

CHAPTER 4 CONTRIBUTIONS OF THE SOCIOCULTURAL SCIENCES

4.1 ANTHROPOLOGY AND PSYCHIATRY

MELVIN KONNER, Ph.D., M.D.

INTRODUCTION

Traditional accounts of the relation between anthropology and psychiatry have usually been limited to cultural psychiatry: the definition of culture, interactions between it and the individual, culture-specific syndromes, and cross-cultural differences in definitions of health, illness, and healing. But those categories represent only a part of the current interface between the two fields. When the interface was first extensively explored during the 1930s and 1940s psychoanalytic theory seemed the most promising domain in psychiatry and anthropologists independently saw its potential as a powerful tool for the study of culture. The interaction between psychoanalysts or psychiatrists and anthropologists was both natural and fruitful.

It immediately became clear that cultures differ in their definitions of health, illness, and healing and also vary greatly in child-rearing patterns, social models and expectations, role opportunities, and other major variables that would be anticipated by psychodynamic theory to influence the etiology and course of psychiatric disorders. To say that these observations are still valid would be an understatement, and some of the evidence supporting them will be reviewed below. However, both anthropology and psychiatry have been transformed during the past 30 years, owing largely to the increasing importance of biology in each of those fields. The interface between them has become much more complex and thus the goal here is to reconceptualize in current terms the relation between anthropology and psychiatry. (Parenthetical notes in the text refer by number to pertinent cases at the end of this section.)

BIOLOGY, PSYCHOLOGY, AND CULTURE: HISTORICAL PERSPECTIVE

Over the past several decades psychiatry has evolved from a primarily psychological discipline to one that is biopsychological. Inevitably the transformation has been somewhat wrenching, and what is often described as eclectic psychiatry is often a not very well-integrated amalgam of psychodynamics, psychopharmacology, and behavioral and clinical pragmatism. The transformation of anthropology during the same period has been parallel in important ways. As two eminent pioneers in cultural anthropology, Alfred L. Kroeber and Margaret Mead, had recognized by the 1950s the increasing delineation of cross-cultural variety must carry with it the potential for describing the invariant features of human behavior and mental life. That

proved to be a prescient observation as the description of universals of language, culture, facial expressions, parent-offspring interactions, and many other aspects of human life would soon become possible. Those universals constitute a part of what is meant by human nature, a term that must be considered again, after decades of being in disfavor, as having scientific legitimacy.

In the 19th century it was not unusual for treatises on aspects of human psychology to refer to ethnographic data. Darwin's 1872 book on facial expression cited the occurrence of certain expressions in primitive societies as evidence for their biological basis, and attempted to relate them to facial expressions in animals in an evolutionary sequence. Edward Westermarck, whose theory of incest aversion is still read and tested, appealed to ethnographic evidence to illuminate a deeper psychodynamic process he considered to be as universal as certain facial expressions. In the late 19th century it was common for prominent anthropologists to attempt to array nonindustrial societies in an evolutionary sequence of social complexity, religion, or language. And in the early years of the 20th century ethnological expeditions tested members of primitive societies for the presence of proposed perceptual universals.

Those trends, which might be seen as early efforts to characterize human nature and its origins, were greatly affected by the development of modern social and cultural anthropology and by the parallel emergence of psychoanalysis. Anthropologists on both sides of the Atlantic, despite many differences of opinion, came to share a contempt for the evolutionary sequencing of cultures, replacing it with accurate if not exhaustive descriptive characterizations of cultures as independent units. Proposed universals of human behavior or mental function were met with equal skepticism, and anthropologists still like to say, "Not among my people, they don't," a kind of statement that has been called the anthropological veto.

PSYCHOANALYTIC THEORY Early generalizations by Jean Piaget and others were tested cross-culturally, but none elicited the enthusiasm for such testing that psychoanalysis did. The British social anthropologist Bronislaw Malinowski attempted to demolish the universality of the Oedipus complex by describing a separation of male authority (vested in the mother's brother) from the object of male jealousy (the biological father) in his society in the Trobriand Islands (an argument still actively debated). With the skeptical encouragement of Franz Boas, the dean of American cultural anthropology, such disciples as Margaret Mead tried to undermine certain psychoanalytic convictions by using cross-cultural comparisons but at the same time attempted to use psychoanalytic and other psychodynamic theory to explain culture.

The fundamental theorem of that school was that cultures are distinctive because of distinctive patterns of child rearing, and that a unified approach combining psychoanalysis and cultural anthropology could explain culture and elucidate laws of psy-

chological development simultaneously. During World War II the approach reached its florescence with speculations about the national character of Russians, Japanese, Germans, and Americans, relating those speculations to unscientific observations of infant and child care. Sigmund Freud's method, difficult enough when applied to a single patient studied in a concentrated way for hundreds of hours over a period of years, was thus adopted for a completely distinct task for which it was inappropriate.

By the 1950s the approach had generated some research that to some extent delegitimized it through refinement and measurement. Both the assessment of adult psychological disposition and the objective description of child training were made quantitative, the first through projective testing and the second through direct behavior observation, with interviewing supporting both approaches. Cora Dubois and Anthony F. C. Wallace demonstrated through projective testing and interviewing that even small-scale societies with relatively homogeneous cultures do not have what might be called a basic personality (an entity corresponding to national character in large-scale societies). Individual variation in personality and character is great in every known culture, however primitive. At best there is perhaps a modal personality (from the statistical concept of mode) shared by a substantial minority of a culture's members—as shown by Wallace for two distinct Native American groups. In any case a culture must derive its distinctiveness from the particular mutual articulation of its various personality types and the opportunities it provides for their expression, rather than from fundamental tendencies shared by a majority—a sort of symphony orchestra model of culture and personality, but with the proviso that the symphony may frequently and even intrinsically be more cacophonous than harmonious.

Research on the genetics of personality has become far more rigorous in the past decade owing to large systematic national samples in Scandinavia and Finland, multiple replications of findings on American samples, increasingly developmental emphasis, subtle consideration of environmental contributions to variance, and cross-national replications using similar instruments and comparable samples. The studies have converged on a five-factor model of personality that has proved quite robust: (1) extraversion or positive emotionality, (2) compliance or agreeableness, (3) conscientiousness or will to achieve, (4) neuroticism or negative emotionality, and (5) intellect or intelligence. The last factor may be considered as separate from personality but it is clearly an important human trait that influences psychological adaptation and psychiatric health.

The factors are derived empirically through factor analysis, not generated intuitively or theoretically. Their consistency thus is remarkable. On the basis of many new and rigorous studies (rather than dubious old ones) personality overall is seen to have a heritability of approximately 50 percent. A reasonable hypothesis, according to studies to date, would be that the five factors will prove to be present in all cultures, thus underscoring the need for the symphony-orchestra model of culture and personality. Also, different cultures can be expected to favor different loadings on the five factors and to try to shape children in a particular direction. However, it is clear that every culture must come to terms with the variety of human personalities and perhaps specifically with the five factors described. Perhaps culture is like the conductor of the orchestra, balancing and shaping the musicians' expressions of what they themselves can do.

CHILD TRAINING At the same time John Whiting and Beatrice Whiting were trying to place the cross-cultural study of child training on a scientific foundation. A 1953 study by John Whiting and Irvin Child using a large cross-cultural sample

demonstrated that themes in childhood experience of interest to psychoanalysts are correlated with similar themes in religion, folklore, and other cultural expressions (which they called projective systems). They focused on a culture's traditional explanations of illness and its treatment, reasoning that those beliefs might reflect chronic, shared anxieties. Cultures rated as causing infants and children high levels of anxiety in relation to their oral needs (as through early weaning or the withholding of food as a form of punishment), for example, tended to be the same cultures that used oral themes to explain illness (as in deeming it a result of the ingestion of prohibited foods). Cultures in which child-training anxieties were high in the area of aggressive behavior tended to be those in which adults explained illness as an attack by a human sorcerer or an evil spirit.

The researchers recognized, however, that such correlations might arise from causes other than those most friendly to psychoanalysis and that childhood experience needed to be measured more rigorously. The Whitings devoted the next three decades to such measurement in a number of societies around the world and developed a model of the influence of fundamental features of society—such as ecology, economy, and vulnerability to external attack—on child-training practices, which in turn might give rise to certain consistent adult predispositions. But it was rarely possible to establish such relations beyond the level of correlations, and many cultural anthropologists became disillusioned with such theories.

CROSS-CULTURAL DIAGNOSIS A parallel development relevant to cultural psychiatry was the attempt to study systematically the incidence of psychiatric disorders cross-culturally, an approach associated with the reputation of Alexander Leighton and Jane Murphy among others. That attempt continues to be fruitful, but is beset by doubts about the cross-cultural validity of diagnostic categories. Recent attempts to rationalize nosology at the national and international levels reveal similar obstacles to cross-cultural diagnosis. Nevertheless, certain still valid conclusions emerged from such work: first, both the general category of psychological deviance and at least several distinct syndromes appear to be characteristic of all cultures for which information is available; second, some psychiatric disorders appear to be relatively or largely culture-specific; third, it is extremely difficult, if not impossible, usefully to compare the incidence or prevalence of most disorders cross-culturally, much less to draw conclusions about the etiology of alleged cross-cultural differences in prevalence.

MEDICAL ANTHROPOLOGY By the late 1950s the subdiscipline of medical anthropology had emerged and had established certain firm generalizations. The sick role, whether in relation to psychological illness or to physical illness, is seen in all cultures but carries many different meanings and expectations. The same ailment, even what is apparently the same degree of physical pain, varies greatly in designation and interpretation, to the extent that some cultures recognize diseases unrecognized as abnormalities in others and some encourage the expression of pain whereas others discourage it.

In early Christianity, which was a healing religion, suffering through illness was often simply to be borne and could bring about a state of grace. Among the !Kung San, hunter-gatherers of the Kalahari, the sick person was under attack from the spirit world and an aggressive stance against the spirits might be appropriate. A classic study of subcultural or ethnic group differences in American cities revealed that both Jewish patients and those of Italian ancestry feel free to express their pain, whereas Old Americans (white Anglo-Saxon Protestants) do

not. Italians are oriented to the pain itself and express confident gratitude to the doctor when pain remits. Both Old Americans and Jews are more oriented to the prognosis, but the former are optimistic about it whereas the latter remain skeptical of the doctor.

Finally, the role and responsibility of the healer show a comparable degree of variation. The Christian physician—even the modern fundamentalist trained by Oral Roberts—joins healing to salvation. The !Kung healer enters deep trance, risking his life as his soul leaves his body (and he runs off into the bush or dives into the fire) so that he can berate the spirits on behalf of the sick person. And most physicians recognize that the more traditional members of American ethnic groups may require different bedside manners than do other patients. Such findings have usually been presumed to have even stronger implications in the realm of psychiatric illness and treatment than in other branches of medicine.

CURRENT APPROACHES The stage was now set for the transformation of anthropology that began in the 1960s. Although some cultural anthropologists drifted out of science altogether, finding their affinities with literary criticism and nonanalytic philosophy, others, along with most archeologists and many linguists, became increasingly quantitative, scientific, and biological in orientation. The four subfields of traditional American anthropology—cultural anthropology, archeology, linguistics, and biological anthropology—became reunified in an enterprise that had been moribund since the late 19th century: the characterization of human nature and its evolutionary origins. Although not every anthropologist subscribed to that purpose, it became once again a highly legitimate one, and the only one with the potential for unifying and invigorating anthropology as a whole.

The unification is advancing on seven fronts simultaneously: (1) the adoption, extension, and testing of evolutionary theory, particularly as it applies to behavior; (2) the characterization of human origins as revealed in an ever-improving fossil record; (3) the systematic description and analysis of the behavior of nonhuman primates, both to test evolutionary theory and to make inferences about the behavior of the human race's protohuman ancestors; (4) the study of contemporary and recent hunting-gathering societies with a view toward making inferences about behavior and social organization in the environment of human evolutionary adaptedness; (5) the rise of scientific archeology with its attempt to reconstruct the social worlds of past societies and relate them to the recent ones studied by cultural anthropologists; (6) the corresponding attempt by cultural anthropologists to understand ecological influences on stability and change in contemporary nonindustrial societies (for example, hunter-gatherer societies that become settled and gain access to cow's milk shorten their birth spacing, with many consequences for social structure and psychological development); and (7) the characterization of cross-cultural universals of language, nonverbal behavior, and culture, including universals of abnormal behavior and its classification and of attempts at healing.

Those approaches proceeded in parallel with the continued effort to document the extant, and steadily disappearing, variety of human cultures. Some cultural anthropologists remain aloof from that unified enterprise, but they admit to being aloof from science as a whole.

INTERPRETIVE ANTHROPOLOGY OF THE EMOTIONS

The 1980s saw a marked resurgence of interest in the cross-cultural study of the emotions. However, far from being moti-

vated by psychoanalytic or any other Western psychological theory, the new work abandoned all such theoretical bases. Its central tenet was that the ethnologist of emotions must read or experience the emotional expressions of the members of another culture without any theoretical biases or filters. By analogy with the reading of literary texts, practitioners of interpretive anthropology see their method as more respectful of their subject of study than a more conventional theory-based approach. Many literary scholars, for example, would find a psychoanalytic approach to Shakespeare irrelevant, or even destructive, to the reader's understanding of the text. Similarly, interpretive ethnographers want to engage the culture under study on its own terms and to experience it on a human level that they deem incompatible with an elaborate theoretical apparatus. To deepen the analogy, however, one must recognize that a naive approach may not be sufficient. For example, Lear's rage may seem universal in some respects but a knowledge of the culture of royalty in Shakespeare's England is surely relevant to an understanding of Lear's feelings and of the way they are expressed.

In one of the new ethnographies of the emotions, Unni Wikan's *Managing Turbulent Hearts: A Balinese Formula for Living*, the author uses the ethnographic method of thick description to set out many instances in life in Bali in which the expression of the emotions seems far different from such expression in Western culture. In particular, she delves deeply into the Balinese desire to suppress sadness and anger, showing how the culture encourages suppression and masking, not only by insisting that it is better for the suffering person, but through the more intimidating shaming tactic of citing the effect on the mental health of family, friends, and neighbors. The sufferer is repeatedly reminded that expressing sadness stirs up sadness in others and that the ultimate result is damage to the mental health of the community as a whole. Wikan also describes how the Balinese insist that the conventional Western distinction between thought and feeling can be misleading. "Stop thinking," she repeats they would say to her when they saw she was being misled in that way. "'You'll never understand what we mean if you only use your thinking!'" Just as young psychotherapists are often urged by their preceptors to use their feelings toward the patient as part of their assessment, the ethnographer was being reminded by her own study subjects to stop trying to gain an understanding of their feelings through rational thought alone. Showing the influence of her Balinese friends, Wikan makes a plea for resonance, her translation of the Balinese phrase *ngelah keneh*. It is a deep understanding between one person and another, based on what she calls "feeling-thought." It can only be achieved by not making false distinctions between thought and feeling.

