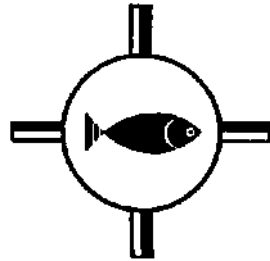


LIBERAL CATHOLIC INSTITUTE OF STUDIES



Unit 17

PSYCHOLOGY

Paper 1

HUMAN LIFE AND FUNCTION: MANKIND IN THE WORLD

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Part II



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UNIT 17

HUMAN LIFE AND FUNCTION: MANKIND IN THE WORLD

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TABLE OF CONTENTSPART I

CHAPTER 1 : INTRODUCTION OF THE SCIENTIFIC STUDY OF HUMAN LIFE AND FUNCTION

CHAPTER 2 : THE EVOLUTION OF HUMAN LIFE AND FUNCTION

CHAPTER 3 : HUMAN LEARNING AND CONFLICT

CONTENT PART II

TABLE OF CONTENTS	2
CONTENT PART II	2
CHAPTER 4: HUMAN DEVELOPMENT AND PERSONALITY	3
CHAPTER 5: HUMAN SOCIETIES AND HOW THEY CHANGE	15
CHAPTER 6: ALTERED STATES OF CONSCIOUSNESS	30
SLEEP AND DREAMS.....	30
SPELLS	34
BRAIN INJURY.....	37
PSYCHOSIS	39
CHEMICAL STATES	41

PART III

CHAPTER 7 : HELPING PEOPLE WITH EMOTIONAL PROBLEMS

CHAPTER 8 : SOME PHILOSOPHICAL QUESTIONS ABOUT HUMAN LIFE AND FUNCTION

CHAPTER 9 : INTERACTIONS OF THE HUMAN SCIENCES AND PROFESSIONS: MEDICINE, LAW, AND
RELIGION



CHAPTER 4: HUMAN DEVELOPMENT AND PERSONALITY

Animals have various degrees of capability when they are born. Human beings are among those who are born in a very helpless state; human babies need care by their parents for a long time. In contrast to some animals, who can walk the day they are born, human babies require a long period of being taken care of by their parents and being taught by them.

A young baby is completely narcissistic. The baby acts only to get his own pleasures and satisfactions, or to relieve his own distress.- The baby shows no altruism, no self-sacrifice, no doing anything for somebody else's benefit. But on the other hand, the baby doesn't do anything spiteful or vindictive, either. He is all wrapped up in himself, and is only dimly aware that anyone else exists. Indeed, establishing the boundaries between himself and the rest of the world is an accomplishment of the first year of life.

The new-born baby has only three activities: he screams in distress, he sucks milk, and he sleeps. When he is distressed, he is totally distressed. He reacts emotionally with his whole body. When he is content and ready for sleep he seems to be totally content, without a worry in the world. He reacts all-or-none. Some psychologists would also say that the baby, when contented, feels omnipotent, all-powerful; and that when he is in distress he feels utterly helpless and powerless.

We all pass through a narcissistic stage, and we all, as adults, keep our typical ways of coping with it. People who seem most extremely wrapped up in themselves can be called narcissists.

The adult narcissist, of course, is aware that other people exist. But emotionally, they don't mean anything to him. Other people exist only as shadowy supports to his or her own self-image.

To the narcissist, the main problem in life is: how can I maintain my own feeling that I am perfect? For in a way the narcissist is highly vulnerable. His view of himself is constantly threatened. He is always in danger of thinking of himself as worthless. That's why he needs to keep convincing himself that he is perfect. Other people come in only as admirers; they stay on the edge of the picture, though they help to reinforce the person's self-esteem. There is some difference between a narcissist and an exhibitionist. To an exhibitionist, showing off and being admired by people is the most important thing in life. To a narcissist, his own opinion of himself is most important, though other people's admiration of him is used to feed and reinforce his admiration of himself.

The severe mental illness known as schizophrenia is sometimes described as a narcissistic illness. Also, some delinquents and criminals are described as highly narcissistic. But most narcissists are regarded as reasonably normal, law-abiding citizens: though proud, vain, selfish, and self-centered.

Some people express their narcissism by maintaining bodily perfection, as, for example, by weight-lifting and body-building. Some people express it through physical beauty, even getting

"face lifts" and other plastic surgery to conceal advancing age. Some express their narcissism by maintaining a perfect house, or a perfect car. Some express it by maintaining an apparently perfect family: one that seems perfect but is really cold. Some of us express our narcissism in an intellectual way.

Narcissism can be expressed in religion, too. An example is a person who makes use of religious forms in striving for his individual perfection (actually, to save his wounded pride by building a belief in his perfection) in isolation from other people. Such a course involves not only pride, but also a certain amount of self-deception. It may also involve ignoring the welfare of other people, and not caring about people. Early Christian hermits seem to have been narcissistic (and often masochistic, too). Narcissism is one of the drawbacks of a meditative and mystical approach to religion: it is something that should be watched for in people who follow such approaches. The historian Toynbee spoke of the value of "withdrawal and return". Jesus withdrew into the desert for 40 days to fast, meditate, and have mystical experience. But then Jesus returned to give other people the benefit of what he had learned. Toynbee points out that withdrawal without returning is self-centered, as it benefits nobody but oneself.

The narcissistic person is usually not a problem to the attorney. So far as we know, narcissistic people do not show up in court (as plaintiffs or defendants) oftener than other people (unless we include those narcissists who are delinquent). But when a narcissistic person is a party in a lawsuit, be aware of what it takes to satisfy him. Often it is his pride that is at stake, not the objective or financial value. Therefore, what the narcissistic person seeks is often some symbolic token rather than money.

Narcissism is very high in patients of plastic surgeons. "A person who seeks surgery to appear younger usually does so for narcissistic reasons. Likewise, the narcissistic person is more likely to be a plaintiff in a lawsuit for an injury that has marred his appearance than an injury that has hurt his earning capacity.

