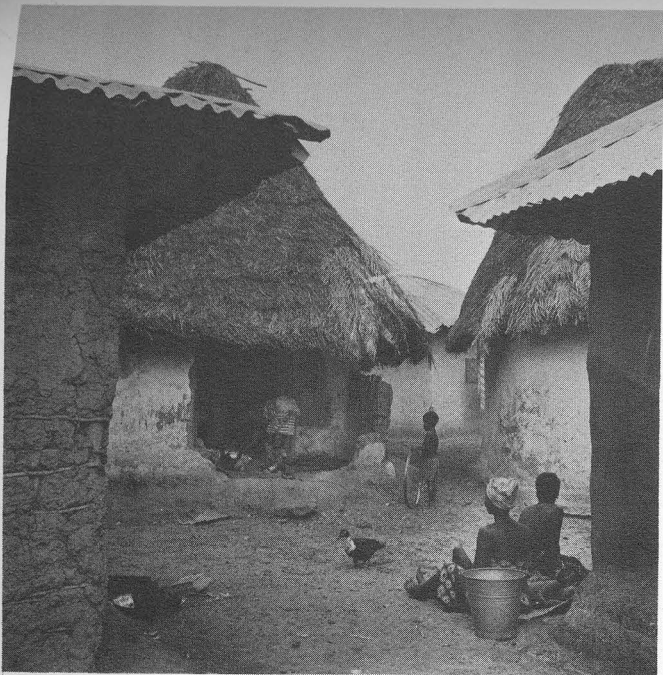
The Traditional Town of Gbansu as Seen from the Air (Cole)



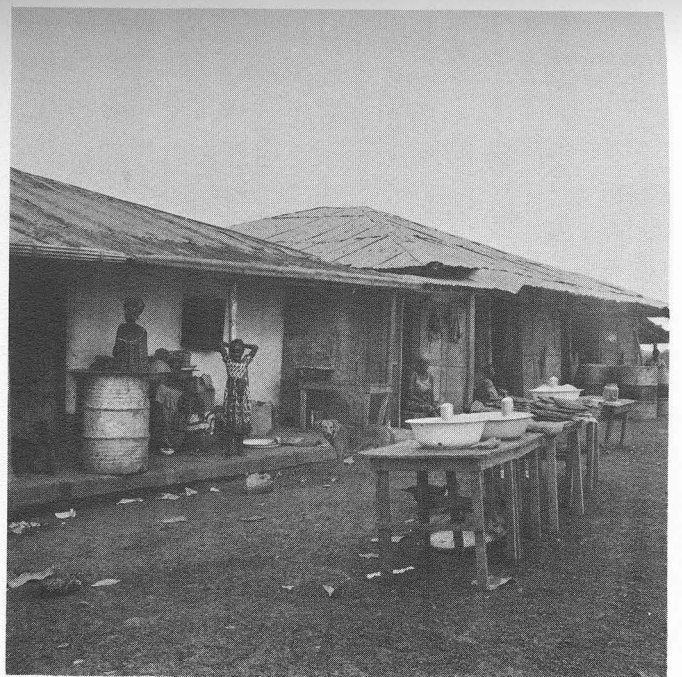
Houses in a Traditional Town (Cole)



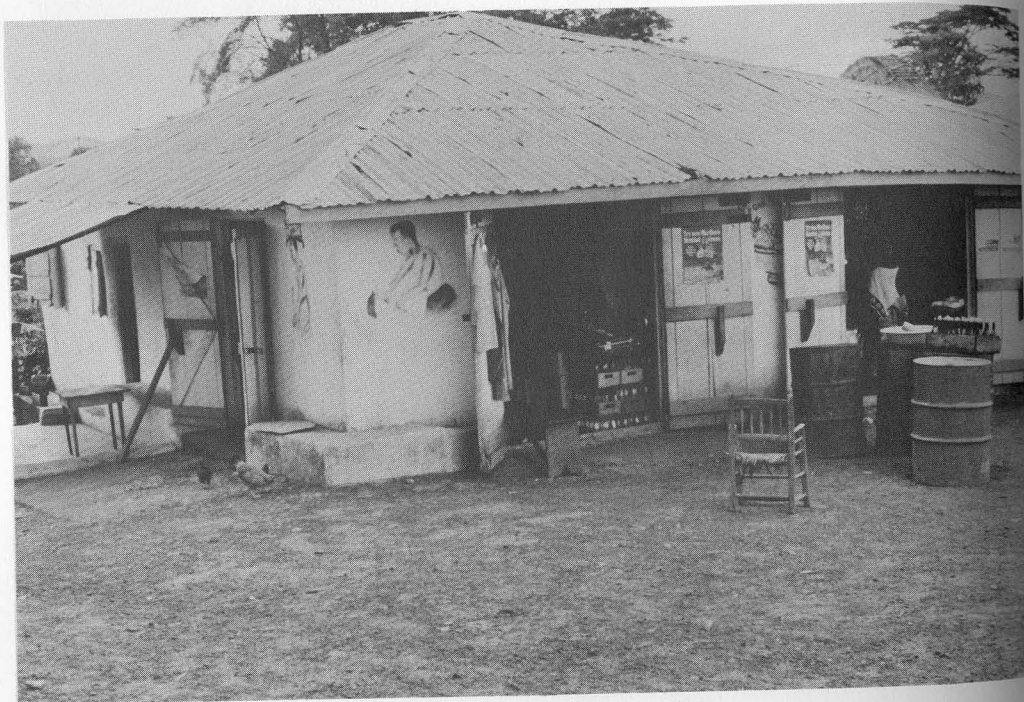
The Kwii Quarter of the Transition Town of Sinyee (Cole)



Housing in Sinyee (Gay)



Rice for Sale in Sinyee (Gay)



The Major Western-Style Store in Sinyee (Cole)



The Contents of a Lebanese Store on the Road from Monrovia (Cole)



A Rice Farm with a Rice Kitchen in the Foreground (Love)



Graduation from the Sande Bush School in Gbanway, 1967 (Gay)



measure. However, the price varies according to the season and the availability of rice. The largest measure for harvested rice is the bag. There are nearly 100 cups of rice in the typical bag in which rice is imported or sold from one part of Liberia to another. This fact is known to the Kpelle, who value a bag of rice at 100 times the going rate per cup.

In addition to rice, other crops are grown on the rice farm such as cassava (also called manioc in other areas) and green vegetables. Still other foods such as palm and kola nuts are gathered in the forest. Even among the traditional farmers some cash cropping can now be found, and to the extent that sugar cane (for rum) and coffee require new farming techniques, the traditional farming technology is undergoing modification.

Building a House

Rice farming is by far the most time-consuming work of the traditional Kpelle, but there are other skills that everyone learns. For example, all members of the community help in the building of a house.

The traditional Kpelle house is usually round and windowless, with a cone-shaped thatch roof. It consists of a simple room in which people cook, eat, and sleep. The fire is built in the center of the house, and over the fire a meat drier is hung from the rafters. Around the edge of the hut are raised mud shelves which serve as beds. The house is cool, dark, and relatively free from insects because the fire sends smoke into the thatched roof.

The hut itself is constructed of a framework of light poles, interwoven with thin branches and lashed together with vines. The walls are then finished by applying wet earth mixed with mud from a termite hill, and the roof is thatched with the broad leaves of a palm tree. The construction of the house exhibits at least implicit knowledge of what may be termed geometric axioms and engineering rules. The placement of uprights in the walls is determined by attaching a string to a center pole and etching a line in the earth in a circle around the center stick. The roof sticks are longer than necessary to join the center pole to the wall, providing both an overhang to protect against rain and firmer support at the center.