Such ethnographies have been used, however, to discredit earlier, perhaps less sensitive but still valuable, ethnographic work. More relevant for psychiatry, they have been used to attack the notion that there are universal emotions. One anthropologist cited Wikan's work as disproving the hypothesis that grief is universal. Study of the work itself reveals how misleading that inference is. Wikan tells the story of a young woman who received a telegram announcing the death of her fiancé. She first interpreted it as a joke but on having the news confirmed began to weep. Those who saw her responded with laughter, saying: "What's the matter with you, are you crazy [gila]?" The woman composed herself, assumed a happy expression, and smiled to passersby as she walked home.

She did take the extraordinary step of borrowing money to travel to her fiancé's memorial and had herself photographed prostrate on his grave. Three months later she cried openly, once.

Still, she was widely admired in her community (a testimony to the difficulty of what she did). Her remarkable composure, exceptional even in Bali, appeared to confirm the reputation Bali has among anthropologists of being the only culture in which death does not call forth tears. As the woman explained, "I am afraid to think of it, that I might go mad, so I try to be cheerful always that I may forget my sadness."

But it is absurd to claim, as some anthropologists have done, that the Balinese anecdote disproves the universality of grief. There was much evidence of the young woman's grief, including at least two episodes of crying. What the Balinese case, and others like it, does show is that culture strongly shapes the expression of the emotions—which is not news to anthropology or psychiatry. As the stiff-upper-lip British superimpose calm and fortitude on grief the Balinese superimpose cheerfulness. As a clown Pagliacci must go before the audience and laugh although he is grieving. The show must go on. Those culturally mandated performances must have some influence on underlying emotions, but the claim that they disprove the universality of emotions is groundless. The distinction is vital because psychiatrists have often been misled by anthropologists' claims. Ethnography can still serve to break down ethnocentric prejudices about human mind and behavior but exaggerations of cross-cultural variation are misleading. Catherine Lutz titled her book about Ifaluk, a Polynesian island, *Unnatural Emotions*, but there are no unnatural emotions to be found in it, merely culturally guided expression of the emotions that all human beings share.

Another problem is the confusion of emotion words with the emotions themselves. Different languages label emotions in different ways. English distinguishes between liking and loving but the French say only *aimer*. That certainly does not mean that the French do not know or feel the difference. The joy felt at the suffering of a rival or an enemy is expressed in the German word *Schadenfreude*, but its mere presence in the German language does not reflect a different fundamental emotional makeup among Germans. Lutz finds it difficult to translate the Ifaluk word *fago*, which contains elements of compassion, love, sympathy, and perhaps even what Wikan would call resonance. But to conclude, as Lutz and others do, that the word means that Ifaluk feelings are fundamentally different from those of other persons is to mistake the word for the thing.

An important attempt to solve the problem is found in Karl Heider's *Landscapes of Emotion: Mapping Three Cultures of Emotion in Indonesia*. His study uses the statistical technique of multidimensional scaling to generate maps of emotion words in three different Indonesian cultures and languages: the Minangkabau language of West Sumatra, the Indonesian language spoken in the same region, and the Indonesian of Central Java. Based on similar analyses done on European cultures, Heider posits eight proposed basic pancultural emotions: sadness, anger, happiness, surprise, love, fear, disgust, contempt. Those are tested against the clusters emerging from the multidimensional scaling of Minangkabau and Indonesian emotion words. The result is a strong confirmation of the universality of sadness, anger, happiness, and surprise, and confirmation of the other four in the list with decreasing strength in the order given. Words in the Indonesian languages clearly cluster in confirmation of the first four, but for the second four, boundaries between emotions that Westerners would draw with the words love, fear, disgust, and contempt are drawn in different ways. Love loads with components of happiness in Western usage whereas in Indonesia it loads more with components of sadness. That strongly confirms the universality of certain emotions and also points to the different ways in which different cultures use

emotion words. It does not prove, however, that Indonesians experience love, fear, disgust, and contempt in different ways, but only that they use different words to describe those feelings.

Most recent work on the ethnology of the emotions is less scientific than Heider's. Usually, the writings in the field make passing reference to the biological underpinnings of human mental life. For example, Lutz writes, "While the physiological aspects of emotional experience have not been considered in this work, it is important to stress again in conclusion that the biological basis of human experience, including that termed emotional, is not denied here." Similarly, Claudia Strauss, in the introduction to *Human Motives and Cultural Models*, states: "All humans have a built-in receptiveness to the form human cultures take, and all human cultures probably share some bed-rock commonalities because of these coevolved features of human neurophysiology and morphology." But those, and similar works, then go on to conduct their analyses of emotions and motives as if biology were irrelevant. What if a biomedical scientist were to agree that chemistry is undeniable and then proceed to ignore it in all analyses? For some purposes—say, the Starling curve of heart function or the calculation of load on hip bones—chemistry can be temporarily ignored in favor of physics. But it is the mark of maturity of biomedical science that it now rests firmly on a foundation of chemistry and physics. The anthropology of the emotions will be similarly mature when it rests on, and fully uses, a foundation in biology and psychology.

BIOLOGICAL AND BEHAVIORAL EVOLUTION

The fossil evidence for human and protohuman evolution has accumulated steadily for more than 100 years. However, new discoveries are made each year that change the details of the picture, and during the past two decades biochemical taxonomy has further altered understanding. Many controversies remain. Thus it is clear that the chimpanzee (although perhaps the pygmy chimpanzee *Pan paniscus* rather than the common chimpanzee *Pan troglodytes*) is the human being's closest relative, but estimates of the time that the human diverged from the ape line range from 5 to 13 million years ago. It is clear that there were more than one species of hominids (protohuman forms) around two million years ago, but there may have been as few as two or as many as four. Upright posture was established before most of the evolution of the human brain took place, but the lag between the two and the role of tool using or tool making in brain evolution remains controversial.

Psychiatry probably has little to gain by closely following each argument in human paleontology. But there is much to be gained from understanding (1) the general higher primate background of human evolution; (2) the environment of human evolutionary adaptedness, that of hunting and gathering; and (3) the principles of evolutionary adaptation as applied to behavior and reproduction. Those three categories of knowledge can be described in such a way as to be relatively insensitive to future disruption by discoveries regarding the details of paleontology and evolutionary lineages.

HIGHER PRIMATE BACKGROUND All higher primates (monkeys, apes, and humans) are social animals with great learning capacity and with the mother-offspring bond at the center of social life. That bond is always prolonged, as is the anatomical and behavioral course of individual development, including each phase of the life cycle and the life span as a whole. Laboratory and field studies demonstrate the capacity

for complex social cognition and social learning, up to and including the cultural transmission of social rank, tool-using techniques, and knowledge of food sources. Play, especially social play, is characteristic of all primate species, particularly during development, and is believed to provide an important opportunity for learning. As shown by Paul MacLean the higher primate emphasis on both the mother-infant bond and juvenile play represents an intensification of the pattern established by the early mammals and is essential to the understanding of the phylogeny of the limbic system and the emotions.

Primate groups generally include a core of genetically related individuals with associated nonrelatives. In most instances the core is a matrilineage, stable over the life course of individual members, but in a few species, including the common chimpanzee, the core is a patrilineage and female members are the unrelated migrants. The distribution of acts of social support and generosity is preferentially toward genetic relatives, but not exclusively so. Monkeys and apes aid nonrelatives and can usually expect reciprocal aid. Cooperation is ubiquitous, but so is competition, and one of the major purposes of cooperation is mutual defense against conspecifics. Dominance hierarchies may reduce conflict, but conflict is still frequent. Both sexes participate, but male primates generally exhibit more aggression than do female primates.

Beyond those broad generalizations great variation exists in social organization both between and within species. Gibbons and some South American monkeys are monogamous, but in most species larger group associations subsuming more temporary (although sometimes more than transient—see Case P1) associations between individual male members and individual female members of the group are the rule. Among orangutans (*Pongo pygmaeus*), despite their phylogenetic proximity to humans, the usual social groupings are a female orangutan with her offspring and (separate from those units) solitary male orangutans. The causes of that variation in higher primate social organization remain obscure, although some relevant evolutionary principles will be considered here.

Some generalizations may also be made about the nature and social context of individual development among monkeys and apes. Because the New World monkeys separated from the Old World monkeys and the apes approximately 40 million years ago, some of those generalizations do not apply to all New World monkeys. However, they do apply to all the catarrhines, a category that subsumes all Old World higher primates, including monkeys, apes, and humans. The catarrhine mother-infant complex is characterized by (1) a hemochorial placenta, with exceptionally intimate maternal and fetal circulations; (2) single birth; (3) frequent nursing, at least four times an hour; (4) late weaning, at around 25 to 30 percent of the age at first estrus or menses; (5) direct mother-infant physical contact more than 90 percent of the time in the immediate postnatal months; (6) close, frequent mother-infant proximity at least until weaning; (7) gradual transition to a multiaged play group; and (8) variable but low involvement of male adults in most species.

Interpretation of primate field studies in relation to human behavior is aided by an increasing body of laboratory data on the consequences of manipulation of early rearing conditions. Those experiments provide an epistemological link between anthropological primatology and psychiatry. Although there are important species variations it may be generally said that higher primates are sensitive to significant perturbations of the early social environment, such as isolation rearing or repeated involuntary mother-infant separation, and that those perturbations give rise to abnormalities of sexual, maternal, and aggressive behavior that in humans would be viewed as psychopathology.

In a number of species isolation rearing gives rise to stereotypical behavior, such as rocking and self-directed aggression, and mother-infant separation gives rise to symptoms usually described as protest followed by depression. Even deprivation of contact with peers during development has produced abnormal behavior in many experiments. Apparent human analogs of those causal relationships, although difficult to interpret, have encouraged the use of primate models and enhanced the interpretive value of field studies. They emphasize the extent to which the normal development of behavior in such animals has come to depend on a social matrix.

Natural variation in stable individual behavior patterns (personality) occurs in free-ranging monkey and ape groups and extends to variants that would be considered pathological in humans, such as hyperaggressive, isolative, phobic, or depressed behavior. It is rarely possible to explore the etiology of such variants. However, most cannot result from specific abnormalities of social rearing, such as are deliberately instituted in typical laboratory experiments, but are probably both genetic and environmental in etiology. Some abnormalities, such as severe depression (as in Case P2, an 8-year-old wild chimpanzee after the death of its mother) may be incompatible with survival. Others, however, such as hyperaggressiveness (as in Case P3, a female chimpanzee that, together with her daughter, systematically and repeatedly killed the infants of other female chimpanzees) may actually enhance reproductive adaptation for the abnormal individual.

HUNTING-AND-GATHERING ENVIRONMENT The foregoing generalizations probably apply to the social and psychological world of protohuman higher primate species for a period of approximately 40 million years. Against this background hominids evolved during the past few million years, culminating in the emergence of the species within the past few hundred thousand years, and finally in the appearance of modern *Homo sapiens* about 30,000 to 40,000 years ago. Although still controversial, the hypothesis arises from comparative studies of mitochondrial deoxyribonucleic acid (DNA) that everyone living today originated from a small group of persons who lived no more than 200,000 years ago—strongly arguing for the biological unity of humankind. But that would have been preceded by the completion of the evolutionary transition from apes to humans. Aside from the increase in intelligence, as indicated by increasing relative and absolute brain size as well as by the increasing complexity of stone tools, one hallmark of the transition to hominids was a greater reliance on scavenging and hunting. Monkeys and apes are largely vegetarian and the instances of meat eating are relatively infrequent.

Among the most technologically primitive humans, however, meat eating is of major importance. Most of the stone tools that have survived archeologically were used in hunting or butchering, and the demands caused by those activities have long been thought central to the emergence of human intelligence and social organization. It has been shown that the stone used sometimes had to be traded over long distances, implying unexpectedly complex social networks among human ancestors at least two million years ago. Furthermore, even chimpanzees share meat after a kill (but not plant foods) and among human hunter-gatherers the following of elaborate regulations for such sharing may be a life-and-death matter. Finally, with one noteworthy exception (the Agta of the Philippines, where women routinely hunt) all hunting-and-gathering societies in the ethnographical record have a division of labor by sex—men do almost all of the hunting and women supply most of the plant foods. Thus some peculiarly human aspects of social life are

probably attributable to the advent of hunting, but those features had to have been grafted onto an already complex social life characteristic of nonhuman higher primates.

In many hunting-and-gathering societies, plant foods gathered by women constitute most of the diet and are shared with others (although not beyond the immediate family), as they are not among nonhuman primates. Postweaning mortality is much higher in juvenile nonhuman primates than in human children, and it has been speculated that the provision of plant foods to their children by human mothers accounts for the difference. Also, the early advent of upright posture may have had more to do with the need to carry plant foods as well as infants to a base camp than with any advantage it conferred in hunting. It may be that digging sticks and carrying devices for plants or infants were the first tools invented, probably by women. Those tools, however crucial to daily life, would not have been preserved archeologically.

The psychodynamic theorist John Bowlby used the phrase "environment of evolutionary adaptedness" (EEA) to describe the hunting-and-gathering way of life. The phrase correctly implies that it was the context for which natural selection prepared human beings, and from which they departed only during the past 10,000 years, a short time in evolutionary terms. From many studies of recent and current hunting-and-gathering peoples, combined with archeological evidence of those of the distant past, it is possible to make the following generalizations about that context. (1) Social groups are usually small, ranging in size from 15 to 40 persons related through blood or marriage. (2) Groups are nomadic, moving frequently to take advantage of changing subsistence opportunities, and are flexible in composition, size, and adaptive strategies. (3) Daily life involves physical challenge, vigorous exercise, and occasional hunger, but with a usually dependable food base from a moderate work effort and with a marked division of labor by gender. (4) Diseases, mainly infectious, produce high rates of mortality, especially in infancy and early childhood, with consequent frequent experiences of loss. (5) Virtually all of life's activities are carried out in a highly social context with persons one knows well—often the same persons for different activities. (6) Privacy is limited but creative expression in the arts is frequently possible and conflicts and problems are dealt with through extensive group discussions that often include highly personal revelations. (Case H1, a woman among the !Kung San of Botswana, illustrates some of those points.)