As we have seen, in the earliest phase of psychological development, the narcissistic phase, there is essentially only one person in the world: oneself. In the next phase, dependency, there are two persons in the world: oneself and somebody else who can give help. The crucial emotional issue in the dependency phase is: how can I get the other person to give me what I want?

Dependency, like narcissism, is of mixed value. It represents a stage we all have to go through; it presents issues we all have to cope with; a normal, emotionally healthy adult shows elements of dependency as well as elements of narcissism; and yet an excess of dependency, like an excess of narcissism, has some undesirable effects both for the individual and for other people.

Objectively, the human infant is extremely dependent (and helpless) from the moment of birth. He survives only if somebody else takes care of him. But psychologically, dependency develops only later, when the infant becomes aware of other people and begins to modify his own outward behavior, as instrumental acts, so as to influence and control other people, getting them to take care of him.

At first the baby, when in distress, screams until the breast or bottle is put into his mouth. But after a few weeks, the baby learns to stop crying when he hears his mother's footstep approaching. Probably what he learns ~ first is some internal emotional change, so that the perception of the footstep brings about the shift from sympathetic to parasymphathetic function of

the smooth muscle of the digestive tract,, along with the subjective feeling of emotional satisfaction, and loss of distress. The outward action of stopping the screaming follows. This conditioning of emotional response to an outward stimulus is a classic conditioned reflex in Pavlov's tradition.

At a later time, the outward act of crying becomes modified as an instrumental act. The child learns to use it to affect people, to get help. The child who falls down will cry loudly if his mother seems to be within earshot; but if not, he won't cry.

A subtle task for the parent is to meet all the child's needs and yet not to foster, as the child grows older, a continuation or increase independency behavior. The task is to give the child a high degree of satisfaction, and yet to reward him (by encouragement) more for self-reliant behavior than for unnecessarily dependent behavior.

The dependency stage is often called the oral stage because the mouth is a great source of gratification; a basic way of receiving things.

We find adults who are excessively dependent. It is common to classify them into two sets, though they are not sharply separated: there are gradations and transitions between them. One type is the passively dependent person who, by his helplessness, appeals to other people to do things for him. The other is the insistently demanding person (sometimes aggressively demanding) who more-or-less forces people to give him what he wants. The latter behavior is called oral aggression; it symbolically devours other people, and it uses a sharp tongue.

Another way of dividing dependency is into successful dependency and unsuccessful dependency. Some people go through life trying to lean on other people and succeeding in doing so. Others go through life trying to lean on other people, and being rejected. This classification cuts across the division into helpless dependency and demanding dependency.

Thus, we have successful helpless dependent people (who successfully play the helpless role to get what they want); unsuccessful helpless people (who play the helpless role but are disappointed) ; successful oral-aggressive people (who demand what they want and get it); and unsuccessful oral-aggressive people (who demand what they want and don't get it, and so complain with a loud mouth).

Among these, it is the unsuccessful helplessly dependent person who is most likely to be a masochist: that is, someone who keeps bringing about his own defeat and disappointment (in ways that are obvious to everybody but himself) and seems to enjoy being disappointed, wallowing in self-pity.

The masochistic person, self-punishing and self-defeating, is an example of the fact that pleasure and pain (or reward and punishment) are not simply opposites. A masochistic person gets his pleasure and pain, his reward and punishment, at the same time. Perhaps such people have learned this in early childhood because the only way they could get attention and affection was in a situation in which they also suffered. It is more attractive to get both reward and punishment from the same behavior than to get neither.

It has also been pointed out that some people seem to commit crimes (break rules and customs) in order to get the satisfaction of being punished. It has been postulated that such people have a sense of guilt first and then commit some violation of rule in order to supply justification for it or perhaps assuage the guilt feeling by undergoing punishment.

Often we see people who keep doing things that they believe are wrong. Of course this is illogical, but people do it. We can ask such people two questions: (1) If you believe it is wrong, why do you keep doing it? (2) If you keep doing it, why do you keep believing it is wrong? Such people are inconsistent within themselves, probably because some part of the motivation is kept out of awareness. Only when all parts of the picture are brought together into the person's awareness can he get it all together (integrate it), and make a reasonable decision.

The early and most basic period of human life is not only a self-centered period, and a mouth-receptive period, but also a skin period, a touch period. Harry Harlow, a Wisconsin psychologist, experimented with new-born chimpanzees, taken away from their mothers. Several kinds of substitute mothers were offered: some made of wire and some of terry cloth. The soft feel of the terry cloth was important. Even when the food source (a baby bottle) was attached to the wire "mother", the babies would go to her only to drink, and would spend the rest of their time clinging to the cloth "mother".

Confirming findings of Rene Spitz, John Bowlby showed that children deprived of affectionate bodily contact (of being held in the arms) in the first two years of life grew up with permanent defects of character: unable to trust people, to love people, or to develop a conscience and show consideration for other people. This was true even though busy nurses had supplied plenty of food and a clean environment, and otherwise taken good care of their obvious needs. It seems that babies have a powerful need for skin contact, to be held in the arms and have their skin caressed lovingly. It is suggested that grown-ups have that need, too.

Our culture has been criticized as one that, after early infancy, leaves people starved for skin caressing and affectionate bodily contact. In our puritanical avoidance of anything that might lead to sexual gratification, we guard carefully against the affectionate caressing that people need for their mental health and emotional contentment. A fair amount of caressing is allowed when both parties are female, but it is regarded with suspicion and distrust when one or both parties are male.

Monkeys and apes, adults as well as infants, do a lot of caressing while grooming and cleaning each other's fur (and picking the lice out). Usually it is the person of lower standing who grooms the more dominant one, though adults (especially females) groom the babies. Grooming is a way of pleasing and appeasing someone who might otherwise attack you. Wasps stroke one another with their antennae. Rodents groom one another by gently nibbling the fur. Jane Goodall has reported that grooming one another is the principal social activity among the chimpanzees whom she studies in the wild.

While we are on the topic of dependency, let us consider a special form of dependency called parasitism. Wilson, in *Sociobiology* (pages 368-375) presents a series of life-patterns in ants, which he believes represents successive phases in evolution. Let us call the species of raiders, R, and the species of victims, V. Here are the stages.