Since the advent of Westerners into Kpelleland, many of the houses are built in a rectangular form with corrugated iron roofs. Here, too, an understanding of a basic geometric axiom is manifested; in order to as-



(Love)

(Cole)

Children of Sinyee



sure a rectangular house, two straight sticks of equal length are crossed at their middle and the corners of the house staked out. The modern house has rooms and windows, and the cooking is usually done in a detached kitchen behind the house.

Specialists: The Blacksmith and the Medicine Man

In addition to activities engaged in by all or most of the community, there are tasks performed only by specialists. These include blacksmithing, weaving, bonesetting, and traditional medicine. Many of these specialties have rituals and taboos, restricting its practice to members of particular groups or secret societies. For instance, bonesetting can be learned only by a direct patrilineal descendant, but any man can become a blacksmith.

Partly because he is an important figure in the secret society and partly because he produces the tools for housemaking and farming, the blacksmith has high status among the Kpelle. All blacksmiths can make cutlasses, knives, hammers, and other tools from scrap iron (in former days, from iron smelted in Kpelleland). In addition, skilled blacksmiths can make needles and guns.

A low-protein diet, the ubiquity of parasites, and the increased number of diseases due to Western contact has made health a major concern for the Kpelle. Until recently, perhaps 75 percent of all children died at an early age, and the Kpelle considered a person old before the age of fifty. The Kpelle defense against disease and death is summed up under the term translated "medicine," although it has a much wider range of meaning than the apparently equivalent English term. Medicine includes not only herbs, but also the use of various objects, beliefs, and institutions. The medical practitioner (*zoo*) is a specialist in one or more of these areas and is also a skilled observer of the social context of disease. (See Harley, 1941; Welmers, 1948; Orr, 1968 for discussions of Kpelle and related medical practice; see also Horton (1967*a,b*) for a discussion of the larger context of medicine in Africa.)

Language and Traditional and Technological Activities

Such additional specialized activities as the making of bird and animal traps or the preparing of dyes do not materially alter the overall picture of a society with a relatively uncomplicated technology and attendant lack of specialization. Rather than pursuing this matter, we would

like to consider more carefully a specific issue: the social context of language and the role language plays in learning and performing commonplace Kpelle tasks.

It is curious that in spite of all the cultural variations in childrearing practices, there are almost no data describing how children in different societies learn such basic skills of living as those discussed above. Studies of toilet training, weaning, authority patterns, and other aspects of the parent-child relation presumably relevant to personality development have pre-empted the field (see Hsu, 1961). The reported data, including our own (Gay and Cole, 1967), indicate that children learn more from observation than from situations specifically designed to transmit information orally.

Although monographs and articles on "traditional education" abound (see for example, Fortes, 1938; Raum, 1940), the emphasis in most of this work has been on socialization and enculturation. Perhaps the invisibility of learning vis-à-vis the technological domain is another reflection of the fact that this is not a talked about, problem-situated, enterprise.

N. Miller (1928), for instance, culls data from many anthropological descriptions, the burden of which is that the child is treated as a "little adult," who is expected to contribute to the family larder in proportion to his strength and skill. Even the very small child is frequently to be seen carrying a still smaller child on his back, chopping wood with a tiny ax, or scratching a small portion of the rice farm. The degree to which such activities are seen as a part of the group's work, rather than an opportunity for the child to learn adult behavior, is emphasized in Bruner's discussion of the cultural context of learning and its implications for cognitive development. Speaking of filmed observations of the Kung bushmen, Bruner observes:

What the child knows, he learns from the direct interaction with the adults' community, whether it is learning to tell the age of the spoor left by a poisoned kudu buck . . . or to dig a spring hare out of its burrow. Yet in thousands of feet of film, one sees no *explicit* teaching in the sense of a "session" out of the context of action to teach the child a particular thing. It is all implicit. . . . The only exception is the well-known teaching of rituals. . . . [Bruner, Olver, and Greenfield, 1966, p. 59]

Nor are such observations limited to interactions between adults and children. Beryl Bellman, an anthropologist who has worked among the Kpelle, describes his first day as a member of a Kpelle cooperative work group (*kuu*), clearing an area of bush for a rice farm:

The leader of the *kuu* and two other men . . . worked with dancing steps and precise movements. It was actually from watching the *kulai-mii* work that I was able to observe the "correct" technique for brushing bush, viz., to cut straight into the bush and after coming several feet, turn to the right or left and cut in for several feet and then cut back rolling the cut bush along as it lays against your back. [Field notes, January 10, 1968]

No advice was offered, but when Bellman explained his new-found expertise to a *kuu* member who had some Western education, this member was able to add a few refinements to Bellman's description, helping him to cut more efficiently and with less danger of lacerations.

Although discussions between adults and children as a mode of teaching appears to be minimal, children communicate more among themselves. In what we may call "practice" sessions, children may often be seen in a Kpelle village practicing the skills they will use as adults. One group of children may scratch the ground with a stick, or another may cut tall grass. The children, moreover, will criticize each other's performance and techniques.

An apparent consequence of this "learning *in situ*" is that except for nonspecific criticism of the quality of performance or the willingness to work hard, such learning is an extralinguistic process. To quote Bruner, Olver, and Greenfield again: "But because so much of the 'meaning' of what is being learned is intrinsic in the context in which the learning occurs, there is very little need for verbal formulation" (1966, p. 61). Moreover, it seems that this relative absence of verbal formulation in Kpelle learning of basic skills makes it difficult to produce a verbal analysis of the problems involved. An example will make clear what we have in mind.

A Peace Corps volunteer of our acquaintance decided to build a house. The land assigned to him by the town chief was located on a rather steep slope. After viewing the location, the volunteer decided that he would make the floor of the house level by making the rear wall of the house much taller than the front to compensate for the slope. The interior would be filled with dirt to the level of the base of the front wall. The men who contracted to do the work complained that the house would be "ugly," but such is the power of the dollar that they agreed to do as requested. However, complaints continued to be heard. Thomas Ciborowski set about to find out what the objections to the house were, but at first he made little progress beyond the assurance that the house was going to be ugly. Considerable probing uncovered the difficulty. All those working on the house objected to the proposed

method of leveling the floor because the long sticks of the rear wall, which would ordinarily be protected from direct rainfall by the overhanging roof, would be exposed to the rain at their base, thus weakening the wall and undermining the foundation.

Two points stood out concerning this incident. First, the workers plainly knew the critical elements of construction and the way in which structural features of the houses related to factors such as the weather. Second, no one offered the reasons just outlined in a coherent explanation. The inquirer had to piece together the elements of the complete explanation through a lengthy process of questioning.

A similar phenomenon has been noted in the case of swamp rice. Foreign experts have for years tried to convince the Kpelle to grow rice in the swamp rather than on upland hillsides. The yield is better; the same land can be used indefinitely, given proper techniques; after the initial year, less labor is required; fish can be raised along with the rice to provide a source of protein. And yet, most Kpelle resolutely resist growing swamp rice, despite the examples of successful non-Kpelle rice farmers.