The generalizations outlined describe the contexts in which almost all of human evolution and history have occurred, so it is often said that modern human beings are, in effect, hunter-gatherers in offices and factories. Simplistic observations about the consequences of the change are of little value. Life in such societies is not simply more or less stressful; the stresses are quite different. Social density crudely measured is neither demonstrably higher or lower, but strangers are rarely encountered and both privacy and loneliness are unusual. Bosses and teachers make no demands, but environmental exigencies make many. A thoughtful set of analyses of the differences between psychological conditions in modern society and in the kind of society in which humans spent most of their history has not yet been carried out.

Childhood experience Child care is distinctive in such societies. It includes (1) frequent breast-feeding (up to four times an hour) and late weaning (at 2 to 4 years of age); (2) close, essentially constant mother-infant contact, including extensive skin-to-skin carrying and adjacent sleeping until weaning (Figure 4.1-1); (3) prompt response to infant crying and indulgent

response to other infant and child demands; (4) a gradual transition from an intense mother-infant bond to a multiaged child play group of mixed gender; (5) relatively little responsibility in the sense of chores or schooling in middle childhood, with most learning taking place through observation and play; and (6) liberal premarital sexual mores, with sex play throughout middle childhood gradually giving rise to adolescent sexuality, but with late menarche limiting the opportunities for childbearing until the late teens.

Those characteristics of the hunter-gatherer childhood extend the patterns found among nonhuman higher primates. Some of the features, such as breast-feeding and sleeping in the same room with the infant, usually in the same bed, can be generalized to all nonindustrial societies. Other characteristics, such as a high degree of premarital sexual freedom, are significantly more applicable to hunting-and-gathering societies than to agricultural or herding societies. Either way, they are characteristics of the environment of human evolutionary adaptedness, and they suggest many hypotheses (still largely untested) about the possible consequences of the departure by modern industrial societies from those patterns.

Largely because of morbidity and mortality the hunter-gatherer pattern of childhood experience is not idyllic. Frustration and loss come mainly from inadvertent features of the environment rather than from parental attitudes, but the outcome of the child-care practices in such societies is the development of mental illnesses, both major and minor. All of the societies experience some violent conflict, up to and including homicide, which in the !Kung San (Bushmen) of Botswana has been shown to exceed that in American cities, belying the common description of the group as "the harmless people." Human behaviors often considered undesirable, such as selfishness, deceit, adolescent rebellion, adultery, desertion, and child abuse, are seen in such societies (Case H1), although it is impossible to compare the rates of such behaviors with those in the West.

NEO-DARWINIAN THEORY OF BEHAVIOR Since the late 1960s a field of evolutionary study known as neo-Darwinian theory or, more commonly, sociobiology, has emerged. It has been quickly adopted by most investigators who study animal behavior under natural conditions, including ethologists and behavioral ecologists, and has also influenced many anthropologists and psychologists. Briefly summarized, the principles are as follows:

1. An organism is in essence a gene's way of making another gene. More strictly, it is a way found by thousands of genes, through short- or long-term cooperation, to make copies of themselves. As long as it is admitted that no forces other than physicochemical ones can operate in nature, continued membership in an ongoing germ plasm can be the only goal served by any given gene. To the extent that a gene influences behavior, it can only continue in the germ plasm if it maintains or enhances, through the behavior, the number of copies of itself in the gene pool of the next generation. Contrary to a frequently repeated confusion, the cohesiveness of the genome through pleiotropy and epistatic and regulatory effects has only quantitative bearing on the validity of the principle. Recent theoretical and experimental work on intragenomic conflict strongly suggests that the cohesiveness of the genome in some respects has often been exaggerated.

2. Genes increase their number by enhancing reproductive success. Enhancing survival is only one way of doing this. Where the two goals are in conflict, genes that enhance reproductive success will replace genes that enhance survival. The concept of fitness in evolutionary theory has no meaning except the relative frequency of characteristics and of the genes that influence them. It is a tautological dimension of reproductive success and has nothing necessarily in common with medical, social, athletic, or ethical definitions of fitness, all of which can be achieved without an increase, or even with a decrease, in technically defined reproductive fitness. That principle has profound implications for medicine, and for psychiatry especially. Psychiatrists attempt to

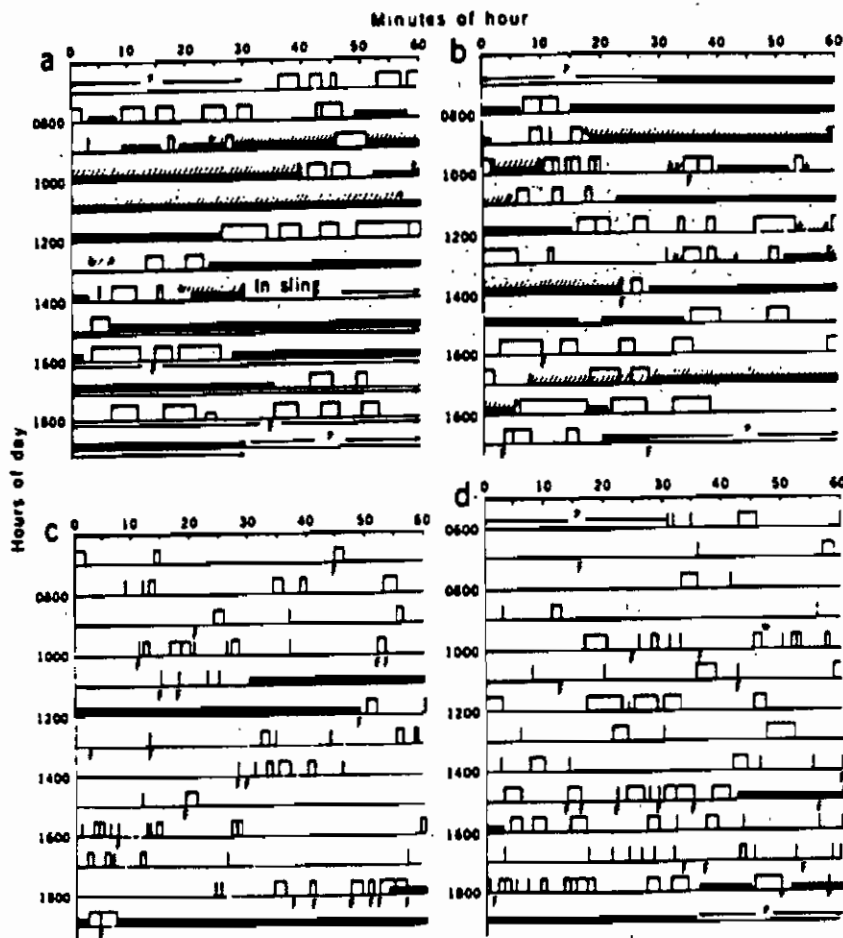


FIGURE 4.1-1 *Breast-feeding in hunter-gatherers. A day in life of each of four infants among !Kung San hunter-gatherers of northwestern Botswana in 1975: (A) a 4-day-old boy; (B) the same boy at 15 days; (C) a 12-month-old girl; (D) a 17-month-old boy. The long dark bars are sleep. The higher open bars and vertical lines are nursing bouts. (Figure from M Konner, C Worthman: Nursing frequency, gonadal function and birth spacing among !Kung hunter-gatherers. Science 207: 788, 1980. Used with permission.)*

adjust patients to a commonly understood professional standard of medical and psychological equilibrium, usually subscribed to by the patients, their families, or both. In many particulars that goal must be unrelated to the goal of enhancing reproductive fitness, for which the human organism, like all organisms, was primarily designed.

3. Fitness is properly defined as *inclusive fitness*, by which evolutionary theorists mean the tendency of genes to influence their frequency, not only through the survival and reproduction of the individual carrying them, but also through the survival and reproduction of closely related others who may be carrying the same gene through common descent. The concept was introduced by W. D. Hamilton to account, using the mathematics of evolutionary genetics, for the existence of altruism in animals, which previously seemed to be something that should be culled by the process of natural selection. Thus a newly defined subprocess of natural selection, called *kin selection*, was needed. If one twin dies to save an identical twin, then the frequency of any gene that helped predispose to that action will (all else being equal) be unaffected by the death. In general terms such genes, or any genes predisposing an individual to self-sacrifice for a relative, should be favored under conditions where $b/c > 1/r$, where b is the benefit to the recipient, c is the cost to the altruist, and r is the degree of genetic relatedness or the likelihood that any gene found in one individual is identical to the same gene found in another by common descent. That concept has been invoked to explain self-sacrifice of soldier ants for the colony, alarm calls of birds and ground squirrels, and nepotism in human beings, among many other phenomena. Other theories that have been brought to bear on the problem of altruism are reciprocal altruism and the prisoner's dilemma model of cooperation, neither of which requires that the altruist and the recipient be related. Reciprocal altruism assumes that the organism has some memory capacity and lives long enough to repay an act of generosity with a reciprocal one—preferentially directed toward the original altruist. It is difficult to make such a system resistant to the evolution of cheating, but the prisoner's dilemma model accounts for that factor by making the reciprocity simultaneous—in effect, cooperation. The game consists of a situation in which two prisoners must either cooperate or not cooperate (defect). The reward is greatest if one prisoner defects while the other cooperates. However, if the game is repeated again and again, the other prisoner will not continue to cooperate. When both defect, which will hap-

pen repeatedly, both will gain much less than they would have if both had cooperated. It is not obvious what should be done, assuming that there will be many trials, but it has been shown empirically, through computer simulation, that one successful strategy is tit for tat—doing what the other prisoner did the last time—rather than consistent defection. Changing the rules or the context, however, can result in different long-term adaptations.

4. As argued by Robert Trivers from a suggestion of Darwin's, in species with two sexes in which there is a physiological or behavioral difference in the energy invested in individual offspring, the sex that invests more will become the scarce resource over which members of the other sex will compete. Among mammals and in most birds the female sex exhibits greater investment, but direct male parental investment may be very high in some species. Species in which male parental investment is high tend to be those in which pair formation of a breeding male member with a breeding female member is long-lasting; sexual dimorphism, both morphological and behavioral, is low; male-male competition for female mates is low; and variability among male members in reproductive success is low. Such pair-bonding species, a category including 8,000 species of birds but only a minority of mammal species, may be contrasted with lek or tournament species, so called because they sometimes have annual seasonal breeding tournaments in which male members of the species compete fiercely for female members. Those species often have high sexual dimorphism for display or fighting (for example, antlers or peacock feathers); a low tendency for pair formation; low direct male parental investment in offspring; and high variability in male reproductive success. In the elephant seal *Mirounga angustirostris*, 4 percent of the male seals account for 85 percent of the copulations during the breeding season, a skewing of reproductive success that can result in a very rapid rate of evolution and accounts for the extreme sexual dimorphism in that species. Human beings are considered to be near but not at the pair-bonding end of the continuum, as indicated by the amount of sexual dimorphism, degree of direct male involvement in the care of offspring in a wide range of cultures, and the known distribution of human marriage forms. (Polygyny, in which one man marries more than one woman, is allowed or encouraged in most cultures in the anthropological record: 708 of 849, or 83 percent. The converse arrangement, polyandry, is rare: four of 849. Furthermore, a double standard of sexual

restriction is extremely common; still, most human marriages are probably monogamous, at least in intent.)

5. The neo-Darwinian model of parent-offspring conflict advanced by Trivers has implications for the nature of the family that are as profound as those arising from the theory of differential parental investment. Weaning conflict is very common among mammals, and there are equivalent phenomena among birds, even including tantrum behavior on the part of the weanling. If the evolutionary purposes of mother and offspring were isomorphic, then they should agree (that is, should have been selected to act as if they agreed, implying no conscious intent) that a given level and duration of investment are necessary and sufficient, after which the mother should turn her attention to her next potential offspring. However, even if the current offspring and its unborn sibling have the same father, the offspring's reproductive success will be twice as great if it acts selfishly to maximize its own reproductive value, as compared with that of its sibling. Eventually, a point is reached at which the offspring's need for further maternal investment is outweighed by the inclusive fitness advantage gained through the birth of a subsequent sibling. That point, however, comes later for the offspring than for the mother, who is equally related to the weanling and the potential unborn sibling. Although a naive model of the nature of the family assumes that it functions as a harmonious unit under ideal conditions, it was not so designed. Like the breeding pair the family is an association among individuals with overlapping but distinct evolutionary purposes. Its members naturally pursue individual goals that are sometimes at odds with one another's ultimate (not merely temporary) purposes, and their relations are naturally conflictual rather than harmonious. The natural conflict is not the result of friction in what should or could be a smoothly functioning system, but is intrinsic.

6. Competition among unrelated individuals can be expected to be extreme at times. Virtually all animal species for which there is sufficient evidence have been seen to exhibit extremes of violent conflict, including homicide, in the wild. The belief that human beings are rare among animal species in that they kill their own kind is erroneous, and more evidence to the contrary accumulates every year. One particularly noteworthy phenomenon is competitive infanticide, of which the paradigmatic description is that of the Hanuman langur monkey of India, *Presbytis entellus*. Langur troops consist of a core of related female monkeys and their offspring, associated for periods of a few years or less with unrelated immigrant male monkeys. Occasionally, new males arrive and challenge the resident male monkeys. If the newcomers win and take over the troop, they drive their predecessors away and proceed to kill all resident infants under 6 months of age. The mothers of those infants then come into estrus again (much sooner than they would have if the infants had survived and continued to nurse) and are impregnated by the new male monkeys. Controversy has centered over whether that is normal behavior or a response to crowding or other social stress. Such controversy misses the point that the behavior enhances the reproductive success of the new male monkeys at the expense of the old ones, and can be expected to be favored by natural selection. Similar phenomena (for example, the killing of a number of infant chimpanzees by two unrelated female chimpanzees under natural conditions) have been observed in many species.

Evolutionary psychiatry In the late 1980s and early 1990s a new subfield of psychiatry began to take shape in response to neo-Darwinian theory. Known as evolutionary or Darwinian psychiatry, its concepts and assertions range from the useful to the outrageous. The notion that phobias are the result of what once were probably adaptive fears is not surprising, nor does it contribute in any evident way to patient care, except perhaps by offering the patient an explanatory model of the phobia—but one that clinicians did not need sociobiologists to suggest to them. Sociopathy may be the result of an evolutionary adaptation for increasing reproductive success, but that does not make it any more treatable or the sociopath's victims any less wronged; the theorist may find the model satisfying, but that does not necessarily help anyone else.