(1) R ants, which are independent, autonomous, and free-living, occasionally raid nests of their own species or a closely related one, V, taking their pupae as food. (2) R ants raid the V nests and let the V pupae survive and grow up as workers in the R colony, though they kill any queens. (3) R ants let V workers survive and do most of the food-gathering and fighting for the colony. Eventually, they begin to let V queens survive and reproduce more workers. The R workers become less skillful at food-gathering and fighting, but they can still do so when they have to. (4) R workers become inept. (5) The R worker caste is lost, and the queen tends to be replaced by something between a queen and a worker. (6) The R species becomes completely

inept and parasitic. All that survive of R are the queen and the "male, and all they do is eat and reproduce. Their brains become smaller and less complex; their behavior is simplified; their bodies are simplified and infantile. The R ants depend on their ability to attract the V workers and trick them into donating liquid food by regurgitation. Wilson summarizes:

"Once a species enters the final evolutionary sink of inquilinism, it seems to evolve quickly into a state of abject dependence on the host species."

The lesson is clear: once you enslave other people, you are on the road to becoming an inept parasite. The road to healthy survival is to be self-reliant and not to enslave others.

In the next stage of development, there is also a two-person world, but instead of the child and the giving parent it is the child and the regulating parent. Here the issue is: how can I cope with someone who tries to impose rules and controls on Me? There are four possible extreme choices. Two of them do not involve internalizing the rules. One way is to evade the rules, perhaps using deception. Thus the issue is not faced. Another way is to rebel aggressively. Generally people who have been demanding in the dependency phase (these who are called oral aggressive) are those who are actively rebellious in the situation of rules. They are also likely to be exhibitionist (show off).

The other two extreme positions involve incorporating rules within oneself. People who do this are called compulsive characters.

One solution is to incorporate the rules so as to become obedient, submissive, and conforming. The other way is to be quietly, stubbornly resistant.

The submissive and the stubborn person may seem to be opposites, but they are not. They have much in common. The same person may appear over-conforming at one time and quietly stubborn at another time. Persons using both these reactions have incorporated the rules deep within themselves, so that they cannot be easily erased. The stubborn person is indeed conforming to rules; it only happens to be a different set of rules from those in the current situation. The quietly stubborn person is, in effect, telling his parent: "I can't do what you tell me to do today, because it conflicts with the rule that you taught me last month, and which I have come to believe is right." Or an adult may say to his government, "I will not obey the law because it conflicts with the rules of right and wrong that I was taught earlier in life, and which I believe are the right rules."

Thus we see that the essential feature of the compulsive character is a certain amount of inflexibility: the person has incorporated (made a part of himself) a system of rules and standards, which he holds to persistently: these standards in him change very slowly.

Persons of this character have been described as using three defence mechanisms: reaction formation, undoing, and isolation of their feelings (so that they seem cold). Reaction formation means forming a more-or-less permanent character trait of doing the opposite of the impulses.

Many of the character traits that we value most highly are reaction formations. Among them are: bravery and courage as a reaction formation against running away; self-reliance as a reaction formation against dependency; generosity as a reaction formation against selfishness; thrift as a reaction formation against spending money self-indulgently; kindness as a reaction formation against cruelty; honesty as a reaction formation against the urge to steal. There are also reaction formations against reaction formations.

For example, as a reaction against dependency a person may become aggressive, and as a reaction against aggressiveness the person may become passively and rigidly self-controlled. This restores one not to the original condition but to something more inflexible.

The compulsive person is sometimes described as having three characteristics: being orderly, thrifty, and persistent (often to the point of being stubborn or rigid). The advantage of this character is in the virtues that we have mentioned. The drawback is in being inflexible, not open to new ideas, and lacking in originality and creativity.

Some religious activities are examples of this character. The person who feels compelled to say exactly a certain number of prayers (counting them) each day or at fixed intervals, is an example of this inflexible character.

It takes a certain amount of rigidity and compulsiveness to get through medical school. Of course, we are all glad to have a surgeon compulsive enough to wash his hands, inflexibly, the required number of times and, of course, we all want our bankers to be compulsive characters. When I put my money in the bank, I want the banker to be rigid in following the rules about what he does with it. I don't want my banker to do something original and creative with my money.

The next phase of development involves a three-person world: (1) myself, (2) somebody whose affection and attention I wish, and (3) some third person "who is a rival for the second person's affection and attention. This may be the child wishing to have his mother and exclude his father. Or it may be the child wishing to have his parents and to exclude the new-born baby brother or sister. As we can see, a three-person world is one of rivalry and jealousy.

Despite the deed of Oedipus and the temptation of Hamlet (kill the rival) this situation can seldom be handled by force. The affection and attention of the second person cannot be won by threats. The successful solution is to entice the second person: it is to influence the second person by rewards, by incentives, and by promises. (The promises are seldom completely fulfilled because it is shrewder to leave the second person not fully satisfied, so that he or she will keep coming back for more.) As we can see, this situation involves manoeuvring and manipulating the second person to influence that person and entice that person's affection and attention without making open attempts to control the person. Seductiveness and flirtatiousness are often successful. This is true regardless of whether the stakes are sexual or not. In any case, the situation is subtly sexualized.

The kind of person who successfully adopts this character is one who can •"keep his or her own motives out of awareness. The individual signals to the second person (inviting a certain response) without being aware that he or she has sent the signals. The successful person of this type must keep himself (herself) from being aware of his or her own motives; that is, to be unaware of the connection between the things that he or she does and the goals that these actions are designed to achieve. Thus we see the chief defence mechanism used at this stage is repression, defined as keeping one's own motives out of awareness. Another is denial, defined as keeping some facts about an external situation out of awareness. A third is dissociation, defined as keeping two mutually incompatible thoughts or attitudes from coming into awareness at the same time: a fourth is conversion, developing sensory or motor symptoms that symbolize the emotional conflict. The technical name for this type of character is "hysterical personality" but because that word has other meanings in everyday language, let's avoid it and say, instead, naive idealism.