It was only after John Kellemu extensively questioned a large number of traditional farmers that a pattern began to emerge, explaining the resistance to growing rice in the swamp. It is true that the process of farming is not much discussed and that the techniques are learned by observation rather than by oral instruction. But it is not mere conservatism, not mere resistance to change in what has been learned nonverbally, that keeps the Kpelle farmer growing his rice on the hillside. There are many other factors which he can explain, if pressed to do so.

Some of the reasons that Kellemu uncovered are based on the technology of farming. Swamp farming gives its best yields with imported and, to the Kpelle, less palatable strains of rice; rice farmers typically grow other crops among the rice shoots, and these crops are an important source of extra food and income; health hazards, such as snakes and tropical sores, are more prevalent in the swamps than in the uplands.

Perhaps even more important than these work-related reasons are doubts couched in terms of the social consequences of changing one's style of farming. Clearing and burning the bush, planting and tending the rice, and harvesting the crop are all communal events. The Kpelle value the occasion of cutting the forest, with its corporate rhythm of a group of men, spurred on by singers and drummers, laying into a piece of bush. Men show their strength and their zeal as they clear the field.

Harvesting is also a social as well as an agricultural event. There are tests of strength and speed, and the fastest worker receives a special hat for his labors as well as the largest portion of the food, palm wine, and cane juice which are integral parts of the process.

Swamp labor, on the other hand, is thought to be uncoordinated and dirty, not fit occasion for the display of strength in a corporate setting. Swamps, moreover, are thought of as the last resort for women whose husbands are dead or gone to another area. They sow their rice seed late in the season, when there is no hope of an upland farm, and they reap a small and uncertain harvest. By making a farm in a swamp, moreover, a man loses his claim to traditional ancestral farms, a fact that is certain to displease those who had farmed this area in the past and are now dead, but still present to the extended family as ancestral spirits.

Kpelle farmers do not articulate their objections to growing rice in the swamp unless pressured by a persistent (and thereby rude) inquirer, and even then not in abstract, narrative form. Furthermore, if the farmer is questioned by a government official impatient for change, he will almost certainly not quote the reasons mentioned above and will give the casual outside observer the impression of stupid, backward-looking recalcitrance.

These observations suggest that verbal formulations of the problems and activities associated with everyday work are not characteristic of the Kpelle adult. From the reports of others it appears that the Kpelle share this trait with other African groups. For example, in our earlier work (Gay and Cole, 1967) and the investigations of others (see Doob, 1960), a recurrent theme has been the difficulty traditional peoples experience when asked to speak about certain areas of their own behavior and culture. Yet, as Gibbs points out (1965, p. 209), Kpelle parents take great care in teaching their children to use the language well. The ability to speak well is a prerequisite to political power, and verbal skills, whether in telling a story or pleading a case in court, are greatly admired.

On the face of it, there appears to be a contradiction when the same individual has difficulty describing the process of making a bird trap, but is a skilled advocate in court cases. Yet the discrepancy may be considerably more widespread than is usually believed. Consider, for example, the average American male, who would have great difficulty describing how to tie his necktie without actually going through the pro-

cess, or the grandma who is a marvelous cook, but can describe her techniques no better than "a bit of this and taste of that."

These observations and speculations suggest that as a part of our ethnographic enquiry, we need to consider the social life of Kpelle people as an important area within which a great deal of their thinking is manifested. Again we must defer to the general ethnographer for a complete description of social organization (see Gibbs, 1965, pp. 306ff.). However, we can describe certain major features of Kpelle social life that we think might yield clues to the kinds of problem solving and learning that being a Kpelle adult involves.

Social Interactions

Traditionally, an adult could use three resources to play the Kpelle status game, namely, wealth, age, and knowledge. For obvious reasons these three often go together. Wealth is the accumulation of goods or a large family, which were virtually the same process in traditional Kpelle life. At present, the accumulation of wealth is coming to depend more and more on participation in *kwii* society. Age makes a man closer to his ancestors and thus superior to those younger than himself. The elder embodies the traditions that form the core of Kpelle society. In the present changing society the elder is less and less respected. Knowledge is a key to status and power in several respects, and the social management of knowledge is closely bound up with the functioning of the secret societies. Yet new forms of knowledge, learned in Western schools, are winning grudging respect from members of the tribe. In any event knowledge is essential to possession and use of power in the community, as shown by the following example.

Basic to the quest for status is the question of who says what to whom. Beryl Bellman's field notes from 1967 and 1968 are a rich source of observations on Kpelle social interactions. Bellman made a genuine effort to be accepted in a highly traditional Kpelle town, and he became deeply involved in the matter of secrecy. He discusses how the concept *ifa mo* "do not say it" plays a central role in the secret society and in all Kpelle life. An example drawn from Bellman's field notes illustrates the point. The context is the initiation of a man into a secret society (not the all-important Poro society) of which Bellman was a member. Bellman states:

We had finished the man's initiation. Mulbah and the others left the house, leaving Yakpawolo and myself alone inside. Yakpawolo pulled some leaves from under his shirt and placed them in the meat to be cooked. He implored me not to talk saying that would be our portion. Suddenly Mulbah appeared. I wondered if he heard Yakpawolo and myself. It seems he didn't because his concern was with V. He ordered her into the house to cook the society food. Without arguing she proceeded to clean the rice. I was surprised as I knew that she was not a member of the society. She is the daughter of the number three man in the society and is *malerj* (translated "niece" and indicating a special relation with her uncle) to Mulbah, the *kali zoo* (leader of the snake society). Because of this and out of respect for Mulbah she proceeded to do all that he demanded. Soon the other members arrived. No one said anything and they pretended as if all was normal. After V. finished cooking Mulbah gave her a portion of the rice and she left. [Bellman, 1969, p. 24]

This scene is very complex. Under some circumstances V., the girl, could have been killed for being present in the house and preparing and eating the food. Yet both she and the members of the society who were present accepted her presence. Bellman determined later that she was not afraid of the consequences because she understood a complex set of rules that rendered her immune from blame, in particular, the rule requiring obedience to one's uncle. Moreover, the fact that she was already a member in a corresponding women's society convinced the men she would not talk about what she had seen and done. Her knowledge of the matters of the society was not so important—her willingness to maintain secrecy and obedience to her uncle were of critical importance.

Bellman shows how Mulbah was able to act as he did with relative impunity, incurring only a small fine by society members, because of the subtle manipulations of power and status within the social context. Mulbah was quite aware of these actualities when he asked V. to do his bidding.

Mulbah . . . (wanted) . . . to force V. to become a member of the society. She was reluctant to do so as for a woman to join she would be counterposed to her fellow agemates as being one who put much interest in the medicines and secret societies. The *Kali Sale* (snake society), although allowing female membership (two positions of the society are necessarily held by women), is almost exclusively a men's organization. For a woman to join she is openly setting herself apart from others. . . . When Mulbah ordered V. to cook the society's food he was offering her membership. [Bellman, 1969, p. 26]

Mulbah broke the rules of the society in order to achieve certain ends and was certain he would incur only a mild rebuke. Even more significant for our purposes, however, is that nowhere were these matters stated by the parties to the case. They continued to be bound by *ifa mo* in their dealings with one another.

In a society where secrecy is a major social phenomenon, asking questions is also a very delicate enterprise. For instance, the question "who are you?" is a common form of abuse in an argument. According to Bellman, "to ask a question is to demand the other make his knowledge public. This knowledge, when asked for, is counterposed to the other's knowledge either as a challenge or as a membership testing device" (p. 9). Because the Kpelle behave very much as if "knowledge means power" in a literal sense, asking questions about people is not the trivial matter that it usually is to us. (This is a fact to be remembered when one performs experiments that are preceded by a questionnaire concerning various items of information about the subject and his family!)