Some findings generated by neo-Darwinian theory, however, have been rather unexpected and may have practical value. Martin Daly and Margo Wilson, reasoning from inclusive fitness theory, predicted that rates of child abuse would differ between stepfathers and biological fathers. Data from Canada in the 1970s and 1980s showed that the risk of death by homicide to a child under 2 years of age was 70 times greater in a household with a stepparent (usually a stepfather) than in one with two natural parents. American and English samples pro-

duced similar findings. Although other explanations (such as poverty or social stress) are possible, it is not likely that any of them would have predicted such an enormous difference in risk, one that must have practical implications for clinicians dealing with young children who face possible abuse.

In a more abstract sense, but one that has practical clinical value, several theories have attempted to place psychodynamics and psychotherapy in an evolutionary framework. Jerome Barkow, Lida Cosmides, and John Tooby have contributed a systematic approach to understanding the mind that is based on neo-Darwinian principles and on models of mental functioning in an environment of evolutionary adaptedness. Randolph Nesse has reinterpreted Freud's theory of ego defense mechanisms (that they are self-protective tactics of self-deception), integrating it with evolutionary models of deception and self-deception. Kalman Glantz and John Pierce have set their methods of psychotherapy against an evolutionary background, emerging with a slightly unconventional concept of the normative. Malcolm Owen Slavin and Daniel Kriegman have set current relational psychodynamics—object relations, transference, empathy, and so on—in a theoretical context informed by Darwinian concepts. The practical clinical value of the results of such efforts is that the clinician starts with fundamentally realistic expectations about what is possible in psychodynamics, relationships, and therapy (for example, the concept of the good-enough relationship). Such a clinician does not have to have had years of clinical experience to form a mental model of the possible tacit or explicit models of optimal health and harmony. Without risking therapeutic nihilism the clinician can set reachable goals based on a realistic theory of where human beings have come from and what they are designed to do, feel, think, and be.

Value judgments Neo-Darwinian or sociobiological theory is sometimes presumed to include value judgments. That presumption merely repeats an ancient philosophic fallacy, according to which whatever is, is right. An extension of the fallacy would hold that sickle cell anemia or thalassemia must be accepted because natural selection has maintained it through balanced polymorphism, the heterozygotes being at an advantage in malaria resistance; or that myopia should not be corrected because natural selection in favor of sharp vision has relaxed in the human population since the end of the hunting-and-gathering era. Human judgments about what is desirable are separate from any observations or explanations of what exists in nature, although they may be enhanced by taking the facts of the natural world into account.

That caution applies equally to clinical and ethical judgments. Just as those two kinds of value judgments must be kept separate from each other, so each must be separated from Darwinian fitness, and one can imagine situations in which all three types of judgments would lead to different conclusions. There is something satisfying, however, about the fact that survival and reproduction—priorities reordered by the neo-Darwinians as reproduction and survival—show a symmetry with the goals of mental health as Freud defined them: *lieben und arbeiten*, or to love and to work.

CROSS-CULTURAL CONSISTENCY AND VARIATION IN HUMAN BEHAVIOR

MODEL OF CULTURE AND PERSONALITY Figure 4.1-2 shows how the elements of human social organization and culture may articulate with the universal characteristics of the

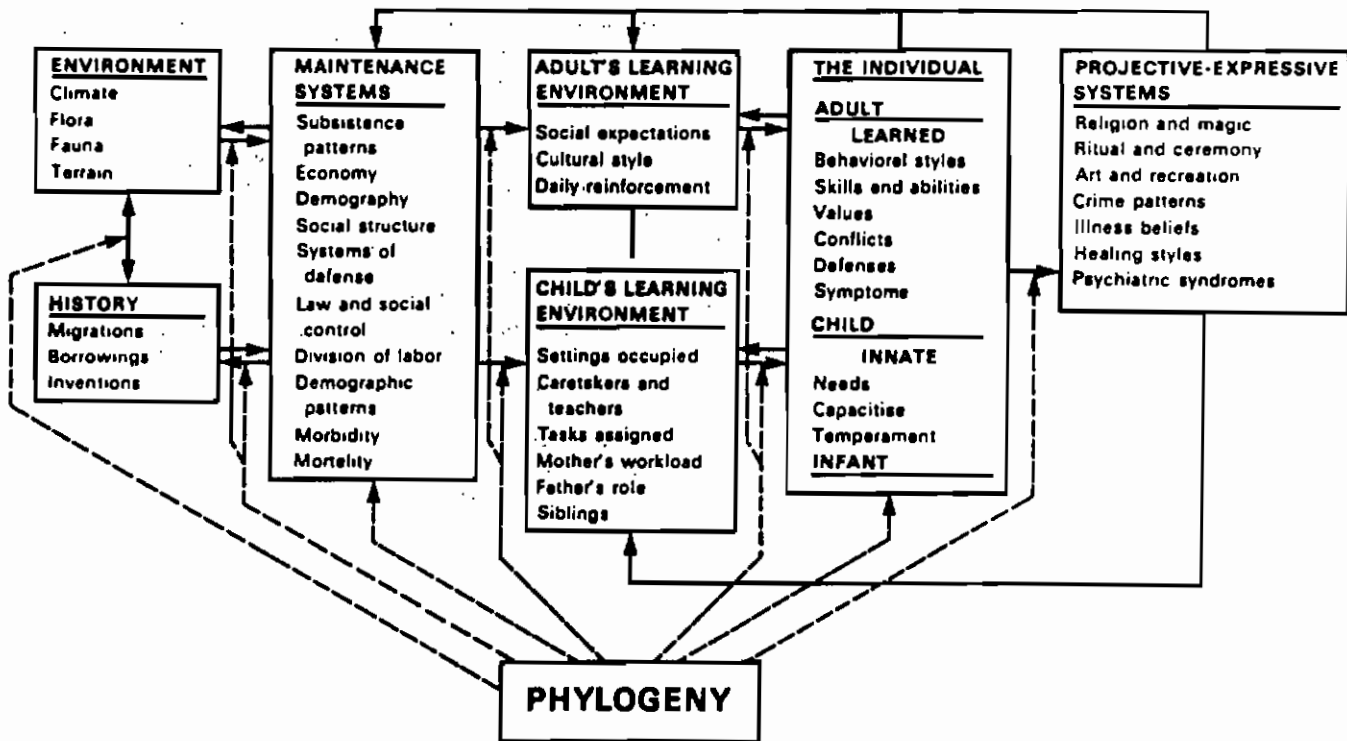


FIGURE 4.1-2 Model of the interrelationships of child training, adult personality, and various aspects of society and culture under the influence of phylogeny. Modified from a model of John and Beatrice Whiting. (Figure from M J Konner: *Evolution of human behavior development*. In *Handbook of Cross-Cultural Human Development*, R H Munroe, R L Munroe, B B Whiting, editors, p 3. Garland STPM Press, New York, 1981. Used with permission.)

human life cycle, especially the developmental phase, to produce the variation observed in the anthropological record. It is loosely based on a model developed by John and Beatrice Whiting to summarize their view of culture and personality after several decades of work in psychological anthropology.

The model carries on a tradition begun in the 1930s of assuming that (1) some aspects of society and culture are likely to determine the major features of childhood experience, (2) such childhood experience markedly influences the adult personality of the typical member of the society, and (3) some other aspects of society and culture are likely to be consequences of the typical adult personality and so of the childhood experiences. Phylogeny was not explicitly part of the Whiting model, but is added here as a result of the foregoing considerations, which will be extended and integrated with the rest of the model.

Even without the phylogenetic arrows the model is explicitly Darwinian in intent. The environment is considered primary and the society and culture as a response to the environment, much as in the longer course of evolution individual morphology and innate behavioral capacities of different species are responses to the environment. (The addition of history to the model was a relatively late development; defined as it is in terms of borrowings and inventions, it does not change the basic concept of society and culture as responses to the environment.) *Maintenance systems* are the aspects of social organization most heavily influenced by the demands of adaptation, especially subsistence ecology and defense. Those demands, according to the model, constrain the learning environment in childhood and adulthood, producing distinctive features of individual personality and behavior. Finally, *projective systems*, aspects of culture theoretically only indirectly dependent on the environment, are determined largely by the culture's particular collection of adult personalities.

Many studies in psychological anthropology have been inspired by such a model, which emerged initially from collaborations between anthropologists and psychoanalysts. Cross-cultural applications of psychoanalytic theory continue to be fruitful, as in the work of Robert LeVine (*Culture, Behavior, and Personality*) and Robert Paul (*The Tibetan Symbolic World*), both anthropologists who undertook psychoanalytic training, and in that of Robert Levy (*Tahitians*), who was a practicing psychiatrist before becoming an anthropologist. Melford Spiro's *Oedipus in the Trobriands* defends the concept of the putatively universal oedipal conflict against the old objection of Malinowski that it could not occur in a Western society in which the traditional father's role was split between the father and the mother's brother.

Most recent studies do not rely on psychoanalytic constructs, however, but on categories of behavior and child development that are easier to operationalize. Consider a cross-cultural study carried out by Whiting and Whiting in 1975 that exemplifies both the appeal and the limitations of the approach. The study used the Human Relations Area Files, one of the most important tools for quantitative research in anthropology. The files consist of nested samples of societies and cultures studied by anthropologists throughout the world, especially a core sample of 60 and a larger sample of nearly 200. Among criteria for inclusion are (1) quality of data, as indicated by training and language competence of the ethnographers, person-years of study at the field site, number of published pages, and other measures; (2) geographical and cultural representativeness of the entire known range of several thousand societies and cultures; and (3) mutual independence of influence, to maximize the likelihood that each society entered in the world sample will function as a statistically independent unit.

The Whittings analyzed a dimension they called "husband-

wife intimacy," which they measured by three intercorrelated, independently rated dimensions: whether the husband and wife eat together, whether they sleep together, and how much the father is involved in the direct care of the children. All three dimensions vary markedly in the world cultural sample, but the covariance is high; that is, they vary together. Furthermore, all three are related to a measure of how much the society is involved in war and preparations for war. At one extreme are the typical warlike cultures of the crowded highlands of New Guinea, with collective houses in which men eat and sleep separate from women and young children, and to which teenage boys are sent to begin their training for belligerency. At the other extreme are non-warlike societies—such as the small, protected, island cultures of the south Pacific—that have high husband-wife intimacy and greater involvement of men with infants and young children.

The model is used to interpret those correlations as follows: Some societies are thrust into warfare because of demographic and geographical conditions; others are protected from attack by natural conditions. Distinct maintenance systems arise in the two types of society with consequences for child care, such as bringing teenage boys into an all-male world that trains them for war and predisposes them to avoid contact with women and young children. In the realm of adult learning being exclusively around other men reinforces a man's identification with warlike purposes. Projective systems, such as distinctive male dress and hair style, religious beliefs, and beliefs about male superiority (not directly incorporated into the study), would be seen as epiphenomena of the basic or typical male personality.

The study is appealing because fitting it to the model involves primarily commonsense assumptions about the relations within and among the various systems. However, it remains an interpretation of correlations and not an actual causal demonstration. It might be argued that in warlike societies the first event was a historical accident—say, the advent of a very belligerent leader. That person may have invented men's houses and trained boys for war, which eventually led to a state of chronic belligerency toward neighboring societies. In that model, accepted by some historians and anthropologists, ideology and individual predisposition precede fundamental environmental adaptations. The model may seem plausible in the explanation of the structure and function of a given society at a given moment, but it is difficult to argue convincingly that regularities, such as those observed in broad cross-cultural statistical analyses involving scores or even hundreds of societies, could emerge from a collection of such ideological or historical accidents.

CHILDHOOD EXPERIENCE AND ADULT PREDISPOSITION

The model faced its most troubling difficulties not in the anthropological realm of the relation between maintenance systems and ideology, but in the psychological realm of the relation between childhood experience and adult predisposition. In the early 1970s the developmental psychologist Jerome Kagan became involved in research on cross-cultural psychological development. That research led him to initiate a major challenge to one of the most fundamental assumptions not only of behavioral and social science, but also of psychiatry and clinical psychology. The assumption was that childhood experiences, especially in early childhood, have different and more lasting effects on the formation of adult predispositions and abilities than do later experiences. Specifically, in studying cognition in infancy and childhood in a remote Guatemalan Indian village he and his colleagues found that lack of stimulation and substantial deficits in infancy did not entail deficits in later

childhood. In the United States he found that being in day care for eight hours a day throughout infancy did not affect available measures of cognition, attachment, or other dimensions of behavior. The research and judgment of many other experimental developmental psychologists seem to challenge that assumption, fundamental to psychological anthropology and psychodynamic psychiatry, and to support the counterclaim that little if anything that happens in early life is irreversible in effect.

Psychodynamic clinicians routinely accept retrospectively collected interview data as evidence for the relation between early environment and adult personality; rigorous experimentalists do not seriously entertain such data in relation to that particular question. Some investigators of child development do prospective studies using excellent measures that seem to show consequences of early experience for later development; skeptics argue that without random assignment of subjects those studies produce mere correlations that can be readily explained without a particular causal effect of early experience. Research on the lasting effects of early deprivations or interventions, as long as they are not extreme, has generally failed to support such effects. The research includes follow-up studies of low Apgar scores, lack of stimulation in infancy, breast-feeding as opposed to bottle feeding, day care in infancy, Head Start preschool interventions, and other variables. In general, the more rigorous the study and the longer the follow-up, the less was the detectable effect.

Counterarguments are also numerous. Specific measures used in childhood or adulthood may be inappropriate, behavior under stress rather than baseline behavior may be the right outcome measure, random assignment of subjects is unethical, and so on. The fact remains that developmental psychologists, psychiatrists, and educators have failed to show that decisive lasting effects of early experience exist. They also have failed to show how such effects might operate or what they might specifically be, despite the strong beliefs of many clinicians about those relationships.

Developmental behavioral genetics Significant new insights on both sides of this controversy have come from an unexpected but increasingly valuable direction: developmental behavioral genetics. The emphasis on developmental process among behavioral geneticists is new, and in the relatively near future it may provide solutions to many old problems in the development of personality, abilities, and psychopathology. Ironically, developmental behavioral genetics may be one of the few paradigms for generating believable results regarding environmental influences, because it is the only nonexperimental paradigm that controls for gene effects and genotype-environment correlation. Recent work by Robert Plomin, David Rowe, and others has established an extraordinary fact about family influence. In rigorous twin, adoption, and family studies variance in personality, as well as in mental ability, can be statistically partitioned among various sources. The results routinely accord a large proportion of the variance to environmental influence (roughly half in a number of studies), although it remains difficult to specify the time points after conception at which the environmental influence takes place or how it is distributed among various environmental independent variables (for example, trauma, infection, psychodynamic processes, school, and peer pressure).