Naive idealism contributes to a person's attractiveness, especially to the attractiveness of females. This character has some good features. One is idealism; that is, allegiance to high standards of behavior. Another is faith. Another is romanticism, which includes the ability to idealize another person, and to feel thrilled by that person. What we call "falling in love" requires a certain amount of this personality. Attractive features of this character include liveliness, youthfulness, spontaneity, and flexibility. Like the other kinds of personality and character we have described, everybody has some of it, and some people have more than others.

Persons of this type are highly changeable. They may be in one mood one hour, and in a different mood the next hour. This depends on the shifting content of what is kept out of awareness. At one time the person may be aware of all the good things in life and unaware of all the bad things; and an hour later, the reverse. Often the shift is designed to influence the other person; moods may shift according to whether one tries to influence the other person by cheerful conversation or by apparent helplessness and appeal for sympathy. A naive idealist is the person who can best play "games", as Berne calls them.

Eric Berne, in his book called *Games People Play*, defines a game as a set of interactions that a person sets up that brings that person an emotional satisfaction; and brings the other person, first, some pleasant incentives, and then an unexpected and unpleasant surprise.

Naively idealistic people are the ones who can most easily play games. The reason they can do so is their ability to keep the right hand from knowing what the left hand is doing.

There is a different kind of person, the one who has insufficient conscience, who can behave unscrupulously, manoeuvring people, manipulating them, taking unfair advantage of people. The naively idealistic person also does a certain amount of manoeuvring and manipulating, but in a different way.

The naively idealistic person has a conscience, and the only way that he can let himself manoeuvre people and play games with them is by slipping it past his conscience, by keeping it out of awareness.

Naive idealism is, in general, more characteristic of females than of males. There may be a biological reason for this difference. In the mammalian branch of evolution, males are generally more open and aggressive in going after what they want, while a female operates by enticing the male and placating him. This basic role seems to make for working indirectly; tactfully and subtly influencing the other person.

The development of conscience is an interesting process that has gotten a lot of attention in recent years. None of us is born with a conscience, but we are all born with the capacity to develop one. Like another specialized function, that of language, conscience has its own separate development of cognitive functions (learning, knowing, and thinking). We develop these functions in a context of trying to achieve satisfactions and security within a family and a world of people whose aims are sometimes in common and sometimes in conflict.

Every group of people, every society, every culture, has its own understandings about people's rights and duties. Much of the content of rights and duties has to do with defining in what ways each person's efforts to attain his own pleasures, satisfactions, and securities, are to be limited by regard for other people's rights to their attainment of pleasures, satisfactions, and security. But most social systems have gone further and forbidden certain acts which are appar-

ently harmless and do not seem to interfere with other people's rights (the so-called "victimless crimes").

It may be that there is a human tendency to control other people and restrict other people's freedom of choice for purely emotional reasons, even when there is no very obvious advantage to be gained in doing so.

There seem to be certain basic concepts of right and wrong that are found in every society or culture. Every society recognizes property of some sort and forbids taking other people's property by aggression or by stealth, at least within the tribe. Every society forbids or severely restricts people from killing each other or beating each other up. Every society recognizes families in one way or another. Every society has rules about how disputes are to be settled peacefully. And yet specific rules about what is right and what is wrong, what is forbidden and what is allowed, vary quite a bit by society, by culture, and by religion. Harmless behavior (especially sexual) may be sternly regulated.

Consider a meeting of three people. A is a strict Roman Catholic, B is a strict Baptist, and C is a strict Orthodox Jew. A and B will eat pork, but C regards it wrong to do so. A and C will drink a glass of wine, but B regards it wrong to do so. B and C will use contraception, but A regards it wrong to do so,

In recent years, culture anthropologists have in general adhered to a theory of "cultural relativism": that each culture's standard of right and wrong deserves equal respect, and that there is no absolute universal standard.

Each child develops his ideas of right and wrong within his own family, at first, and later modifies them in contact with a wider group of people. The love and approval of a mother and father are important to the child. The young child feels unhappy when his parents disapprove of him. Soon he "identifies" with his parents, incorporating their standards and their valid judgments within himself, so that before long he begins to criticize himself in the situation in which his parents, if present, would criticize him. After the age of six or so, the opinions of the peer group (other children of the same age) become very important to the child.

Erik H. Erikson has conceptualized human development throughout life into eight stages. The first stage is concerned with whether a person develops a basic attitude of trust or mistrust toward the world and its people. This stage corresponds to the first two stages that we have already described: the issue of narcissism and the issue of dependency. Erikson's second stage has to do with developing a sense of autonomy as opposed to shame and doubt. This stage corresponds to the one we discussed as the issue of how to cope with someone trying to impose controls and regulations. Erikson's third stage is concerned with developing initiative as opposed to guilt, jealousy, and rivalry. It is the stage we have discussed as the three-person world with issues of enticing people and playing games with them. Erikson's fourth stage concerns the child age 7 through 12 (the so-called latency period), learning to win recognition by work (including school work). Erikson calls it the issue of industry versus inferiority. Erikson's fifth stage begins at puberty. Erikson speaks of adolescents as "concerned with what they appear to be in the eyes of others". He says, "To a considerable extent adolescent love is an attempt to arrive at a definition of one's identity by projecting one's diffused ego images on one another and by seeing them thus reflected and gradually clarified. . .The danger at this stage is role diffusion." Erikson's sixth stage is called intimacy versus isolation.