A further illustration of the importance of secrecy to status-conscious Kpelle elders arose when John Gay was asking a village blacksmith a series of questions about the sale of his goods. In one of these questions the blacksmith had to calculate how much he would earn from the sale of six axes. He gave the correct answer, but was angered when Gay asked how he knew the answer. He asked Gay in turn for his sources of information, implying clearly that such information is not for public consumption.

Secrecy is not, however, an either-or matter. Even where the injunction *ifa mo* is in force, it may apply only to direct and unequivocal speech. Indirect means are used to communicate messages that would never be stated directly. In the story previously told, V. and the others all knew the meaning of the request to cook and eat the food, yet none of them stated it. The request itself within the particular setting was sufficient to communicate Mulbah's desire for his niece to become a member of the society.

Certain special modes are commonly used for indirect communication. Foremost among these are tales and proverbs, which can be used to give instructions to children, warn persons against ill-considered behavior, sum up an argument, or convey information to members of a select group. Stories are told commonly in the evening; the child listens and learns, gathering a store of tales and contexts. Proverbs, usually

with an explicit moral, are used on a wide variety of occasions. As a person progresses toward the status of an elder, he learns more stories and proverbs as well as more circumstances under which he can apply them.

An illustration of indirect speech seemingly used inappropriately occurred on an occasion when an old man came to the Gay family selling grapefruit. At that time the Gays spoke no Kpelle, and so a schoolboy who was working for them translated the old man's words. He had great difficulty doing so, because, as he explained later, the old man was speaking "deep Kpelle." Gay pressed the boy on the point, and it seemed that "deep Kpelle" consists of language that is complex, not so much because of intricate vocabulary or syntax, as because of an extensive use of proverbs. The old man may have been using proverbs because he believed the Gays were mature enough to understand them, but the boy who was the intermediary could not interpret them. Had this young man remained a part of traditional Kpelle culture, he would have learned the "deep Kpelle" over the course of years.

In addition to knowing *how* to use proverbs, the individual has to know *when* to use them. He would have to wait, for example, until he was old enough, since it is disrespectful for a young man to quote proverbs to his elders. A proverb illustrates the problem: "Sitting quietly will reveal alligator's tricks"—only by careful watching and waiting will the young person come to understand his elders and their ways; revealing himself too soon can do no good and may be counterproductive.

Great reliance is placed on clever speech as a means to attaining status in Kpelle society in institutional as well as informal ways. Disputes are settled by the chief and the town elders either by the relatively informal "house palaver" or by the somewhat more formal court case. Physical force, witchcraft, and sorcery are frowned upon. The formal arena for resolving conflicts is often the chief's "palaver house," a large circular structure with a thatched roof and low walls where people gather to discuss matters of interest and settle disputes.

If one member of the village lodges a complaint against another member, the quarter or town chief seeks to resolve the issue informally at first, by going with some of the elders to the house of one of the principals. There he uses his skill to reconcile the two parties, airing the issues and seeking by compromise to reduce conflict within the community without causing a change in the status quo. If he fails, however, to achieve reconciliation, the case moves to the more formal court. The in-

attention of such cases is to restore village harmony by a decisive action, even if the status quo is altered. Court cases provide a setting for the exercise of argumentative skills. We will look more closely at one such case as an example of the use of logic and evidence in Chapter 6.

These examples, by no means exhaustive, suggest some ways in which rather subtle forms of cognitive activity occur in common, everyday situations. It is our impression that to a larger extent than is true in American society, among the Kpelle the acquisition of status and power are the result of the application of intellectual skills to social life. About a farmer, one can say only that he is hard working or lazy, his success being judged as the result of his effort. But in social matters a successful man is one who is clever in manipulating his fellow town-folk and proficient in the careful use of wealth, age, and knowledge.

At present we can only point to the suggestive examples that we have collected. These indicate that social interactions are a source of data for the study of problem-solving skills that may not be evident in activities such as farming and house building. Until systematic data are available, however, examples will have to suffice.

The Encroachment of Kwii Society: Schools and the Schoolchild

Although traditions, particularly as enshrined in the secret societies and in the elders, are still very important among the Kpelle, the power of Western culture is becoming greater every year. Although its impact is felt everywhere in Kpelle society through the money economy and taxation, nowhere is Westernization's influence felt more than through the schools.

Yet schoolchildren are not necessarily *kwii*; specifically, a few years of school attendance do not constitute grounds for being considered *kwii*. Most of the children in Sinyee attend school for a few years. They learn to speak English and many become to some degree literate. However, their early schooling is likely to be interrupted for lengthy periods during which they are expected to help with the farming or other family business. They attend secret society initiation school, but at present only during school vacation.

The elementary schoolchild in a village such as Sinyee is thus the

locus of the struggle between traditional Kpelle society and the *kwii* way. Traditional Kpelle upbringing is ranged against the new institutions, personified by the government school and its teaching, in a struggle for the child's allegiance. As a rule, the school is physically outside the traditional boundaries of the town, along with the teacher's house, the Lebanese store, and other Western buildings. In the town Bellman studied, the "old town" is surrounded by a vine, outside of which there is said to be no law. The "new" institutions, such as the school and the clinic, are in the lawless portion, outside the tradition.

In many cases the competition between Kpelle tradition and the *kwii* way is won by at least a modified version of the traditional way. Statistics compiled by AID show that a very large percentage of all children who entered first grade in 1956 dropped out of school by the fourth grade and most dropped out by the seventh grade. Those who drop out may do so because they do not have the money to provide books and uniforms, because their families put inordinate pressure on them to work on the farm, because they are involved in an unexpected pregnancy, because they are expelled, or because they cannot maintain passing grades. The economic reason is probably the most important, since feeding, clothing, and supplying an economically unproductive and socially uncooperative schoolboy will eat up a high proportion of the cash income of a family, with no visible return. Children are frequently told to fend for themselves if they wish to remain in school.

A critical point for the child comes when he graduates from the sixth grade. A national examination administered at the end of the sixth grade determines promotion to the next level. Should he choose to continue his education, a child who passes this sixth-grade examination will probably have to leave his home in order to attend junior high school and will no longer be subject to traditional calls on his labor by his family or village. The child who does not pass this examination or who does not go to junior high school for some other reason will probably fall back into village routine unless he leaves to make his way at a mining company or urban center. Moreover, even if he does make an effort to enter the *kwii* world, whether by further schooling or by deeper involvement in the money economy, he remains tied to his family and the more slowly changing world of the partially educated Kpelle adult. He is expected to send home money, to care for relatives who visit him, and to continue his connections through periodic visits. He may even be expected to support younger brothers or sisters who follow him to school.

The School Environment

While the schoolchild shares most of the other influences from the *kwii* world with his parents, only he knows the school influence. It is to be expected that formal schooling will have a significant effect on his cognitive process, but before we can understand that effect, we must understand the situation within which that effect is achieved.