The extraordinary finding is that family influence in numerous studies appears to be very small. That inference follows from the fact that the portion of the variance in outcome measures (such as behavior and questionnaire results) attributable

to environment is composed almost entirely of within-family variance, such as sibling differences. Identical twins reared together are routinely found to be no more similar in personality than identical twins reared in separate families, and sometimes the latter are found to be more similar. To the extent that children in different families differ in personality, the difference can be explained almost entirely by their genetic differences. Differences between nonidentical-twin siblings, however, cannot be explained by their genetic differences alone, but require environmental explanations as well.

That is an extraordinary conclusion. It seems to indicate that everything parents do to treat their children similarly (rules, religion, schooling, toys, television) does not make them more similar in personality, or more different from their counterparts in other families, than they would be on the basis of genes alone. No one understands why that is so. It could have to do with siblings' influences on one another, as in the case of identical twins reared together, who may have stronger motives to differentiate themselves from each other than do identical twins reared apart. Birth-order effects have also been explored but rigorous research shows them to be far smaller than folklore and popular psychology have claimed. More plausible is the model suggested by Sandra Scarr, a developmental psychologist and behavioral geneticist. According to Scarr, a child's genotype leads the child to seek out a particular, compatible environment, and may lead parents to provide such a tailored environment. Whatever the explanation, the challenge posed by the extremely small magnitude of measurable between-family variance poses a major challenge to the explanatory paradigms of child psychiatry, psychodynamic theory, and developmental psychology.

Animal models The only really decisive evidence concerning those processes comes from studies of animal models, which are given insufficient attention by some psychodynamic clinicians and cultural anthropologists. Animal studies using random assignment and rigorous control of other independent variables have repeatedly shown that early experience can make a lasting impression not only on behavior and psychological predisposition, but also on neural and neuroendocrine structure and function.

In the jewel fish early social experience changes the number and shape of the dendritic spines on the pyramidal neurons of the tectum. In the chick imprinting (the formation of early attachments, normally to the mother) alters neuronal structure and glucose utilization in the hyperstriatum and permanently determines the juvenile attachments the bird will make and also its adult sexual choice. Rats stimulated or handled in infancy have faster rates of growth, larger body size, and greater resistance to being killed by starvation, drowning, tumor injection, and other means. They are less fearful in strange situations, exploring more and defecating less, and they have improved learning ability as compared with controls. All those effects are believed to be related to an altered pattern of corticosterone secretion from the adrenal cortex—a pattern in which secretion is low when stress is low but rises markedly when stress is high.

Male mice raised in isolation for three weeks after weaning are much more likely to fight when paired with another male mouse than are controls raised in groups and then paired with strange male mice. Such isolation also results in altered levels, turnover, and related enzyme activities of monoamine neurotransmitters, although the precise relation of the neurochemical changes to the increased aggressiveness is not known. Rats of any age, including those at the end of the life span, can experience brain alterations in response to experiential enrichment:

in the occipital region of the cerebral hemispheres the thickness and weight of the cortex, the number and size of synapses, the complexity of dendritic branching and density of dendritic spines, and the activity of choline acetyltransferase are favorably affected.

In rhesus monkeys the closure of one eye for a few days during the first six months of life will result in permanent impairment of depth perception; incoming stimuli from the two eyes are at that time in competition for sites on binocularly responsive cells in the visual cortex and removal of stimulation from one eye allows the other to take over all sites on the cells, which will then be unable to respond binocularly. In rhesus monkeys, as in several other species of monkeys and apes, isolation rearing results in a variety of permanent impairments of social and reproductive behavior; in the presence of pathological behavior, such as stereotypical rocking and self-directed aggression at baseline; and in a lower threshold for the elicitation of such pathological behaviors by amphetamine, even in monkeys that have recovered from the isolation-induced syndrome. Even short separations of a week or so in rhesus monkeys have been shown to have lasting effects on their behavior in strange situations.

TRANSFERABILITY TO HUMANS The lessons to be drawn are complex. Most of the results cannot be transferred in a simple manner to humans, yet some principles may be transferable. The fact that a variety of stimulating tactics in infancy in rats, some of which are simply stressors, have the same apparently positive effects must lead to caution in interpreting early stress effects in humans. The monocular closure experiment demonstrates that a particular distortion of input can produce permanent damage in a short time, even though closure of both eyes, a blanket deprivation, at the same age would have little permanent effect. If that could be extrapolated to human social and emotional development, it might vindicate psychodynamic thinking about early emotional trauma. The amphetamine challenge experiment shows that monkeys that have recovered behaviorally from early isolation still have neurochemical abnormalities that make them vulnerable to neuropharmacological challenge, suggesting that some psychodynamic theorists may be right in thinking that the behavioral measurements of developmental psychologists do not necessarily get at the underlying structure of the psyche.

Given the number and variety of those and related findings, and the fact that they range over the entire vertebrate phylogenetic tree, only an assumption of the most unlikely discontinuity between the nature of the human brain and behavioral development and that of animals can support the expectation that similar effects on human development will not be shown. Such effects, when properly delineated, will form the core of a new body of theory in both clinical psychodynamics and psychological anthropology. To believe that such effects exist is reasonable, but to hold strong specific beliefs about how early experience and cultural variations in child care influence adult personality, in the absence of clear evidence, can only impede the growth of knowledge about those processes.

CROSS-CULTURAL UNIVERSALS OF HUMAN BEHAVIOR, MIND, AND CULTURE Although the main enterprise of cultural anthropology in general, and of psychological anthropology in particular, has been the description and analysis of cross-cultural variation, that enterprise has always had an inevitable complement: the characterization of features of human behavior that do not vary or that vary relatively little. The concept of universals has at least five different meanings:

(1) behaviors, such as coordinated bipedal walking or smiling in social greeting, that are exhibited by all normal members of every known society; (2) behaviors that are universal within an age or sex class, such as the Moro reflex in all normal neonates or the ejaculatory motor action pattern in all postpubertal males; (3) population characteristics that apply to all populations but not to all individual members of the population, such as the sex difference in physical aggressiveness; (4) universal features of culture rather than of behavior, such as the taboos against incest and homicide, or the highly variable but always present institution of marriage, or the social construction of illness and attempts at healing; and (5) characteristics that, although unusual or even rare, are found at some low level in every population, such as homicidal violence, thought disorder, depression, suicide, and incest.

The list of characteristics in those five categories is much longer than earlier anthropologists would have predicted. (The ethologist Irenaus Eibl-Eibesfeldt has been responsible for the description of many remarkable constancies in nonverbal communication and social relationships.) The search for societies without violence, or without gender differences that go beyond reproduction, or without mental illness, or even without the ability to make and use fire has been a vain one. Although there is convincing documentation of variation in the incidence or context of expression of most human behaviors, the existence of a large core of always-present, if variable, features constitutes a demonstration of the reality of human nature and its validity as a scientific construct. It should be emphasized that those universals are fundamental to the nature of the human species in a deeper way than are the features found in human hunter-gatherers but departed from by later forms of society; the universals are found in all societies regardless of environment or subsistence ecology and thus are likely to be related to human nature in an even more intrinsic way.

Traditional cultural anthropologists have shown little or no interest in such universals, viewing them as trivial or outside their subject matter. That attitude is like being interested in the height difference between the Watusi and the Pygmies, but not in the mechanism of action of growth hormone. The elucidation of universal features of human behavior and culture is increasingly being recognized as one of the central tasks of the discipline, and one likely to enhance the analysis of cultural variation. Even many cultural anthropologists have attempted to delineate such universals as symbol systems and mental structures whose common underlying characteristics link widely disparate kinds of art, language, and ritual.

With regard to the model in Figure 4.1-2, the delineation of universal features of human behavior is central to the elucidation of the effects of phylogeny, shown as dotted lines in the diagram. Phylogeny is shown as directly affecting the box representing the individual, especially the innate needs, drives, and capacities. But most of its effects on the system are modeled as occurring through its influence on other arrows. Natural selection operating on ancestral organisms created not only individuals with certain needs, drives, and capacities, but also equations (if-then statements) relating the environment to the social system, the social system to the individual member, and so on. To refer again to the study of husband-wife intimacy, phylogeny appears to have provided a system in which separating men from women and small children enhances their effectiveness as warriors. It does not mean that they must be warriors or that they must be aloof from their wives, but that aloofness may increase effective belligerency, and perhaps the converse. The universal characteristic here is not only a phenotypic characteristic (aggression is more a male characteristic than a female characteristic) but also an underlying mechanism relating two

sets of characteristics to each other (the male-female difference is exaggerated by gender separation and reduced by gender proximity).

Recent applications In the past decade the application of neo-Darwinian or sociobiological theory to ethnological materials has produced many findings that seem to bypass the complex questions of the relations among society, culture, and individual development. For example, societies in which young men inherit land from their mothers' brothers are more lax about the prevention of female adultery than are societies in which young men inherit from their fathers; in societies in which polygyny is allowed, wealthier men tend to have more wives; and in small-scale societies in which the adoption of children is common, it tends to follow patterns predicted by genetic relatedness. Investigators usually declare that they do not claim any direct genetic basis for those variations in human behavior, and some of the most egregious confusion about sociobiology stems from a failure to appreciate the distinction between the propositions of neo-Darwinian theory and those of traditional behavioral genetics or molecular genetics.

Even in a nonhuman species such as the redwing blackbird *Agelaius phoeniceus*, male birds singing on richer territories mate with several female birds instead of one. But the mechanism of that flexible adaptive system, known as a *facultative adaptation*, must be quite different in blackbirds than in human beings (although it would probably underestimate blackbirds to assume that in them the system is under tight genetic control). The wings of insects come from thoracic tissue, the wings of birds from forearm structures, the wings of bats from fingers, and the wings of humans from technology. Those four adaptations to the problem of flight arrive at similar functions through extremely different developmental processes. The same will prove to be true of adaptations in social behavior.

Incest Sociobiologists (and classical evolutionists and geneticists before them) predicted that incest would be avoided in most sexually reproducing species to avoid the appearance of maladaptive homozygous recessive members of the species. But adults on the verge of mating must recognize close kin. In insects and in some vertebrates such recognition depends on pheromones. In humans the unlikelihood of that mechanism has led to a search for other ontogenetic explanations. The anthropologist Arthur Wolf, motivated by considerations apart from sociobiology, has shown conclusively that in traditional China, where young girls sometimes came to live with the families of their intended spouses (also children), the resulting marriages had a much higher rate of failure and infertility than did other arranged marriages. He has further identified a sensitive period of contact for the effect to occur. Related findings emerge from studies of the marriage rate among Israeli kibbutz cohort members.

Thus the familiarity breeds contempt hypothesis of incest, first introduced by Westermarck in the last century, receives support. The implication is that human beings avoid inbreeding through a psychological mechanism that depends on cultural choice, even though the evolutionary effects may ultimately be the same as in species that rely on pheromones for their incest avoidance. In such analyses the purposes and methods of psychological anthropology and sociobiology are joined, and the study of human behavior in general is much better served than it is by debates about nature and nurture.

UNIVERSALS AND VARIATIONS IN PSYCHOSOCIAL GROWTH Freud postulated, and present-day child psychiatry continues to accept in altered and disputed forms, a universal

sequence of emotional development on which the social environment of the family could be claimed to operate to produce enduring traits of emotional disposition. Beyond some very general elements (the existence of infantile sexuality, the formation of an attachment to a primary caretaker who is usually the mother, the ubiquity of conflicts and jealousies within the family) that allegedly universal sequence has never found empirical support; hence unresolvable disputes have arisen among different schools of child psychoanalysis, along with the skepticism of outsiders. Extensive cross-cultural studies of human behavioral and psychological development have not furnished evidence relevant to those particular models, but they have produced extensive evidence supporting more empirically grounded putative universals of psychosocial growth. In the absence of knowledge of neuropsychological development psychoanalytic theory postulated a libidinal theory of neural development that many question. However, the growing body of knowledge about neural and neuroendocrine development can now begin to provide an anatomical foundation for newer, more empirically grounded studies of psychosocial growth.

Among the well-established cross-cultural universals of psychosocial development, the following are the best supported, and in most cases can be plausibly related to putative underlying neural or neuroendocrine maturational events: (1) the emergence of sociality, as heralded by social smiling, during the first four months of life, in parallel with the maturation of basal ganglia and cortical motor circuits; (2) the emergence of strong attachments, as well as of fears of separation and of strangers, in the second half of the first year of life, in parallel with the maturation of the major fiber tracts of the limbic system; (3) the emergence of language during the second year and after, in parallel with the maturation of the thalamic projection to the auditory cortex among other circuits; (4) the emergence of a sex difference in physical aggressiveness in early and middle childhood, with male children on the average exceeding female children, a consequence in part of prenatal androgenization of the hypothalamus; (5) the emergence of adult sexual motivation and functioning in adolescence, in parallel with and following the maturation of the hypothalamic-pituitary-gonadal axis at puberty, against the background of the previously mentioned prenatal androgenization of the hypothalamus.

Other probable cross-cultural developmental universals, such as increased babbling in the second half of the first year and progress through the first three or perhaps four of the six stages in Lawrence Kohlberg's scheme of moral development in childhood, are neither as well established nor as plausibly related to underlying maturational events as are the five advanced here. Although their underlying neuropsychology is at an early stage of elucidation, their cross-cultural universality is well established, and in each case there is extensive experimental evidence to support the maturational nature of the process in behavioral development. They thus constitute a first approximation of the true structural basis of psychosocial development, which Freud was groping for with his theory of libidinal development in the nervous system.

The universals also constitute a firm basis for the future understanding of how variations in social experience, whether clinical or cross-cultural, act on the maturing psychosocial competence to produce potentially lasting variations. In each of the five processes mentioned cross-cultural differentiation of the maturing competence begins almost as soon as the maturation occurs. In some cases there is sufficient evidence to state provisional rules relating environment to differentiation, for example: "Infants whose smiles are favorably responded to will

smile more," or, "All children will acquire languages with similar cognitive and social functions, but with whatever arbitrary semantic content is presented." In others, such as the differentiation of the strength of attachment in different cultures, it has been difficult to discern any plausible relation to the characteristics of the social and emotional world that preceded the attachment, despite the expectation of such relationships.

The more interesting developmental events are more refractory to explanation, but the acceptance and increasingly detailed and reliable description of the maturational constants underlying the variation in psychosocial growth will provide a steadily firmer place on which to stand while attempting to understand the true, and undoubtedly large, role of cultural and individual experience.