He notes that once when Freud was asked what a normal, mature, adult should be able to do, he answered "Lieben und arbeiten" (to love and to work). In this stage a person becomes able to establish an intimate relationship with a person of the opposite sex. Erikson comments, "A human being should be potentially able to accomplish mutuality of genital orgasm, but he should also be so constituted as to bear frustration in the matter without undue regression whenever considerations of reality and loyalty call for it. "

Erikson's seventh stage is called generativity versus stagnation. Erikson says, "Generativity is primarily the interest in establishing and guiding the next generation or whatever in a given case may become the absorbing object of a parental kind of responsibility. "

Erikson's final stage is called ego-integrity versus despair. In this stage of maturity, a person acquires a sense of the meaning of life, and so death loses its sting. (This brings to mind Jung's famous statement that everyone who undertakes psychoanalysis after the age of 40 is looking for a sense of religion, that is, a sense of the meaning of life.) Erikson says, "Healthy children will not fear life if their parents have integrity, enough not to fear death. "

As we see, the adolescent or young adult has to define his role in life in two ways. The first way is in relation to intimacy, marriage, and parenthood (or some kind of concern for the next generation). The second respect is in regard to choosing an occupation, a career. This wasn't much of a problem 600 years ago, when each person's choices were sharply limited. But in our society, where a wide variety of choices is available, many young people become confused. Psychologists and others have made career choice and career development a major field of study in recent years. Tests to help clarify a person's career goals have been developed by Strong, by Kuder, by Holland, by Clark, and by D'Costa, among others. The pioneer in the field, the late Professor E. K. Strong of Stanford University, commented that choosing a career is not something superficial; it is choosing a whole way of life.

The choice of a career involves a person's whole system of values and priorities in life: what things are important to him and what things are not. D'Costa classifies occupation according to the extent they involve working with people, with data, and with things. The factorial dimensions of the Strong test include measuring success in terms of money as compared with measuring success in terms of principles; liking to work with a technology as contrasted with liking to work non-technically with people; and liking to work with clearly-defined tangible things as contrasted with liking to work intuitively with intangible things.

A test not directly related to career choice but concerned with values in life is the Allport-Vernon-Lindzey study of values. This test scores each person according to the relative importance that he places on each of six values. The six values were first described by Eduard Spanger. They are: Theoretical (importance of knowledge and abstract thinking); Aesthetic (artistic and intuitive); Social (putting value on social welfare and the collective good); Economical (Importance of material well-being); Political (importance of power); and Religious (importance of the spiritual). This is a very interesting test. It has been shown that people differ, on the average, according to sex and also according to cultural group and section of the country. Religion turns out to be valued more highly by women than by men, and more highly by people in the south than by people in other parts of the country.

It may be observed that not all values are sampled in the Allport-Vernon-Lindzey. There is, for example, no scale of hedonism (pleasure-seeking). This absence probably reflects the opinion of Spranger and of Allport that hedonism is an immature aspiration, and they only wished to measure and compare the mature aspirations that people have.

The development of conscience in children was one of the interests of the French-Swiss philosopher Jean Piaget. This philosopher, studying epistemology, decided to take a year off and study experimentally how children develop concepts. As it turned out, he spent the rest of his life studying this problem. While most of his work had to do with cognitive development, Piaget also studies moral development; in both cases, he liked to think of psychological development as taking place in three stages.

For moral development, Piaget's three stages were: First, the early level, in which moral values have not developed or internalized, but the child responds to punishment and reward. At the second level, the child tries to follow the rules and fulfill the "correct" roles. This is done rather rigidly and corresponds to the stubborn and submissive character traits that we have called compulsive character. In the third of Piaget's ^w levels, the child becomes more flexible, and becomes aware that rules should not be followed for the sake of rules, but rather that people should do what is good for themselves and for other people.

Lawrence Kohlberg has followed Piaget's classification in general, but makes it more detailed, dividing each of Piaget's three levels into two stages, thus coming up with six stages, as follows: (1) Obedience to rules and authority to avoid punishment, (2) Conformity to obtain rewards and to exchange favors, (3) Good-boy orientation, conformity to avoid dislike and rejection by others, (4) Duty orientation: conforming to avoid censure by authority, disruption of order, and resulting guilt, (5) Contractual and relativistic orientation: rules of duties, rights,- and wrongs are not universal but set by agreement, either generally by legislation or individually by the agreements or contracts that one person makes with another person, (6) Final stage: that even though specific rules are changeable and variable, some basic ethical principles are universal and apply to all human beings, all societies, all cultures. Stage 5 is the stage of "cultural relativity": that each culture defines right and wrong differently, each culture being equally valid and equally right. This is the position that most cultural anthropologists have taken in the last 50 years. It is the position of freedom and tolerance, which allows each person to choose his own religion and live his own way of life. The Bible and the Bhagavad-Gita, monogamy and polygamy, patriarchy and matriarchy, father gods and mother gods, monotheism and polytheism, are equally respected. The sixth stage involves going back to the position that there are some universal laws and principles after all. In some ways it is a return toward the fourth stage, but with less rigidity and more flexibility; with less tendency to deify a particular detailed set of regulations. The trouble with systems like this is that they have a certain amount of subjectivity. Each psychologist sets up as the final stage (considered the most mature stage), the set of values that he himself holds. Kohlberg's scheme is the basis for quite a bit of research going on nowadays. But it is not certain that all people develop through the six stages that Kohlberg has described, in that sequence; and even if people did so, it would not necessarily follow that each later stage is more mature, better, or wiser than the stages that precede it.

As we shall see, cultural anthropologists, since about 1925, under the influence of Franz Boas, have espoused cultural relativity. They have shied away from drawing general conclusions and have concentrated on studying specific cultural groups, mostly primitive peoples. And, under the principle of cultural relativity, they have avoided making any comparative judgements to the effect that one way of life is better than another; in fact, it has become an article of faith among cultural anthropologists that each culture should be judged by its own standards and that no way of life is better than any other. All this was perhaps a healthy reaction to a lot of wild speculation that had taken place in the period from 1850-1925. Not only had there been a lot of statements about stages of human biological and cultural development, with very little evidence to support

them; but also much of it has been accompanied by intense value judgements. This skepticism in anthropology paralleled the skeptical movement of behaviorism in psychology.