By American standards the rural elementary school in Liberia is marked by overcrowding, poorly prepared and poorly paid teachers, rigid and often irrelevant curricula, ill-equipped schools, lack of textbooks, parental indifference, and linguistic and tribal confusion. In the Sinyee school in a recent year 250 children were in the first grade, divided into four sections, depending on the child's knowledge of English. Two teachers taught two sections each, one in the morning and one in the afternoon. Children in the lower sections knew essentially no English and would not move to the upper section until their teacher deemed their performance satisfactory, a process that may take several years. High dropout rates mean that upper-level classes are less crowded, but the confusion of age levels consequent on the variations in time spent in first grade remains throughout the school system.

Older teachers in the elementary schools have often had only six years of school themselves, and their education may have been received under even more adverse circumstances than that of their pupils. An attempt is being made to increase the educational level of teachers through teacher-training programs. However, the methods used to prepare teachers are at times no better than those we have observed in the village schools. Teachers are paid poorly, and when questioned, many indicate that they stay in the profession only because they cannot get another better-paying job. A college graduate with a degree in education, for instance, can expect to earn only \$125 per month if he enters teaching, whereas he can earn \$250 as a clerk in a Monrovia bank. Teachers with less education may earn as little as \$30 per month and thus may have to eke out a living by making a farm or by teaching in the morning in one school and in the evening in another.

The curriculum in the Liberian school is set by the Department of Education and follows very closely the pattern of American schools. Textbooks are almost always American, either castoffs or new books, and their content is at best marginally relevant to the Kpelle child's world. The national examinations at the end of the sixth, ninth, and

twelfth grades determine the content of instruction, and the students greatly resent a teacher straying from the specific material upon which they will be examined. As a consequence, even well-trained teachers are pressured to provide rote teaching. Perhaps this is why rote learning of a set sequence of facts is the dominant style.

Not only are the textbooks largely irrelevant to Liberian experience, but also they are expensive and in very short supply. The government has been making serious efforts recently to find more books, but their cost is prohibitive to most children even when they are available. This means either that the child must work, must use the books of others, must leave school, or must have no books. The schools are generally ill-equipped in other ways, too; libraries are minimal or nonexistent, and teaching aids are rudimentary.

It is clear that useful teaching aids can be found in the village itself. Many elementary subjects can be best taught if local materials and experience are brought into the school. However, the isolation of school activities from the village is almost complete. Neither students nor teachers integrate or correlate the two domains. In Sinyee townspeople use the school yard as a place to dry clothing and otherwise never enter the buildings unless there is a special occasion to which they are called by the town chief.

Finally, there is a major linguistic confusion in the schools. Liberian English differs in many ways from standard English: (1) it has a different phonology, for example, the absence of final consonants; (2) it has its own syntax, such as a system with two future tenses, one immediate and one remote; and (3) its vocabulary varies widely from standard English. The teacher speaks one variety of Liberian English, children speak more rudimentary varieties, and the textbooks are written in standard English. This creates vast linguistic confusions, a situation made worse by the fact that most of the teachers do not understand the true state of affairs. Spelling, for instance, is made very difficult when the standard orthography differs widely from the speech patterns. (Compare, for example, the work of Labov, 1969, with black children in New York City ghettos.) We reported in our earlier work (Gay and Cole, 1967, p. 32) the difficulty caused by the English phrase "as many as," which was interpreted in Liberian English as "more than" for perfectly understandable phonetic and syntactic reasons.

The teacher, who may have the best of intentions, is faced with an overwhelmingly difficult job. To the young child the school probably seems completely without meaning. We thus must ask what constitutes a

reasonable adaptation to this school environment on the part of the student. It is our feeling that the child would adopt what most observers would call rote learning. Given an extremely chaotic situation in which few concepts are clearly taught, and even then taught in an unfamiliar language, the best way to survive is to pick out certain salient features of the situation and simply memorize them. These features may be words, phrases, mannerisms of the teacher, or even more extraneous characteristics of school life. The extremes to which present schooling practices can lead is illustrated by a story from Hugh Bradley of the Education Development Center. A child who was asked to recite the multiplication tables for his teacher began "la-di-da-di-da, la-di-da-di-da," at which point the teacher interrupted to ask him what he was saying. He responded that he knew the tune but he did not yet know the words.

We are relatively certain that the same phenomenon appears in other, less amusing ways in many classroom situations; for instance, it is a standard procedure for graduating classes of sixth graders to memorize some heroic English poem as a graduation exercise. Although it is virtually certain that the children have little understanding of the poem, they give a reasonably accurate rendition, to the apparent satisfaction of all. One reason for the satisfaction is that completion of sixth grade carries with it status. This new status, in turn, creates new problems for Kpelle society.

The Social Context of the School

Of importance to the Kpelle child is not only his experience in school, but also the very fact that he *attends* school. Western-style schools are a relatively recent innovation in Kpelleland. They are a source of culture contact and culture conflict, and the child who attends school is the focus of both contact and conflict.

Discussions with the children and their elders reflect, sometimes poignantly, the problems which school causes—the cultural confusion of those choosing the *kwii* way, the stubborn conservatism of those who remain behind. Several elders in Sinyee were asked how they thought a child should change as a result of his education. They stressed that the child should learn (in descending order of frequency) right and wrong, the history, customs, and traditions of his people, respect for the elders of the community, and skill at making a living. The methods they suggested for learning were as traditional as the changes desired in a child.

These elders felt that a child who does not listen should be beaten or else told frightening stories of spirits or ghosts. He should be advised how to correct his mistakes and be allowed to watch his elders as they perform their daily tasks. The ideal educational product is one who will respect his elders, make a living, know the traditions, and be courageous.

We asked high-school students to record for us the kinds of things they learned from their parents and other elders before they entered the *kwii* world. They report learning to make mats, wash themselves, care for the house, cook their food, and whatever else is required for life. If they made mistakes, they were corrected, or, if the mistake continued, beaten. One student says:

When I was small as far as I can remember, the first major thing I learned was not to be too avaricious. I was also taught to thank people when they gave me anything. If I do a good thing sometimes by bringing wood or fishing for the house, I was rewarded with sometimes a big bowl of rice or with candy; so the reward of doing right is a good name or prize, and the reward of wrong is punishment.

The traditions of the Kpelle people concerning their ancestors were learned through songs and stories. One student says: "I suppose my grandmother and elders of our family taught us these not only as songs and stories, but also for their significance in our daily life, in order to teach people not to be greedy, not to be jealous, not to make trouble, and not to boast."

Students report how they listened with pleasure to the stories and instructions of their elders, how they went to the farm and enjoyed the work, even though it was hard, how they listened and learned while the elders discussed serious matters. They report their childhood as a time of joy and growth. Yet these same students left the traditional world and went to school. Somehow the old way lost its appeal and much of its meaning as they grew up.

Schools are an important focus of this change, which carries with it a clear devaluation of traditional culture. A Kpelle college student reported that, whereas he learned many things and came to his full tribal manhood in the year he spent in the initiation school, during the whole time he was concerned about his chances for a Western education. He found to his disgust that, when he returned to the government school, "my mind had fallen back into ignorance and I had to struggle most severely to keep up with the fourth-grade class."

The secret society bush school, which was formerly a major experi-

ence of the Kpelle boy or girl, has now become a pale imitation of its former self. The power of the experience has been lost, an experience intended by the Kpelle elders to shape the child into an adult. An account by John Kellemu of the closing ceremonies of the girls' bush school in two Kpelle towns makes the point very forcefully. He attended the ceremonies, only to find that much of what he remembered from his own childhood had been lost. He noticed a two-year-old girl in the group of initiates and asked himself what she could have learned. He looked more carefully at the others and saw that they too had only superficially been initiated into the Kpelle traditions. As a result, he says:

Without any hesitation I would say that the Poro and Sande bush schools in general terms have lost their former meaning. They are no longer performing their traditional function: to prepare the individual to be adjusted economically, socially, religiously, and even physically to his society.