CROSS-CULTURAL PSYCHIATRY

Cross-cultural psychiatry as it has been practiced by anthropologists and psychiatrists has consisted of three closely related enterprises: (1) *psychological anthropology*, using psychodynamic theory to interpret the relation among elements of society and culture; (2) *comparative psychiatry*, using formal epidemiological or less formal observational and clinical methods to describe and analyze cross-cultural variation in the incidence or prevalence of syndromes and symptoms; and (3) *medical anthropology*, using traditional anthropological methods to elucidate cross-cultural variation in the social and cultural construction of illness from disease and in the elaboration of healing or caretaking roles and relationships.

COMPARATIVE PSYCHIATRY Comparative psychiatry has been a difficult enterprise under the best of circumstances. The fourth edition of *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)* was developed in an attempt to rationalize and reduce the wide variation in diagnostic styles found even among major medical centers in the United States. Ongoing debates prove that much disagreement still exists. The international equivalent of the manual, under the supervision of the World Health Organization, is quite different and is subject to similar controversy. Yet one often sees statements about the prevalence of psychiatric disorders in different countries and cultures that seem to presume the nonexistence or unimportance of such nosological controversy.

It is often said that the incidence of schizophrenia is roughly similar in all countries, with $\frac{1}{2}$ to 1 percent incidence the figure usually cited. England and the United States alone, two English-speaking countries with excellent medical cooperation and communication, have had major differences in the definition of schizophrenia that would preclude any meaningful statement about whether the incidence of the disorder is roughly similar or very different in the two countries. And the comparison takes place under ideal conditions, relatively free of doubt about differences in the age and mortality of the populations, the likelihood of case location, the quality and integrity of hospital records, and other factors that plague the cross-cultural epidemiological study of even the best-defined diagnoses in medicine and surgery.

The implication often drawn from that purportedly constant cross-cultural incidence of schizophrenia (namely, that it supports a genetic basis for the disorder) is also misleading. Most known genetic diseases have marked population variation in their incidence that is well known to physicians and anthropologists. Various categories of evidence support some genetic hypothesis of schizophrenia defined in almost any way, but the

alleged cross-cultural constancy in incidence, even if true, is not one of them. (It could, for example, merely reflect a cross-cultural constancy in the threshold for labeling a thought disorder as serious or chronic.)

CROSS-CULTURAL INCIDENCE AND PREVALENCE When the discussion turns to questions of incidence in small-scale societies, such as those most often studied by anthropologists, the size of the cohort is too small to support meaningful comparative study. Still, two generalizations about the cross-cultural incidence and prevalence of psychiatric disorders can be made, regardless of the scale of the societies under comparison.

Symptom clusters First, the major psychiatric symptoms and symptom clusters, including those at the core of the major disorders and syndromes variously defined, appear to exist in all societies. They include anxiety, mania, depression, suicidal ideation, major thought disorder, paranoia, somatization, and many other diagnoses or components of diagnoses on Axis I of DSM-IV. In addition, they include a range of normal and abnormal personality types that is suggestive of the range exhibited by the diagnoses on Axis II.

Those disorders frequently are manifest as folk illnesses, with labels that subdivide the range of symptom patterns differently than psychiatrists do. Some cultures fail to label at all, but recognize the abnormality, and even its treatability. And many give labels that are close to cross-national comparisons of Western psychiatric diagnoses. Jane Murphy's research among the Eskimo of northwest Alaska and the Yoruba of rural Nigeria provides several illustrations. Persons in both of those cultures clearly recognize a syndrome resembling schizophrenia—an idiosyncratic severe thought disorder, chronic or chronically recurring, that markedly impairs social functioning. The Eskimo call it *nuthkavihak* and the Yoruba *were* (in English, "crazy" or "insane"). Its victims are responded to with a mixture of compassion and fear, and treated with persistent attempts at decent maintenance as well as restraint. The syndrome is carefully distinguished from shamanistic thought disorder, which is believed to be voluntary, despite temporary hallucinations and delusions.

In the realm of nonpsychotic symptomatology both cultures have labeled such complaints as insomnia, night terrors, agoraphobia, anxiety, and claustrophobia, and considered them treatable by folk healers, but neither has a general label corresponding to neurosis. Each culture has a word (*kulangeta* in Eskimo, *arankan* in Yoruba) for the rare person who would be called a sociopath by psychiatrists (DSM-IV antisocial personality disorder) and each considers the condition untreatable.

Folk views of human character make quite subtle distinctions even in very simple societies. Case H2 is that of a man who, in a culture in which all men had extensive homosexual experience, was recognized as deviant in his devotion to such experience, and (although not labeled there) would perhaps merit the diagnosis of sexual disorder not otherwise specified, with persistent and marked distress about one's sexual orientation as the main symptom. Case H3 is that of a woman in Guatemala who experienced an isolated episode of what might be called a brief reactive psychosis and which received the folk label *colera*. Years later, when she was mature, she was recognized as having special powers in a positive sense, an excellent long-term resolution given her history.

Culture-bound syndromes Second, the cross-cultural distribution of some disorders is so skewed that the differences can probably be accepted even without strictly reliable epidemio-

logical methods. Those so-called culture-bound or culture-specific syndromes should be referred to as syndromes usually found in one or more particular cultural settings. Thus the disorder may not only have a label, social construction, explanation, or even a mental content that is culturally unique (which is true of virtually every diagnosis defined by any society), but it is so bound up with its cultural meaning that it would not exist (would be something else) in the absence of the particular cultural framework.

Psychiatric tradition in Western culture includes at least two diagnoses that are probably in this category. Conversion disorder remains in the DSM-IV classification but appears to have been a much more common condition in the bourgeois society of Europe in the late 19th century than in any other cultural context, and it is likely that it was, to some extent, a specific interaction of individual predisposition with the cultural expectations of that subculture. Anorexia nervosa, in the past few decades an increasingly common disorder of middle-class adolescent and postadolescent women, appears likely to be evoked by particular cultural conditions affecting body image and self-expectation. Both disorders are or were strongly culturally constructed and subject to spread through psychocultural communication. In addition, many DSM-IV substance-use disorders have been, if not culture bound, certainly highly skewed in their patterns of subcultural distribution within society, and some have even had the quality of giving rise to transient cultural fads in self-treatment or self-stimulation.

The following are among the frequently cited syndromes believed to be characteristic of specific non-Western cultural settings: (1) *amok*, a condition among traditional Malay men in which a period of brooding is followed by an outburst of frenzied, often homicidal, violence ending in exhaustion and amnesia; (2) *pibloktoq*, a form of Arctic hysteria described among the Eskimo of northern Greenland, characterized by irritability followed by up to half an hour of wild excitement and dangerous and inappropriate behavior ending in seizures, and finally some hours of stuporous sleep ending in amnesia; (3) *latah*, an extreme startle reaction to a novel stimulus that especially affects middle-aged women in Southeast Asia, with disorganized speech and action, echolalia, and echopraxia, among other symptoms; (4) *koro*, another Southeast Asian malady consisting of extreme anxiety with the mental content of fear of involution of the genitalia and fear of death; and (5) *windigo*, a psychosis among the Algonkian Indians in which the fear of becoming a cannibal through possession by the windigo, a mythic creature, is a prominent feature of the thought disorder.

Other culturally defined syndromes seem insufficiently distinctive to merit inclusion among culture-bound syndromes, yet have a folk definition that makes it seem inadequate simply to translate them into a DSM-IV diagnosis. *Ataque de nervios*, a syndrome first described for Costa Rica but common elsewhere in Latin America (loosely translated as "attack of nerves," and perhaps related to North American symptom patterns that go by that folk label) consists of complaints of headache, insomnia, loss of appetite, fears, anger, trembling, falling, disorientation, fatigue, and despair. It is common, is considered hereditary, and legitimizes psychological complaints (allowing secondary gains) in a culture that otherwise resists them. *Susto*, a condition of general malaise and anhedonia resulting from a severe fright, is another example of a widespread Latin American folk diagnosis. In modernizing sub-Saharan Africa many male students experience what they call *brain fog* (headache, visual difficulties, agnosia, and chronic fatigue), which, despite its seemingly humorous name, causes much anguish. And in Trinidad the folk view recognizes a particularly severe form of reactive depres-

sion, *tabanka*, peculiar to men whose wives have left them; although the victim is considered ridiculous, he is also at serious risk for suicide.

In all those diagnoses—certainly the folk illnesses, but also the more distinctive culture-bound syndromes—the uniqueness can be questioned by any experienced psychiatrist, and in some cases (such as the *windigo* psychosis) the existence of the disorder is in dispute. *Ataque de nervios* has been studied in relation to disorders described in the revised third edition of DSM (DSM-III-R) by Michael Liebowitz and his colleagues at the Hispanic Anxiety Disorders Clinic of the New York State Psychiatric Institute. Patients presenting at the clinic who said that they suffered *ataque de nervios* did not differ in DSM-III-R diagnoses from those who did not give themselves this label. A variety of anxiety and depressive disorders was present in both groups. But for the subgroup of *nervios* patients who were diagnosed with panic disorder (40 percent of those who used the folk label), symptom checklists showed that the patients used the folk label in reference to the same symptoms that the psychiatrists used to arrive at the diagnosis of panic disorder.

But neither *ataque de nervios* nor any other culture-bound syndrome has been sufficiently well studied to permit the assignment of a DSM-IV or other standard diagnosis, or to establish firmly the need for a new diagnosis. However, given the protean nature of human mental life in health and disease, it is not unlikely that the complex biopsychosocial dynamics of mental illness would produce some entities in some cultures that fall outside the range of DSM-IV. Premature assignment of DSM-IV diagnoses to those syndromes may prevent important discoveries about the mechanisms of psychiatric disorder. Such mechanisms may not be culturally determined. *Pibloqtoq*, for example, has been variously hypothesized to be the result of hypothermia, hypocalcemia, and hypervitaminosis A, among other proposed (including cultural) causes. Its elucidation might be prevented by the assurance that it is not unique. (Similar attitudes delayed the recognition of the causes of the New Guinea neurological disorder *kuru* and of pellagra.) Labeling theory provides a set of cultural mechanisms that attempt to explain some symptoms and syndromes as the result of learning. It is known that patients admitted to psychiatric hospitals in the United States take on characteristics that the staff members expect them to have, a response to labeling that should be even more possible in a traditional society. The existence of voodoo death alone should be sufficient evidence of the power of culturally defined symbols to produce illness, and some culture-bound syndromes and folk illnesses may be in a similar category. But it must also be noted that the great range of variation in human cultural and social life might have been expected to have produced more exotic syndromes than those few disputed entities, unless there were fundamental biological constraints on the way that the human mind and behavior break down.

MEDICAL ANTHROPOLOGY Dispute about the question of completely distinctive culture-bound syndromes misses the important point about this material. Whether or not such syndromes are homologous with the DSM-IV diagnoses, they have a distinct psychiatric reality by virtue of the cultural definitions, expectations, and responses that surround them. In that sense the most prosaic symptom or disorder in DSM-IV may become exotic when it appears in any other culture. Even medical and surgical illnesses undergo a similar transformation in non-Western cultural or subcultural settings.

The presence of an actual underlying biological disease is not at issue here, but it is clear that culture changes the meaning of

the biological disease reality in ways that directly affect the physician. The differential diagnosis and treatment of a diffuse abdominal or lower back pain will be altered in cultures that have elaborate beliefs about discomfort in those anatomical areas. The differential diagnosis of ideas of reference or paranoid delusions will be even more subject to such cultural differences; moreover, the psychiatrist's role in consultation and liaison may make the circumstances of cultural expectation more critical for psychiatry than for most other fields of medicine.

Medical anthropology is a subfield of anthropology that is devoted in part to culture-bound syndromes and to non-Western concepts and systems of healing. It is not difficult to reconcile that kind of cross-cultural variation with the evolutionary perspective. Nonhuman primates have many response patterns that a psychiatrist would label abnormal in a human being (Cases P1, P2, and P3). Still, such abnormal behaviors, including prolonged grief after a loss, isolative behavior, or excessive violence, produce social effects and responses. Even illnesses and wounds are responded to by other group members with caretaking attempts.

It is hardly surprising that all human cultures have made some attempt to define abnormal conditions of body and mind and to respond to them with healing. Disease in general was probably the most important selective force operating on human ancestors during evolution, and it is inconceivable that cultural creatures with increasing intelligence should fail to try to do something about it. Although it can be argued that some of the most primitive attempts at healing may have had biological effectiveness, one does not have to go that far to conclude that the placebo effect of the mere attempt, for the patient, and the calming effect for others who might be frightened or saddened by the patient's condition would constitute an adaptive response that could enhance survival and reproduction.

Explanatory model of illness Medical anthropologists draw a distinction between disease and illness, disease being the underlying biological reality (to the extent that one exists) and illness the result of the social construction of the disease. Although it has proved difficult to introduce the specific terminology for the distinction into typical medical environments where the two terms are used interchangeably, health-care professionals will recognize the validity of the distinction. The social construction, or illness, involves a series of intersecting or nested explanatory models for the disease, held or promulgated variously by the patient, the family, the physician, other health-care personnel, and the larger culture as represented, for example, by religious authority or the law. Some medical anthropologists have argued for the addition of an Axis VI to DSM-IV on which the cultural or subcultural explanatory model offered by the patient or the patient's family would be recorded. That modification would strike most physicians who have worked in different cultures, or even with patients from different subcultures, as potentially valuable.

Among traditionally oriented persons in modern Taiwanese culture, for example, patients with syndromes that would be called anxiety neuroses routinely attempt to define their symptoms as primarily somatic, and hold a somatopsychic rather than psychosomatic explanatory model of the syndrome (Case H4). The explanation is not psychobiological but is a cruder reasoning from vaguely defined aches, pains, and pressures in particular body parts to the symptoms of psychological distress. The patient's relations with the family, not in the sense of remote, early, formative effects but of currently acting ones, are held to be strongly operative. Patients and families often also refer to

the balance or loss of yin and yang to explain their symptoms and may, in addition, visit either a Taoist priest or a shaman, who provides a spiritual formulation of the disorder and undertakes to help placate the gods alleged to have caused the problem or to drive away ghosts or evil spirits. In addition, herbalists with various theories of particular illnesses sell their wares to patients. All those explanatory models may influence a patient who is attempting to get help.