As you may have noticed, in this treatise we have not been limited by the traditional divisions among university departments. Anthropology defines itself as "the science of mankind" while psychology (literally, the science of mind) defines itself as "the science of human behavior". It's obvious that psychology and anthropology claim much of the same field. Both of them are concerned mainly with human beings but they have done studies on other animals for the purpose of comparison with human behavior and better understanding of human behavior. In practice, psychology has concerned itself with several sub-fields: clinical psychology is a professional field (analogous to law or medicine, or the clergy) concerned with evaluating difficulties in the functioning of the individuals, and modifying or alleviating these problems through counseling and other forms of teaching, either one-to-one or in a small face-to-face group. Clinical psychology, historically, began with the development of psychological tests (intelligence tests first, and later, personality tests, with such side-lines as tests of knowledge and skills, and tests of vocational interests). Only later did clinical psychology move into the field of counseling and psychotherapy, a field which it shares with psychiatry, a specialty of medicine. Experimental psychology, on the other hand, began as the physiological study of sensation and perception, and in the 20th century has dealt mostly with the scientific study of learning. Experimental psychology has dealt very largely with animals (running rats through mazes, classically), assuming that what is true of rats is also true of human beings, but many experimental psychologists have also worked with human beings. There are limits, of course, to human experimentation, that do not apply to animal experimentation. Another field, social psychology, had dealt with the study of the face-to-face-interactions of human beings in small groups. Scientific studies of attitudes and public opinion surveys are considered to be a part of social psychology. The field of social psychology is on the borderline between the academic departments of psychology and of sociology, and is claimed by both.

A very interesting finding of social psychology deals with the effects of being alone or not quite alone in holding an opinion. In one study, groups of people were called on to give their judgement whether one line or the other line was longer. In the experiment, everybody but one was a stooge, and the stooges, by prior arrangement, agreed in giving (for certain questions in the series) the answer which was, in fact, wrong. What happened when the one true experimental subject found that what he (correctly) perceived was in contradiction to the unanimous opinion of all the other people present? Many such subjects tended to express the same opinion as everybody else. In some cases, they even convinced themselves that it was true, when it was not. On the other hand, if there was one other person present who expressed the true opinion (against an otherwise unanimous majority that was wrong) the experimental subject would express the true opinion. This is a very important finding. It shows that a person will stick to his own individual judgement if he can find at least one other person who will publicly express the same opinion, so that he is not entirely alone.

Another example of an interesting experimental finding of social psychology is as follows. If you attempt to scare people (with the dangers of venereal disease, for example, or with the dangers of alcohol) people will block the scary picture out of their minds and be less influenced. Your message will have greater effect if it is less scary.

A concept that has been in vogue lately is Eric Berne's notion of the life script that everyone has. This idea is an elaboration of Alfred Adler's concept that each person has a "guiding

fiction" or "style of life" by which each of us defines himself. We make our decisions and choices in life so as to fit our guiding fiction.

This makes good sense. Each of us has a self-concept, though it may be largely outside our awareness: we may not have thought much about it or expressed it in words. Why did you not become a truck driver? Why did you not become a beautician? Why did you not apply to be an astronaut? The answer must be somewhat like this: "That takes a different kind of person. That's not the kind of person I am." In Adler's words: "That doesn't fit my guiding fiction." In Berne's words, "That doesn't fit my script."

E. D. Strong recognized the same thing when he remarked that in choosing a career we choose a whole way of life. The same applies in choice of a mate: we choose a marriage partner who fits into our guiding fiction, our style of life, our script.

Berne makes a basic distinction between a winning script (a script that calls for success) and a losing script (one that calls for failure and tragedy). Winners are called princes and princesses, and losers are called frogs. Berne says that we are all born (potentially) princes and princesses, and (some of us) are turned into frogs by our parents. Berne's method of psychotherapy called Transactional Analysis, is based on uncovering people's losing scripts and giving permission to change to a winning script.





CHAPTER 5: HUMAN SOCIETIES AND HOW THEY CHANGE

Anthropology today is often considered to consist of four fields: cultural anthropology, physical anthropology, archaeology, and linguistics. The greater number of anthropologists have been cultural anthropologists, and have spent their time studying the customs, rules, and value systems of particular societies, especially the primitive societies and other groups that are small, where people meet face-to-face and know each other. (This is in contrast to sociology, which has mainly studied the United States and other industrialized societies which have large populations and where people do not usually know most of the other people face-to-face.)

Physical anthropologists are far fewer. Traditionally, they have studied the bodily characteristics that distinguish various racial groups throughout the world. In recent years they have tended to turn from gross bodily measurements to subtler things such as blood types.

Archaeology is a field that is not entirely within anthropology, but also claims some relationships with the study of history, classical languages and civilizations. Archaeologists typically dig up the remains of individuals and civilizations from the distant past, and their material products, including art objects. Archaeologists attempt to reconstruct the history of the human race, especially the pre-history that came before any written records. The study of human evolution is related to primate biology and to palaeontology (a field of geology) as well as to physical anthropology and archaeology.

Linguistics is also a field which is not entirely within anthropology, but also related to the study of foreign languages (ancient and modern) and to history; it can also be related to psychology and to neurology (the study of the brain and nervous system and its function) and to philosophy and to computer science. Linguistics began in the 19th century, under the name of comparative philology, as the systematic or scholarly study of the relations among various languages. The Neogrammarians ("young grammarians") compared Latin, Greek, Sanskrit, and other ancient and modern languages, including English, and discovered that they were all members of a common language family, which was called Indo-European. Philologists were able to classify the various branches (as Linnaeus classified the species of animals) and traced the course of evolution from a single ancestral language, just as biologists trace biological evolution by comparative methods. There has been considerable success in reconstructing the hypothetical ancestor of the Indo-European languages. And also the hypothetical ancestors of other language families, such as Hamito-Semitic and Austronesian. The ancient Hittite language, and has changed our reconstruction of Indo-European in some ways.

The second phase of linguistics was the structural linguistics school led by Professor Bloomfield at Yale, paralleled by the Prague school of Roman Jakobson in Europe. This school of work concentrated on synchronic (present day, not historical) studies of specific languages.

In insisting on the uniqueness of each language, Bloomfield linguists followed the lead of the Boas cultural anthropologists who insisted on the uniqueness of each local primitive culture. This was a healthy reaction against some excesses of generalization that had taken place. For example, a Frenchman wrote a grammar of the Tahitian Polynesian language, and had a chapter on

the "ablative case in Polynesian". Of course, Polynesian has no such thing as an ablative case, and the Frenchman was wrong in trying to force the Polynesian language into a Latin classification of five cases.