The traditional economic life of the people has changed radically with the coming of the road and the Western society that the road brings with it. The secret-society bush school is losing its role as the place where one learns to live as a Kpelle man or woman.

Kellemu points out:

In this transitional period the emphasis (in bush school) is now placed on something that is social in character. That is, the mere sense of belonging. It is becoming quite clear that most matters concerning the community are no longer settled by the *zoo* and the traditional chiefs in Poro and Sande bush, but by government authority. As a result, most people are now interested in membership in the Poro and Sande merely for the fact that they become, by joining, respectable or acceptable members of their community, since everybody else accepts them as part of long-established social institutions.

Significantly, social etiquette seems to dominate the teaching in the much-abbreviated bush school. The girls have learned respect for their elders and the proper way to show this respect, and this respect is displayed in the ceremonies at the termination of bush school. The girls, moreover, are dressed in all their best finery, but the clothing and the ornaments are Western in character.

The Western way, the way of the *kwii* person, is changing the Kpelle way of life, and changes in the bush school reflect changes in the traditional way of life. Kellemu describes the conflict as follows:

The conflict is this. The Poro and Sande bush schools are all institutions of long standing, whose meanings and values are printed in the minds of our people. These values have become the center of the Kpelle culture. On the

contrary, the Western type of education is new to the culture. Its new standards of value tend to give new interpretations to the Kpelle standards, which in most cases are the opposite of the old standards. As such, it sometimes means a total change. As a result, the *kwii* way (Western culture, as it is called in Liberia) of life is in itself a paradox to our people. To them, it is good and yet destructive. The *kwii* way has broken up tribal institutions, disorganized native villages and the whole society, outlawed native laws and practices, and has made children disrespectful toward the traditional way of life. The *kwii* way is at times oppressive and demanding, giving little in return.

Kellemu says that the tribal elder cannot understand the long-term benefits of education or plantation employment. He only sees the short-term disadvantages, wherein he has to pay a crushing tax and is required to perform labor for the government. He sees the old ways as necessary in order to give him satisfaction in life. The bush school is the last symbol of that satisfaction. Even though the children do not learn Kpelle culture in depth, at least they receive the membership, and the manners that the elders treasure.

The pathos and the conflicts that are centered on the schoolchild are reflected in the answers to a series of questions we put to Kpelle students at an interior high school, in the town of Bolahun, itself far from Kpelle country. The very fact of their being in this high school shows their separation from traditional Kpelle life. These students grew up within the Kpelle culture, but left it to enter a new and different world. They look at both worlds as persons who belong to both, and yet do not belong to either. One student reports his fear of "war, generators, powers, Satan, and trouble," a combination of the old and the new. Most look forward to having money, power, and Western luxuries after they leave school. Yet, paradoxically, for all the boys Western goods are to be the means for success and influence among their own people.

All the boys look forward to the day when they will be important men in their own communities. They do not expect to live in the same fashion as the traditional Kpelle, but they expect to be part of their society. This combination, whereby tradition and Westernization together lead to a position of authority, is reflected in the comment of one boy: "I will change my family by showing them the right way to live if I have the opportunity. The relation is that we are all one." The right way to live is one in which Western improvements are brought into the Kpelle scene and integrated with it.

And yet this is difficult, as one boy pointed out:

There are many things I've done which have helped to change my family. I have encouraged my people to send many of my brothers and sisters to school. The relation between my family and me is quite different from what it used to be. Now I'm no longer able to communicate with my family as much as I used to do. There are many things my people do which I consider wrong, such as drinking dirty water, living in an area with lots of dirt around.

The estrangement between these boys and their families is not complete, but relations are difficult. One boy stated that he did not feel that anyone in his family cared for him because they did not provide him with the means of maintaining himself at school. Three of the boys report that they depend on a family from the *kwii* community to give them the support, advice, and help that they need in school. When the boys come back home for vacation, they report that they are received well, but that they do not feel a sense of belonging.

They look forward to the day when they lessen the estrangement between them and their families by bringing others into the *kwii* world. All speak of sending their younger brothers and sisters to school. They announce with certainty that their own children will not have to be brought up as they themselves were brought up—no more carrying wood, walking from town to town, dressing in shabby clothes, working on the farm during school hours, marrying several wives, or believing in witchcraft and spirits.

Clearly, the ambition of some Kpelle high-school students is to live differently (most would say, better) than their parents and to reject aspects of their traditional culture that they now view as difficult and confining. They look down on the uneducated country person and apparently accept many Western stereotypes concerning so-called primitive life. One spoke of the relations between the sexes: he tries to treat girls in a polite and educated fashion, not like the uneducated man who beats his girl friend so that she cries. Another says "uneducated people treat women different kinds of ways which I hate to see or hear about." All but one of the boys assert they will marry someone different from their family's choice, since they plan to choose a girl from the educated community.

The high-school students are very hopeful about the power of the education they are receiving. One says:

There are many things I know that will contribute to the changes of the world. If there is peace, love, good education, and moral kindness, and if people live in peace, there will always be progress. The things that will most

change the world are good education and love for all men. The idea of kindness will not change, but the idea about things that are true today may change tomorrow.

Another says: "An educated man desires and gets things as he wishes." According to still another: "An educated man is able to get most of the things he needs and desires. He is able to ask people to help him by writing to them and asking for help."

The rejection of Kpelle culture goes deeper than merely the material affairs of life. One student feels more at home in English:

There are only a few words that stand for different things in my language, but in English there are numerous ways of expressing the same idea. All these ways make our language different from English. The only things that I am able to say or talk about more easily in my language are proverbs, and the name of trees and other things. Most of the time if I want to express myself more fully I speak English because this gives more freedom to say many more things that I am unable to express fully in my language.

Some students reject traditions about medicine and spirits and witchcraft. Concerning the traditional Kpelle medical practitioner, for instance, our informant said: "I know country doctors have medicine to cure things like worm trouble, headaches, and other small troubles. But I know they can't make me sick in any supernatural way, so I don't fear them." This is not, however, the majority opinion. Most tell of members of their family who have been killed through witchcraft or who have practiced witchcraft; many tell of seeing spirits in the night. A characteristically ambivalent story is the following:

One time my father was sick. They said that ancestors are making him sick because they were not satisfied with him and so were vexed with him. I went there and they told me. I told him to go to the hospital, but he said no. So they made a sacrifice and he got well. I didn't believe it.

Another boy tells of an experience on the trail:

When we were coming from the farm, I once saw a man in a hammock on the shoulders of the other men. When I told my uncle to look he looked and looked but he saw nothing. From that moment, I was unable to talk until we got to town. I bathed with cold water before I could talk.

The ambivalence extends to their relation with the Poro and Sande secret societies. Most report fearing their initiation into the tribal tradition, and most also report a sense of community with others in the tribe as a result of the initiation. Yet one says, "I really do not know why my

parents sent me there." He complains that he learned only "if you go to bush school we will be able to keep secrets, not to talk people's secrets outside."