In a much less complex culture, that of the !Kung San, hunter-gatherers of Botswana, a person who is ill either medically or psychiatrically will usually be viewed as being the target of some motivation (anger, capriciousness, grief) of either a god or the spirit of a dead relative. The community, consisting of a small band of relatives, responds by convening a trance dance, which is both the central religious experience of the culture and the main approach to healing. Women sit around the fire clapping and singing while men dance in a circle around them and gradually enter trances, during which their souls may separate from their bodies and which make them capable of healing. In one case of malaria (which the !Kung recognize as a separate diagnosis) in a young woman, a healer in trance traveled to the world of the spirits where he found her father, recently dead, holding her in his arms. Through vigorous argument he convinced the father that he was being selfish in taking such a young woman away from the living, and the effort was believed to have healing efficacy.

Such psychological insight is not unusual in the traditional healing systems of non-Western cultures, and as long as the patient is aware of the explanatory model, some genuine effect (corresponding to what might be called a placebo effect, bedside manner, counseling, or even psychotherapy) is not implausible. In some cases the anticipation of Western psychological theories and techniques is remarkable, as in a form of group discussion for the purpose of dream analysis found among the 17th-century Iroquois. Explanatory models in some other cultures are not so benign. Many cultures have theories of witchcraft or voodoo in which some persons are believed to put curses or hexes on others. Those theories not only serve as explanatory models of conventional illness, but have been found capable of causing distress, illness, and death in persons who believe that they are the targets of such curses. Some such cases may be coincidences, but others remain a challenge to medical science, especially to psychiatry.

Psychiatric disorders may be even more subject to spiritualistic explanation than medical or surgical disorders. In many cases not only the behavior and situation of the patient but also those of other persons involved, such as the healer or the witch, are of psychiatric interest. Healers are often respected by marginal persons in traditional societies (the !Kung are exceptional in that many can heal) and may have attained healing power through trances, hallucinations, self-starvation, substance use, or other processes that psychiatrists would consider to be in their province, and which are often of great psychological interest. Theories relating shamanism to mental illness (specifically acute schizophrenia, but the arguments would apply as well to bipolar disorders or borderline personality disorder) either individually or familiarly have been advanced; if true, they would help to explain the maintenance of those conditions in humans during evolution. (Among the !Kung San a young woman with a recurring thought disorder that may have been either a bipolar disorder or remitting schizophrenia was the daughter of a woman whose trance and healing powers were legendary.)

Conversely, in many societies psychiatric disorders evoke an explanatory model than labels their victims as witches who are held responsible for other's illnesses and misfortunes. (Some

Soviet psychiatric practices, recognized as abuses by the World Psychiatric Association, appear to have reversed the phenomenon, giving psychiatric diagnoses to persons who are healthy according to all criteria but political cooperation.)

Those and many other examples demonstrate that explanations of illness, including culture-specific symbol systems, as well as behaviors and relations involved in healing, vary greatly across cultures in ways that are of direct concern to psychiatry. Closer attention to those variations can aid psychiatrists and other physicians in a myriad of daily tasks involving consultation, liaison, compliance, hypochondria, factitious disorders, placebo effects, abuse of the health-care system, and other problems. As for the core of disorders for which psychiatrists are directly responsible (psychoses, neuroses, substance use, personality disorders, and more acute reactive symptomatology) only a purely psychopharmacological explanation, such as is not really tenable for any disorder, could lead to the conclusion that non-Western approaches must be devoid of value. Any other currently accepted psychiatric explanatory model (psychodynamic, existential, cognitive, behaviorist, family dynamic, or community based) must lead to serious consideration of the possible effectiveness of non-Western explanatory models and their resulting treatments.

CULTURE AND MENTAL ILLNESS IN WESTERN CONTEXTS

If cultural construction, labeling, and explanatory models affect the course of mental illness in non-Western societies, then they should do so in Western contexts as well. As in the case of *susto* or *pibloktoq* certain symptom patterns in Western cultures have a particular history, social place, and meaning that, if understood, greatly enhance clinical understanding. The approach does not entail the devaluing of standard psychiatric interpretations of etiology or treatment. It merely adds cultural flesh to the bare bones of neurobiological or psychodynamic explanation, giving the clinician new routes of interpersonal access through shared frameworks of cultural meaning.

Common sense suggests that suicidal ideation will have a different meaning for a Japanese person than it will for some others, because of unique Japanese cultural traditions regarding suicide and honor. But as shown by A. Alvarez, suicide has literary and religious traditions in Western culture as well, and it is likely that a clinician's ability to speak the language of those traditions will enhance his or her effectiveness with some patients. Similar historical and cultural analyses have been made by Joan Jacobs Brumberg for anorexia nervosa, by David Morris for chronic pain, by Armando Favazza for self-mutilation, by Kay Redfield Jamison for bipolar disorder in relation to creativity, by Anthony Storr for solitude, and by Ethel Spector Person for passionate romantic love. Those accounts give depth and complexity to the clinical entities, and it would be ideal if clinicians could enrich their understanding with such works of history and interpretation.

In a sometimes less sophisticated but parallel fashion, patients experience mental illness in many dimensions of life that go beyond the restrictive accounts of psychiatric nosology, even with all five axes of DSM-IV. Martin de Vries has pioneered the use of pagers and systematic self-observation (the experience sampling method) to find out what patients are actually doing and feeling, in whatever environments they inhabit, throughout the day and night. Such research, inspired by methods in ethnology and anthropology, gives personal meaning to a patient's clinical symptoms, course of illness, and treatment in much the way that cultural interpretation provides historical and philosophical meaning. As Arthur Kleinman has written, "Most

experienced psychiatrists learn to struggle to translate diagnostic categories into human terms so that they do not dehumanize their patients or themselves. . . . Irony, paradox, ambiguity, drama, tragedy, humor—these are the elemental conditions of humanity that should humble even master diagnosticians.”

POVERTY, RACE, AND GENDER AS MANIFESTATIONS OF CULTURE

Even with ascertainment bias strongly favoring the well-to-do mentally ill, epidemiological surveys show an increased prevalence of many disorders among the poor, especially among the homeless. If stressful life events contribute to unfavorable diatheses in chronic mental conditions, then such diatheses will be more common in poverty. In addition, groups that are subject to invidious discrimination, whether poor or not, can also be expected to suffer more from mental illness than those who are able to exorcise such discrimination against them. Growing up with feelings of inferiority because of inferior social status and limited options has demonstrable negative effects on mental health. Cultural frameworks are crucial in determining patterns of poverty and discrimination. The United States, with its extreme cultural valuation of independence, tolerates more poverty than do other industrial states, which practice a more communistic version of capitalism. Many Americans label the mentally ill as sinful, responsible for their own illnesses. The American tolerance for handgun violence is another manifestation of the cultural ethos of independence, and its consequences particularly affect the poor.

Communities have shown little willingness to provide the support systems needed by those with chronic mental illnesses after hospital discharge. The result is often a downward spiral of poverty, homelessness, physical illness, and eventual hospital readmission. Since it is now clear that the chronically mentally ill are more likely to have acute crises if they lack a favorable milieu and adequate family or other social support, it should also be clear that the culture's neglect of them is extremely harmful, and not a gift of independence. Mentally ill women in poverty have the added burdens of a constant fear of sexual assault and harassment and an extreme concern for any children. Mentally ill African-Americans must often shoulder the added burden of bigotry.

The evolutionary perspective is not at odds with the recognition of those cultural forces predisposing to mental illness. On the contrary, it predicts that the privileged will use their greater resources to maintain their privilege and deceive themselves into thinking that all is well, and that the weak will suffer at their hands because of the self-deception. Yet it offers no comfort in the form of social Darwinism, a misconstrual of evolution to which Darwin never subscribed. Instead, it tends to make people more aware of the unfairness of stratified social systems and of the abuse of power and privilege. Because of the facts of evolution and every-person-for-himself-/herself mode of social life will never produce the ideal society or the kind of care for the mentally ill that a decent society must have. Thus the principles of evolution and those of cultural psychiatry point to the need for a greater sense of community to reduce those cultural forces that tend to increase the prevalence of mental illness.

CASES FROM ANTHROPOLOGICAL LITERATURE

Each of the following cases illustrates several different, usually disparate, points. The first three cases are from the nonhuman primate literature and the rest from the cross-cultural literature. Each is both a context (a different species or culture) and an

individual member of that species or culture, with the context introduced before the individual member is described. Although those selected are unusual in some way against the species or cultural background, their inclusion does not necessarily imply a presumption of diagnosable psychiatric abnormality.

CASES FROM NONHUMAN PRIMATE LITERATURE

Case P1 Barbara Smut's book *Sex and Friendship in Baboons* exemplifies the complex interactionist outlook advocated here at the level of nonhuman primates. Resting on a groundwork of evolutionary theory, it recognized the extreme complexity of social behavior and its determination in the life cycle. Characteristically in the species (olive baboons, *Papio cynocephalus anubis*, a large ground-living Old World monkey considered highly relevant to human behavior), sexual relations are frequently inseparable from male-female friendships and are properly thought of as nonexclusive sexual friendships. Foreign male monkeys immigrate to troops and must form friendships with female monkeys, which may eventually become sexual, a process that can take months to a year or more.

One male monkey, whom she called Ian, was a mature (10-year-old) immigrant to her main study troop who never made the transition. He had great difficulty in establishing relationships with female monkeys. He almost always provoked alarm in them, and unlike most male monkeys his age, did not seem to know how to calm them by sitting at a distance and making friendly sounds and gestures. Instead, he pursued them, frightening them further, and even elicited screams that brought a group response that drove him from the troop. Eventually, he failed to integrate and he disappeared. (Another male monkey his age who had arrived at the same time, and who had the appropriate behavior toward female members of the troop, was by then fully absorbed into the troop.) It is not known what individual life history led to his behavioral inadequacy, which may have been genetic or environmental or both in causation. The negative impact on his reproductive success seems clear.

Case P2 Jane Goodall's studies of *Pan troglodytes*, the chimpanzee species that is the human's second closest animal relative, culminated in *The Chimpanzees of Gombe: Patterns of Behavior*. The book summarizes 25 years of study of known groups of wild chimpanzees, whose relationships are subtler and more complex than those of baboons, and details not only life histories but family histories up to three generations long. Among many other observations were the responses of 11 young chimpanzees up to 9 years of age (the approximate age of female sexual maturity) to the deaths of their mothers. Classic behavioral depression and other abnormalities were characteristic of the younger chimpanzees, most of whom did not survive, but the severity of the grief reaction was inversely proportional to age, and three of the four that were between the ages of 7 and 9 showed few effects.

The fourth, called Flint, has become famous for his extreme grief reaction. When he was 5 years old his infant sibling died, and he had resumed dependence on his mother that was extreme for his age, including riding on her back and sleeping in her nest. That dependence, which eventually became mutual, continued until her death three and a half years later, at a stage of development roughly equivalent to that of a human 12-year-old. He lingered near her body for many hours and became increasingly lethargic over the next six days. He was lost sight of for four days and when seen again was in a markedly deteriorated physical condition that worsened until his death two weeks later of autopsy-proved gastroenteritis and peritonitis. It has been speculated that psychoimmunological vulnerability induced by an abnormal grief reaction may have played a role in his death, but his dependency was definitely abnormal.

Case P3 Another chimpanzee in Goodall's study, a female chimpanzee known as Passion, was also to become well known for abnormal behavior. She was first identified in 1961 before coming into estrus and was in the study until her death of an unknown wasting disease in 1982. In 1965 she gave birth to an infant, Pom, and exhibited inefficient and indifferent maternal behavior. Pom survived and a close and lasting bond formed between the two. Beginning in 1970 Passion became increasingly isolative, spending most of her time with her own offspring, eventually three in number. In 1971 she suffered an eye injury that resulted in two weeks of monocular closure and evident pain, with a runny nose and eyes and a whitish patch on the iris. Eye healing was apparently complete but her nose continued to run for more than 10 years. Although most of their hunting is done by male chimpanzees four of seven bushbuck fawns seen to be captured were killed by female chimpanzees, two of them by Passion in 1977.

Her truly divergent behavior, however, was cannibalistic infanticide. Of six chimpanzee infants killed by adult chimpanzees three were

killed by male chimpanzees in the course of attacks on the mothers, and later eaten, and three were killed systematically, with attacks on the infant only, by Passion with the cooperation of her adolescent daughter Pom. In two other cases they made unsuccessful attempts on other infants. Without their close cooperation it would have been impossible for them to overpower the infants' mothers, but Passion was clearly the leading force. The pair may have taken seven other infants in addition, unobserved. Those events took place between 1974 and 1977 and it is not known why they began or why they stopped. Pom gave birth herself in 1978 but the infant died about two years later, upon which the mutual dependency of Passion and Pom intensified. Infanticide with and without cannibalism has been observed in many species and in several other studies of chimpanzees, but it is very unusual, and Passion's devoted pursuit of it so far is unique in the literature.

CASES FROM CROSS-CULTURAL HUMAN LITERATURE

Case H1 Marjorie Shostak's *Nisa: The Life and Words of a !Kung Woman* describes the life history of an essentially normal woman among hunter-gatherers in northwestern Botswana. The outlines of the culture and child-rearing pattern fit the model described for hunter-gatherers in general. Nisa was the third child (a second died in infancy) of a then stably married couple living traditionally. She remembered her life as idyllic until weaning shortly before the birth of her younger brother, which she attended and whom she claimed to have saved from infanticide by her mother. She described intense sibling rivalry with her brother (for example, continuing attempts to nurse) and attributed her small stature and other problems to allegedly early weaning. Her father fought violently with her mother but they remained together until Nisa was in adolescence. She was married several times premenarcheally and (despite a culturally typical pattern of sex play throughout childhood) had a stormy introduction to adult sexuality, but her parents tolerated her flight from her husbands.

She remained with her fourth husband, Tashay, and eventually had four children; two of them died in infancy and early childhood, one died of illness in his youth, and a fourth was killed by her own husband shortly after marriage. Those losses, along with Tashay's death shortly after the birth of her third child in her late 20s, shaped her adulthood. She had occasional contacts with lovers both before and after his death, a habit she had not given up by the time she was interviewed at ages 50 and 55, despite two further marriages, her then-current one being quite stable. Her menopause near age 50 caused a period of sadness and self-assessment, but at 55 she had accepted her childlessness and was bringing up her younger brother's two children. She was vibrant, mildly eccentric with a bawdy sense of humor, eloquent on both her own life and the culture, open to new relationships, including the interview relationship with its probing self-exploration, and proud of having surmounted difficulty and tragedy with a willingness to go forward and a continuing joy in life.