On the other hand, the Bloomfield group went too far. They instated that each language was so unique that there were no common categories among them. So, for example, in writing a grammar of Chinese or Japanese, the Bloomfield linguists would refuse to use such words as "nouns" or "verbs", as they preferred to say that the categories in each language could not be compared to the categories in any other language.

Benjamin Whorf, and later, Dorothy Lee, developed a hypothesis about language and thought. They pointed out that each language has its own set of categories. German, for example, must classify every noun by gender, so that *Wein* (wine) is masculine, *Bowle* (punch) is feminine and *Bier* (beer) is neuter. The adjective used with the must change its ending to agree in gender with the noun. English has lost that classification. Whorf and Lee said that, since thinking is largely done in language, each person's thinking is limited and determined by his language.

Here is an example. In English we seldom speak of a parent: the very word is borrowed from a foreign language. We normally specify the sex by saying father or mother.' But in Hawaiian Polynesian people usually say *matua* (parent).' Only for special emphasis do they say *matua-taane* (male parent, father) or *matua-fine* (female parent, mother). What should the missionaries do in translating the Lord's Prayer? To say "to maatou matua" (our parent) is to leave out the maleness mentioned in English and in the classical texts. To say "to maatou matua-taane" (our male parent) is to overemphasize the maleness. Neither translation quite conveys the right shade of meaning, fin fact, the translators said, to maatou-matua.) (Footnote: Here we speak Hawaiian words phonemically and not by missionary spelling.)

Anthropologists and linguists have studied situations of neighboring peoples, alike in culture, but speaking unrelated languages. The general conclusion seems to be that the Whorf-Lee hypothesis holds true only to a limited extent; and that to a great extent people's thinking is independent of the structure of their languages. Chomsky and his school represent a powerful move back to the belief that thought and language are to a great extent the same in all human beings, and depend on capacities that are inborn in all human beings. A hypothesis that seems attractive is that the categories and modes of thought are universal, while the categories of language vary from one language to another. But this hypothesis poses some unsolved problems of the relationship of thought to language, and the extent to which we think without using language.

The-third and modern phase of linguistics was initiated by Noam Chomsky in the late 1950's. This movement is called generative grammar or transformational grammar. Chomsky's approach for any given language is to attempt to write a set of rules which will generate all possible sentences in the language (which are unlimited in number). One begins by writing "phrase structure rules", which are for the most part universal, that is, the same for all languages; and then applies transformational rules. The first rule in a generative grammar is: Sentence becomes (or is replaced by) noun-phrase plus verb-phrase. It is written: S NP + VP. By further replacements, including replacing categories with specific words from the lexicon (and such lexically-specific rules as: man plus plural becomes men), one can generate an unlimited number of sentences. Such categories as nouns and verbs are believed to be innate in every human being and applicable to all languages.

In psycholinguistics (the field that overlaps psychology and linguistics) some psychologists had attempted to explain how children learn to speak, in terms of associations from one word to the next. Chomsky and other linguists quickly showed that the number of possible associations is so great that language could not possibly be learned that way. Indeed, it is characteristic of command of any native language, that a person can easily understand a sentence that he has never heard spoken before; and people can produce sentences they have never heard before. None of this could be done if we only learned connections between one word and the next word that follows it. Chomsky shows clearly that grammatical categories are necessary and real.

Chomsky also stands (correctly) for the position that the human mind is not a "tabula rasa" (a blank board in which anything can be written) but has certain hereditary capacities making it easy to learn certain things and not others. In particular, human beings have some sort of device for acquiring language, a capacity that most other animals do not have.

How does each child learn his native language? It has been customary to think of a child's speech as a faulty imitation of his parents' speech. There is some truth to this: a child tries to communicate with adults, and in the end a child comes to speak much like the other people around him. Nevertheless, it has been fruitful in recent years to study each child's language at a given age as if it were a foreign language, with its own lexicon (vocabulary), its own syntactic structure (grammar) and its own morphology (inflection). In learning to speak, children slowly add rules, and occasionally delete rules and rearrange their sequence. An excellent book on the subject is *The Acquisition of Language* by David McNeill, available in paperback. As we think partly in words, learning to speak (use words and sentences) bears some relation to learning to think. If it be true that some features, such as nouns and verbs, are found in all languages, it seems likely that they are genetic biological characteristics, innate categories of human thinking. Other features vary, such as the order in which the words are put in a string. English and Chinese are subject-verb-object (SVO) languages. Japanese is SOV; Hawaiian is VSO. The linguist Lehmann shows that OV and VO languages tend to differ in consistent ways. Languages that have the verb before the object also have prepositions before the noun. Languages that have object before a verb (as Japanese) have markers (postpositions) after the nouns. (The system also predicts the position of relative clauses, but falsely predicts that adjectives would come after nouns in English).

Discussion of innate categories or modes of thinking is reminiscent of Kant, the 18th-Century philosopher. Kant said that space and time are not properties that we observe in the world. Rather, they are properties of our minds. Our thinking apparatus is so constructed that we automatically perceive things in terms of space and in terms of time. Because our minds (or thinking processes) are built that way, we can never know whether space and time are truly a part of the physical world or are only something that is built into our methods or perception.

Kant's position is an extreme one. In recent years physicists have developed new and original ideas about time. Einstein and others have shown that time can be represented as a fourth dimension in addition to the three dimensions in space. Thus we have a four-dimensional space-time. But time is not exactly equivalent to the other three dimensions. It seems to be curved. To account for the scientific ten dimensions in a Euclidian geometry without curvature. Most scientists prefer to accept the four-dimensional model with curvature as the simplest explanation. At least this is a sign that (contrary to what Kant thought) our thinking is not so constrained by time and space that we are unable to analyze these dimensions.

Indeed, it can be argued (with a great deal of truth) that if a certain form of perception (such as space and time) has been built biologically into us, it must be because it works. If it didn't work, if it were not successful in dealing with the world, our line of evolution would come to an end.