However, the students look at the Western school system as itself a kind of initiation into an adult society. The boy in the bush school had to learn respect for the elders and traditions of the Kpelle people; schoolchildren now learn to respect new institutions. One student reports that as he learns civilized ways, he and his parents can no longer understand one another. He says of the elders of Kpelle society, "I don't believe in some of their ways of life, and there are some of them I really believe in."

Another student describes his respect for the elders, the chief, and the *zoo* in his village: "I feel that I should pay proper respect to them because I don't want them to feel bad about me. I don't want them to think since I am going to school I don't respect them any more." He rejects the ancestral traditions that shaped the lives and attitudes of his elders, even though he does not reject these elders as individuals.

The Influences of Education

Our overall impression of the schoolchild and his social environment is one of extreme complexity. The Kpelle schoolchild is a mixture of the traditional and the modern. Moreover, it is clear that not all of the "modern" elements would be considered to represent "progress" by even the most enthusiastic advocates of modernization.

We can offer some tentative generalizations about important ways in which the school affects the Kpelle child which may be relevant to our study of cognitive processes. First, the child is systematically exposed to an entirely new set of ideas and institutions, which are presented as *the* correct way to live, the wave of the future. As our interviews indicated, the propaganda of progress has had an effect on the child. Second, the child is exposed to writing as a form of expressing ideas and solving hypothetical problems that may exist outside the classroom. Both literacy and learning detached from the immediate situation are likely to have significant effects on cognition. In school the use of language is essential to all problem-solving activities, including the technological. In fact, the whole notion of technology becomes more complex and more analytic. The 4-H activities at the school, such as the introduction of swamp rice, which the children grow as part of a national competition, take farming

out of the matrix of traditional social activities and make it a problem to be solved.

On the negative side we have the barren educational environment of the classroom. A great deal of the learning that occurs can hardly be characterized as problem solving in the usual sense, and it is possible that learning capabilities are actually retarded by incoherent or rigid instruction. Moreover, the negative and hostile attitudes that many successful schoolchildren develop toward their families and social groups are scarcely compensated for by the learning that occurs in six years of schooling. By virtue of the prestige resulting from the completion of elementary school, a man no longer considers rice farming a fit activity for his talents. But measured by the yardstick of the modern economy, he has no talents save rice farming. The result of this conflict is, to say the least, often a less than effective individual.

Our brief sketch of the ways of life and the thoughts of the Kpelle raised within the traditional and the Western educational systems suggests major differences between the two. Accordingly, the contrast between those with and without the experience of Western schools forms a basic feature of most of our experimental comparisons. Whatever the dimension of difference (literate-nonliterate; traditional-*kwii*; conservative-modernizing) that ultimately defines these groups, we can be assured that they differ on many ethnographic dimensions. Whether they differ on our cognitive tasks as well remains a matter of empirical concern.

THREE : Classification



A person behaves toward things in a manner that is similar to the manner in which he talks about the things that he behaves towards.

V. STEFFLRE

Introduction

Our concern with the cultural context of experimentation led us naturally to a study of the Kpelle language as an integral part of our study of learning and thinking processes among the Kpelle. But when we turn to the study of language, we are faced with the same problem that confronted us in presenting ethnographic background data on the Kpelle: to present a complete analysis of the grammar and vocabulary of the Kpelle language would be a giant undertaking and in some respects beside the point.

Among all the linguistic issues upon which we might have focused our analysis of the Kpelle language, we chose to concentrate on the classification of natural-world objects in the Kpelle noun system. Our reasons for this choice were compounded of historical precedent, theoretical relevance, and our own skills in studying the relation between language and nonlinguistic behaviors.

To begin with, we needed to have a basis for evaluating the anthropologist's claim that presumed differences in cognitive processes are reducible to differences in the way two cultural groups classify some areas of experience (Boas, 1911; Rivers, 1926). This viewpoint leads the ethnoscience to make the study of classification a keystone in the study of cognitive anthropology (Romney and D'Andrade, 1964). A similar line of reasoning motivates the Whorfian cultural relativist, who maintains that distinctions coded in the individual's language will determine all manner of thought processes, ranging from what seem to be perceptual groupings all the way to ethics and a world view (Whorf, 1956).

As we tried to make clear in Chapter 1, inferences of cognitive differences such as those made by the anthropologist do not entirely satisfy psychologists, who require in addition that we relate linguistic differences to nonlinguistic behaviors. The issue is put quite succinctly by Carroll and Cassagrande.

... it is not sufficient merely to point to differences between languages and to assume that users of these languages have correspondingly different mental experiences. If we are not to be guilty of circular inference, it is necessary to show some correspondence between the presence or absence of a certain linguistic phenomenon and the presence or absence of a certain kind of non-linguistic response. [1958, p. 21]

Consequently, the psychologist must concern himself not only with naturally encountered linguistic categories, but must seek to relate these to various other kinds of linguistic and nonlinguistic behaviors.

For example, an understanding of basic categories is absolutely necessary for the interpretation of concept-learning and memory experiments. If we construct a task that requires a subject to classify objects into two classes, it is going to make a great deal of difference whether or not those classes are familiar to him; learning to identify a known class and learning a new classification are very different processes (Kendler, 1964).

A related problem occurs in research on memory such as that discussed in Chapter 4. In some of our early learning research, we had focused on the degree to which the Kpelle use noun classes to organize memory for common objects. Under circumstances where we had initially expected to find categorically organized memory, no such organization was to be found and performance was generally poor by American standards. In bygone eras such a performance difference might have led to the conclusion that the Kpelle are incapable of "normal" memorizing. While rejecting such a conclusion, the lack of categorical organization posed an important problem of interpretation: was category organization absent, or had we merely incorrectly understood the way in which the Kpelle categorized this material?

A related factor that is important in the cross-cultural experimental study of thinking is the possibility that an accepted classification in one culture is not recognized in another. If an Anglo child classifies an eagle as a land animal he would be considered wrong, but not so the Osage Indian child. Similarly, when one looks for categorical organization in memory, he had best understand what categories are used by his subjects.

The approach we have adopted in this chapter represents our effort to combine techniques that have traditionally been used by the linguist, anthropologist, and psychologist in the study of classification. To begin with, we investigate basic classes and their relationships for the very general domain of "things" as coded in the Kpelle language, using two techniques borrowed from linguistic anthropology and one from psychology. Each of these techniques relies on face-to-face interactions between a trained observer, or experimenter, and an informant (sometimes we will use the term *informant*, sometimes *subject*). Each takes verbal behavior as its sole datum.

Once the basic categories have been determined for a variety of situations in which people talk about things, we turn to the task of determining the relation between the way things are classified in verbal behavior and the classifications that occur when objects are presented for classification. In addition, in several instances our study of classification is carried out independently on different subgroups of Kpelle people as those subgroups are defined in Chapter 2.

The *Seŋ* Chart: Classification of "Things"

We began our study of classification with the term *seŋ*, roughly translatable as "thing," the most general noun in the Kpelle language. Our first approach was to attempt to elicit specific examples of *seŋ* in order to obtain a taxonomy for the term. Our hope was that this taxonomy would provide an organization of visually and spatially definite objects in the Kpelle language on the basis of which we could then undertake studies of the cognitive uses of this domain. This work was carried out by John Kellemu, who was himself raised in the traditional Kpelle town of Parakole and who has retained much of his concern for Kpelle culture, despite his sixteen years of Western education.