Case H2 Gilbert Herdt's book *Guardians of the Flutes* is the best known of a series of ethnographies on cultures in a region of New Guinea (the semen belt) where male homosexuality is a universal aspect of adolescent development, and the symbolic framework involves the belief that semen must be absorbed, usually through fellation, although also in some cultures through anal intercourse, in order for a boy to become a man. Among the Sambia studied by Herdt boys engage in homosexual activity exclusively beginning at age 7 to 10 and continuing until they are married in their late teens or early 20s. They must suck the penises of postpubertal boys as often as possible until they go through puberty, after which they are felled very frequently by younger boys. It all proceeds in an atmosphere of extreme misogyny and of hypermasculine preparations for warriorhood and hunting. At the end of the period they marry and become exclusively heterosexual husbands and fathers in almost every case—a challenge to several theories of homosexuality and an answer to the obvious Darwinian objections to such an apparently maladaptive pattern.

The psychoanalyst Robert Stoller and Herdt published an aberrant case, Kalutwo, who had married four times by his mid-30s, marriages that were infertile and perhaps unconsummated. He had been the illegitimate son of an older widow and a man married to someone else who could have taken the widow as his second wife. Stigmatized, Kalutwo was raised by his mother, who was bitter about men and had no contact with his father. He showed an unusually keen enjoyment of fellatio, had unusually strong homoerotic feelings and attachments, and committed the serious indiscretion of continuing to fellate younger boys even after he reached puberty. Although he acted tough he never displayed what were considered masculine achievements, such as suffering war injuries or undertaking acts of courage. Stoller and Herdt argue for a classic psychoanalytic provenance of homosexuality in his case, but regardless of its etiology they argue that Kalutwo would be

a homosexual anywhere, independent of the culture's erotic customs, which in themselves do not produce homosexuality.

Case H3 Benjamin and, until her death, Lois Paul studied the community of San Pedro la Laguna, a small Zutuhil (Mayan Indian) village in highland Guatemala, for more than 45 years, with periodic field trips beginning in 1941. In that traditional community, which had little contact with the mainstream Ladino culture of the region or the Hispanic culture of the country, many ancient beliefs and rituals remained functional, including strong well-defined roles for shamans (men) and midwives (women), the latter being adept at spiritual as well as obstetrical pursuits.

Maria, who was 18 at the time they met her in 1941, was an attractive woman who had had two failed marriages and had a 9-month-old daughter. Her father was one of six shamans in a village of 2,000 persons and was held to be an expert on insanity, but he was also lazy, opportunistic, and given to drinking. Her mother, stable and dutiful, had lost three infants before Maria was born. Maria was somewhat sickly and was cared for attentively until the birth of two siblings in succession (at 15 months and between two and three years) displaced her. She became her father's companion for some years, but he eventually changed his attitude toward her, becoming punitive and scolding. She had an intense rivalry with her next younger sister, eventually over the same boyfriend. She was considered masculine in her competitiveness, disobedience, and general willfulness, but was nonetheless seductive, charming, and a popular dancer. She was vivacious with occasional morose lapses, witty with a flair for the gruesome, gossipy, and irresponsible. She fell in love and eloped, leaving her baby with her parents (cause for a lawsuit in that culture) but soon was fighting with her new husband.

One night he struck her and she suffered an attack of *colera*, essentially an adult temper tantrum believed to result from swelling of the heart resulting from bad blood, with symptoms of gasping and suffocation. Later that night she lapsed into a state of unconsciousness ("cold and stiff as though dead for good" according to her husband and his father) that was so serious that the case was rejected by a shaman. She awoke spontaneously after two hours and began to wail that spirits of the dead were surrounding her and trying to take her. She was unresponsive to persons and events around her, talking only to the spirits. She was labeled *loca* (crazy) and her father was called in because of his expertise with insanity. He took her (and most of her and her husband's families) to a more powerful shaman in a neighboring village, whose advice (although spiritual) subdued many intense family conflicts and involved the kinship network in a common effort against the spirits trying to take Maria. She continued to have auditory hallucinations and delusions of persecution for about a week (with content seemingly related to her life situation, such as an insistence that she nurse the babies in the spirit world). She had one further dramatic episode during which she beat and attempted to castrate her husband, but it remitted and she was free of the symptoms thereafter. Her symptoms were defined in spiritual terms and treated as such.

She continued to have marital difficulties and eventually left the village with a fifth husband and in 1962, while in her late 30s, she complained of various physical symptoms that she attributed to bewitchment and to her powers. A shaman treating her divined that she was being called to be a midwife, a profession that made a great virtue of her eccentricities and even her ideas of reference and persecution. Her younger sister, who had always been more stable and had stayed in their home town, became a midwife at about the same time through a more conventional route, but one that also involved illness (a protracted grief reaction, with anorexia, to their mother's death) and ideas of reference, although in a milder form than Maria's. Maria, in accordance with recommended practice, avoided sex since becoming a midwife and encouraged her husband to find lovers, but in a conflict with him and one of his mistresses she became ill again, bedridden with abulia and anorexia for weeks until cured by miraculous intervention in a dream.

Case H4 Arthur Kleinman's study of traditional healing in Taipei, a large urban community in Taiwan, is one of the few such efforts to be conducted by someone trained in both psychiatry and anthropology. Intensive observations of patients with medical as well as psychiatric symptoms and syndromes were made with a focus on the various traditional attempts at healing. Mr. Chen was a 44-year-old lower-middle-class master woodworker who belonged to the ethnic subgroup Hakka within the Chinese majority. For 16 years he had complained intermittently of a feeling of pressure in his chest, general anxiety, weakness, malaise, and neck tension. He traced the problem to a time when he was in financial difficulties, lonely, and unhappy, but was not helped by visits to four Western-style physicians, who could not identify his illness, or by Chinese-style physicians, who gave him a diagnosis and an explanation and who prescribed various remedies. He believed that his illness was physical, not psychological, but he also believed a fortune-teller who told him that he had bad fate because he was being

bothered by an ancestor, and that he had to find out who it was. He immediately reasoned that it was his biological mother, who had been divorced from his father when Mr. Chen was 4 years old, and whom his father had forbidden him to visit when she lay dying. He propitiated her ghost and his symptoms disappeared. He was free of them for 10 years.

Six years previously, however, they had reappeared and had waxed and waned since. They returned strongly at a time when his business was at a crucial juncture, and a series of negative tests by Western-style physicians resulted in a diagnosis of neurasthenia. Finally, he visited a shaman with whom Kleinman was working. A full mental status examination revealed marked anxiety and somatic preoccupation but no other abnormalities, with limited insight into the nature of the illness, and resulted in a diagnosis of chronic anxiety neurosis. The shaman performed several rituals but the milieu of the shrine seemed as important to the patient as the rituals, and the main thrust of the visit was that he should devote himself to the service of the god and return to the shrine frequently. After five nightly visits and much effort he entered a subjectively described trance state, threw himself around violently, and eventually collapsed, a pattern that would become habitual although more controlled. Two days after his first trance he was evaluated at home by Kleinman, who found him greatly improved both objectively and subjectively. "My overall impression was . . . that his former anxiety had been largely, and perhaps entirely, relieved." The improved state continued on periodic follow-up for two years, during which the patient became increasingly involved with the shrine, eventually becoming a leader who entered trance nightly.

Case H5 In *Saints, Scholars, and Schizophrenics*, her study of the cultural context of mental illness in a remote rural area of western Ireland, Nancy Scheper-Hughes explores the unusually high prevalence of serious mental illness in that region. She documents the relentless generations-long series of social stresses in that population, impoverished and condemned to farm very poor land; dwindling in size and losing its traditions owing to the emigration of young persons, especially women; experiencing a breakdown of respect for the elders of the community; and losing a certain degree of time-honored tolerance of, and even respect for, persons with strange visions. Those stresses occurred against the background of a culture and child-rearing pattern characterized by severe sexual repression, canings, ridicule and scapegoating of children, and both longing for and fear of intimacy. Thematic Apperception Test (TAT) and Draw-a-Person test results with psychiatric patients are consistent with her emphasis of those themes. Without denying the basic biological nature of vulnerability to schizophrenia, she argues persuasively that those sociocultural stresses account in part for the unusually high prevalence of schizophrenia and other serious mental illnesses. Two briefly described cases illustrate certain characteristic female and male themes.

Kitty was a 20-year-old woman hospitalized for the first time with a diagnosis of schizophrenia, which began during a brief period of emigration to work in a low-grade London pub. She was the second youngest in a large family with an occasionally brutal father who abused alcohol and a compulsively religious and sexually repressed mother. She became hysterical over her task of recycling leftover beer slops into fresh glasses, which she equated with the whoring behavior of her Protestant English clients, who recycled their defiled sexuality into their wives in a similar way. During her illness she was obsessed with themes of polarity, such as order-disorder, female-male, pure-impure, Catholic-Protestant, and Celt-Anglo.

Patrick was a 34-year-old farmer, fourth in a family of seven and the youngest son, who carried the diagnosis of chronic schizophrenia. His parents had imposed on him a guilty sense that he must stay and care for them in their old age, and he had remained unmarried and celibate in a dying village from which most young women had fled. In the hospital he rarely spoke. His spotty responses on the TAT described the figures as statues or as pictures of a picture. In describing his relationship to his parents he said, "I am their dead son."

Those and other cases cited by Scheper-Hughes demonstrate the power of cultural context to invest a severe thought disorder with specific content, but also may be relevant to explaining the high prevalence of severe mental illness in traditional rural western Ireland during the 1970s.

Case H6 Among the traditional Zuni, as well as among other pueblo dwellers of the American Southwest, and to some extent among Native North Americans generally, culture defined a role for men who wished to comport themselves as women (as well as for women who wanted to act as men), an institution known as *berdache*. Such persons not only were accepted and treated with dignity but were viewed as being somewhat special, even treasured members of the community. It is unlikely that more than a small number of them were born with anomalous genitalia but most knew from childhood that they wanted to assume a cross-sexual role. Their easily spotted tendencies were viewed as a different *onane* or life road. They were typically, but not

always, homosexual in adulthood, but their alliances, including marriage, were with nonberdache same-sex partners. Zuni child rearing generally emphasized nonaggressive, cooperative behavior. Physical punishment of children was rare, although religious training included some frightening elements.

The most famous berdache (*Ihamana* in Zuni), We'wha, is described in a book by Will Roscoe, *The Zuni Man-Woman*. He was born in 1849 in a highly traditional community frequently subjected to raids by nearby Navajo and Apache. He was adopted into a rich and influential family; his adoptive father was a rain priest. At first he received male-typical religious training, but as his berdache tendencies became apparent he began learning domestic skills and crafts from women. He mastered and carried out advanced skills of weaving (this was the classic period of pueblo textiles), ceramics, cooking, and gardening. At the age of 30 We'wha was a matron, or supervisor, at the Zuni mission school. At that time he became friendly with Matilda Stevenson, an anthropologist, who many years later wrote that We'wha's "strong character made his word law among both the men and women . . ." and yet he "was loved by all the children, to whom he was ever kind."

For years, Stevenson had believed that We'wha was a woman. "She was perhaps the tallest person in Zuni; certainly the strongest, both mentally and physically. . . . She possessed an indomitable will and an insatiable thirst for knowledge. Her likes and dislikes were intense. She would risk anything to serve those she loved." We'wha eventually became a diplomat, visiting Washington for extended periods of lobbying for the Zuni. She died before the age of 50, of heart disease, and the anthropologist, now a close friend, was there. "The writer never before observed such attention as every member of the family showed her. . . . [I]n a feeble voice she said, in English, 'Mother, I am going to the other world' . . . The family suppressed their sobs that the dying not be made sad . . . Her face was radiant in the belief that she was going to her gods."

Case H7 Anthropologist Oscar Lewis and his research team in their ethnography of very poor people defined what some have called the culture of poverty. Lewis's legacy includes thousands of pages of published observations and interviews that offer respectful, detailed, compassionate, and comprehending access to the practical and psychological worlds of the poor. In *La Vida: A Puerto Rican Family in the Culture of Poverty—San Juan and New York* he presents interlocking life-history-interviews with many members of the same family, and adds observations based on days spent with each of them. Fernanda, a short, muscular, attractive San Juan woman of African descent was interviewed by a woman research assistant. She was a mother and a former prostitute.

"I am as frank as I am ugly and I don't try to hide what I am," she began. "There is nothing good about me. I have a bad temper, why should I deny it? . . . When I get into rages, it makes no difference to me whether I kill or get killed. I never feel sorry or anything." She drank heavily, threatened her husbands and boyfriends, and carried a razor blade hidden in her mouth. "I'm not afraid of anyone but God . . . I'm 40 now and I've had six husbands, and if I want, I can have six more. I wipe my ass with men." She also reported a compassionate side; she would prostitute herself to earn money for others in need. She was born in a small country town in Puerto Rico, was mistreated by her grandmother, and was sickly as a child; she specified rickets as one of her illnesses. She loved her mother but was frequently badly beaten by her. The mother was chronically ill, in pain, and raged at her.

She did not adjust well to school and was held back in the first grade because of her frequent fighting. She prided herself on being able to beat up boys. She lived for a time with her grandmother, but went back to her mother: "I had to be at my mother's side forever . . . I loved my mother dearly and I loved only her." She fell in love only once, with a boy of whom her mother disapproved, and she did not go with him. When she was between 12 and 14 years of age her stepfather frequently made sexual advances to her until the man who was to be her first husband, but whom she did not love, took her away. He later beat her severely, while she was pregnant, until her mother threw boiling water at him, causing him permanent injury. Her first child, a girl, was born when Fernanda was 15. Three more came in rapid succession. "I never did get along very well with kids and I didn't let my children be close to me. They never dared cling to me because if they did, I'd yank the hair off their scalps."

When she was 21 and her husband was in the army and away most of the time, she began prostituting herself. She netted little money, often went to jail, and eventually gave it up because she was thin and sickly. She worked in laundries and restaurants. She was to have five more husbands; to raise her children as she had been raised, with a combination of beatings and love; and to maintain a fearful temper and fierce will throughout. At the age of 40, she was living with a man to whom she was very attached and they were fairly good to each other. She was optimistic about the future, if unrealistically so: "I'm 40 years old, but I can still have 50 more babies if I want to. Other women my age have had babies, what would be so strange about my having one? I'm still young." That such a life, in such conditions, is lived with

optimism and produces children who grow up to become parents themselves is a tribute to the resilience of the human spirit.

SUGGESTED CROSS-REFERENCES

Sociology and psychiatry are discussed in Section 4.2 and sociobiology in Section 4.3. Aggression is presented in Section 3.4. Atypical psychotic disorders and culture-bound psychoses are discussed in Section 15.3. Culture shock is discussed in Section 28.5 on additional conditions that may be a focus of clinical attention.

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