In seeking a technique that would elicit a semantic classification scheme (if such existed), we finally settled on a watered-down version of the technique arising from the work of Metzger and Williams (1966). The basic question we used to elicit subclasses of the general term *seŋ* was of the form _____ káa à _____, which can be translated _____ is a _____. In some uses of this question, the first slot was filled by the name of an object and the second with a question word, as, for example, "banana is a what?" answered

by, for example, "banana is a food." In others the object name was in the second slot and a question word in the first slot, as, for example, "a what is food?" answered by, for example, "a banana is food." A possible ambiguity lurks in this second formulation, but we were able to establish our usage as "what is an example of food?" rather than "what is the meaning of food?"

This question was repeated in many ways, using many terms, in order to find examples of class inclusion and subordination. At some point in the questioning procedure, the elders would be unable to name a special case for a particular term, indicating that we had reached a minimal species. An example of this is the series of questions and answers: "what is a thing?" "a tree is a thing," "what is a tree?" "a corkwood tree is a tree," "what is a corkwood tree?" No answer is given to the last question, indicating that the informant has reached the lowest level of generality.

At other points it seemed that the informants had leaped over several levels of generality. For example, in the exchange "what is a thing?" "a corkwood tree is a thing," clearly several levels exist between "thing" and "corkwood tree." In order to verify the existence of these intermediate levels, Kellemu reversed the questioning order and asked "a corkwood tree is what?" and if the subject said merely "a corkwood tree is a thing," asked "a corkwood tree is what else?" This question generally elicited other examples of the general term in question.

Kellemu began developing a first approximation to a classification scheme by close questioning of a small group of Kpelle elders. He suggested what seemed to him appropriate class headings and subclasses. The men agreed on most of the categories but refined and modified Kellemu's original intuitions. The revised framework was then used as the basis for questioning other Kpelle elders. They were not asked if the structure was correct, but rather the terms that had emerged from the informal interviewing were used in the first and second slots of the basic question _____ is a _____ to determine the correctness of the classification scheme which had been set up informally as a first approximation.

Where there was disagreement among several informants, Kellemu opened the question to group discussion. In some cases the men were able to resolve the questions in unambiguous fashion. In others they continued to disagree. He checked the resulting chart of class relations by opening it to general discussion in which the meanings of the partic-

ular terms were discussed in terms of their place in the organization of classes.

After this phase of the inquiry was complete, Kellemu went over the entire set of results very carefully with Yakpalo Doŋ, John Gay's Kpelle informant. Between them they found many more examples of each class, so that the lowest level on the chart was as complete as possible. They did not change the organization of classes at this stage, but maintained the basic structure elicited by the elders.

The subclasses of *seŋ* elicited and constructed by John Kellemu are given in outline form in Table 3-1. This table shows the ordered system from the most general term down to the most specific objects. Although we were seeking a taxonomy of the domain of things, Table 3-1 can best be considered an approximate taxonomy, because the table includes certain ambiguities in that several subclasses are members of more than one main class (a description of the major subclasses is contained in Appendix A).

In many, if not all cases, the ambiguities in classification arose because of the enormous complexity of classifying, subclassifying, and cross-classifying such a large domain of objects. As a consequence of the diversity of things being classified, the basis of classification often shifted in subtle ways.

The following example may serve to make these difficulties understandable. Suppose that someone asked an American college student for a classification of things. He might answer all things are living or inanimate. How then would he classify such things as a farm, or the earth, or food? Clearly, the choice would depend on ad hoc criteria made up for the purpose. At several points in working out the various subsets of things and their relations, Kellemu encountered the problem of shifting criteria of classification leading to the overlapping categories in Table 3-1. For example, a banana is a *town thing* insofar as it is a kind of food, but a *forest thing* insofar as it grows on a tree in the forest.

As a consequence of these difficulties, we were not content to accept the organization of Kpelle nouns as represented in the *seŋ* chart of Table 3-1 as a definitive picture of Kpelle noun classes and their organization. In addition to the ambiguities arising from shifting bases of classification, we were also concerned about the propriety of the technique we applied to elicit the chart; how much of John Kellemu's *kwii* education is contained in the structure of the *seŋ* chart? How much acquiescence (as contrasted with lexical knowledge) did he elicit from his

TABLE 3-1
Things

PLAYING THINGS	TOWN THINGS			FOREST THINGS										EVIL THINGS
	PEOPLE	TOWN WORKS	TOWN ANIMALS	WORKING THINGS	THE EARTH ^a	THE EARTH ^a	TRAPS ^c	ANIMALS	ROOT CROPS	WATER FOODS	MUSH-ROOMS	VINES	TREES	
dancing	children	houses	walking	vehicles	dirt	dirt	hoof	wild	water	wild	poro head	wild	wild	poro head
equip-ment	adults	sheds	animals	medicines	stone	stone	(two-part)	planted	oil	planted	sande head	planted	planted	sande head
dancers	good people	fences	birds	herbs	sand	sand	hoof	oil	honey	oil	fearful	oil	oil	fearful
drums	evil people	bench	looms	charms	mud	mud	(four-part)	honey		honey	things	planted	planted	things
horns	workmen	loom		societies			claw				witches			witches
games	status			evil			dragging				genii			genii
	appearance			divining			snakes				dwarfs			dwarfs
				western			snails				sprites			sprites
				household			fish							
				things			nonscaly							
				sleeping			scaly							
				things			worms							
				beds			crawling							
				cloths			edible							
				mats			nonedible							
				tools			water							
				clothing			burrowing							
				cooking			tree							
				things			leaping							
				utensils			edible							
				foods			nonedible							
				prepared			flying							
				forest ^b			birds							
				traps ^c			insects							
							edible							
							nonedible							

^aThe earth is a major subclass of both town and forest things.

^bThe edible forest things within the dotted lines are also a subclass of town things as indicated.

^cTraps are a major category of forest things and a subcategory of town things.

informants? Would alternative classification schemes emerge if other eliciting techniques had been used?

Because an accurate assessment of the basic categorical structure of material used in our learning studies was critical to a correct interpretation of cultural differences, we undertook the detailed study of noun classes presented here.

Sentence Substitution

As a first step toward assessing the *seŋ* chart's representation of the structure of Kpelle noun classes, we chose a technique designed to minimize the inquirer's influence on the informant. Using class names selected from the *seŋ* chart, informants were asked to make up sentences employing each of these words. Then he was asked which of the words could sensibly be used in which sentences. The resulting data matrix, reflecting the degree to which words could be used interchangeably in different sentences, was analyzed, using a technique developed by Steffire (1963), in which the set of words was rearranged so that those that substituted in a similar manner into the various sentences are placed near each other. Our concern was to determine if words classified together on the *seŋ* chart would appear as groups according to this sentence-substitution method. In general, classes defined by the *seŋ* chart appeared again in the results of this study.

The sentence-substitution method is described in more detail in Appendix B. In order to understand the rationale for its use in the present context, however, it is probably sufficient to know that it arrives at its classes by determining the similarity in the way nouns are used in Kpelle sentences and that no substantive restrictions were placed on the kinds of sentences that people used. These features led us to hope that the method would be free of difficulties that might have existed in Kellemu's elicitation of the *seŋ* chart.

Several studies were undertaken to explore the relation between the class structure depicted in the *seŋ* chart and the class structure produced by the sentence-substitution method. Subjects for these studies were traditional Kpelle adults between the ages of eighteen and fifty years. Whenever possible, a sentence-substitution matrix for a given subject was elicited in a single session. However, if the informant showed signs of fatigue, the work was completed on the following day. Each study in-