Of course, this line of argument should not be carried too far. The ants are highly successful; and yet their perceptions of the world are highly specialized and highly limited. Under certain circumstances they can be grossly deceived. Wilson points out that some parasitic species dupe the host workers into treating them as particular immature stages of the host species. The larvae of the *Atemeles* species (of beetles) are picked up by the workers of the *Formica* species of ants and treated as their own larvae. Even more striking, the *Atemeles* gives the proper signal by tapping the body of the *Formica* worker, causing her to turn and face the individual, and, if tapped repeatedly on the lip, to regurgitate food. Still more strikingly, the *Atemeles* larvae dupe *Formica* workers into treating them as *Formica* larvae. They are picked up by *Formica* workers and put among the *Formica* larvae, whom they devour. Wilson comments, "In summary, the *Atemeles* have penetrated the heart of the ant colony by the production of no more than two or three "pseudo-pheromones" and the imitation of two elementary tactile signals. They have taken advantage of the relative impersonality of insect societies and the narrow sensory *Umwelt* of their hosts. Noting the strikingly different appearances of such parasites and their distinctive behavior, we can only marvel at the simplicity of the codes by which such complex societies can be organized." (Op. cit. , pp. 375-376.)

Seeing what limited understanding the ants have, and how easily they can be fooled by a clever imposter, we can only ask ourselves whether the human species also has very incomplete perception of what goes on around us. Bearing these lessons in mind, we should not scoff at the possibility of extrasensory perception. It is indeed possible that we, like the ants, are unaware of much of what goes on around us.

The major thrust of psychology and cultural anthropology in this century has been to deemphasize the importance of heredity or the inborn and biological apparatus in human thinking. But Chomsky (who is now clearly the dominant figure in linguistics) has reversed this trend and reemphasized the innate features of our communication. How group? And how much is universally true of human beings? And how much is shared with other species?

It is commonly agreed that what distinguishes human beings from other animals is our much more highly-developed thinking. And it has often been said that only human beings can use words (and mathematical symbols) to think and communicate with others. So it is that many people have been shocked to learn that some chimpanzees have recently been taught to communicate in words and sentences.

Allen and Beatrice Gardner, in Reno, Nevada, in June, 1966, began teaching a girl chimpanzee (whom they named Washoe) to talk in American Sign Language, a language used by deaf people. Washoe eventually learned to use 160 words in American Sign Language, and she carried conversations on spontaneously with people. Though she began by using a Subject-Object-Verb word-order, she shifted to the Subject-Verb-Object order required in English. She knew the difference between "you tickle me" and "me tickle you" and acted accordingly. (Sign language, like Japanese and Chinese has the same word for *me* as *I*.)

Washoe was moved in 1969 to the Institute for Primate Studies in Oklahoma. When several chimpanzees who had been taught American Sign Language were put together, they began talking with each other in American Sign Language.

It became clear that the reason for the failure of previous attempts to teach chimpanzees to speak was not (as had been thought) a lack of ability to think in words, but a lack of motor ability to control their voices in the necessary ways.

In the meantime, David Premack in Santa Barbara, California, taught other young chimpanzee, Sarah, in another way. For words, Premack uses, not the gestures of Sign Language, but plastic tokens with metal backing. He and Sarah put the words on a magnetic board, putting the words of each sentence from top to bottom, like Chinese. Sarah learned to answer some rather abstract questions. For example, when she was asked, "What is the relationship of red to apple?" she answered, "Color of." When asked, "What is the relationship of red to banana?" she answered, "Not color of. "

Have these chimpanzees been taught to think thoughts they never thought before? Or did they have the thoughts before, and have they only been taught to translate the thoughts into language? Either way, some of mankind's isolation from the other animals has been broken down. We are reminded again of our kinship with all living things.

Freud thought that very much of our basic thoughts and attitudes is universal to the human race (as well as much in common with other animals); but he thought much of it depended on experiences that everybody must undergo in early childhood. Jung, on the other hand, thought that certain ideas depend on inborn capacities. He called these the Collective Unconscious. Jung held, for example, that the concept of a Wise Old Man is an "archetype" and that all human beings are born with a capacity for this archetype.

Marvin Harris is an anthropologist today who wishes to go beyond the study of particular cultures and return by trying to understand universal principles of human cultural development. From examining various evidence, Harris has advanced the following explanation of matriarchy and patriarchy. He says it depends on the relationship of men and women to the basic way of supplying the necessities of life at a particular time and place. At certain points in history and geography, the chief economic support of the family must be an activity that is best performed by groups of men (for example, hunting, or some activity involving muscular strength). In such places, bands of brothers work together and also come to live together. Thus we have developed a society of patriarchal families. In a society of this kind, men control their wives. Marriages are generally permanent and divorce is not allowed. Wives must be subordinate to their husbands and to their mother-in-laws. Adultery on the part of a wife is very severely punished. Pre-marital virginity is often demanded.

At other times and places, the basic means of earning a living and supporting the family is work that is done by women. This may be, for example, gardening. In such societies, groups of sisters begin to work together and eventually begin to live together. Thus we have a matriarchal family. Husbands are not really needed, except for occasional acts of pro-creation. Marital fidelity is not important. Neither extra-marital nor pre-marital sexual relations are stigmatized. There is no sharp difference between a married woman and a single woman. Either the disciplining of the children, or the fatherly loving care of the children, or both, are done by the mother's brother rather than by the biological father.

One interesting concept that has arisen in anthropology is the distinction between etic (pronounced with a short e) and emic (pronounced with a long e) categories. This distinction began in Bloomfield's structural linguistics. Sometimes it turns out that the sounds as physically measured, or as heard by someone who is not a native speaker, don't correspond to the way sounds are classified by the native speakers. In English the sounds of the letters p and b differ two

ways. One difference is the p is voiceless and the b is voiced, (that is the difference that most people notice.)

They also differ in that p is aspirated (pronounced with an h or a puff of air after it) while b is not (most people don't notice that difference). Linguists of the Prague school have developed a classification of "distinctive features" so that each sound (such as p or b) can be defined as a particular set of distinctive features. Each distinctive feature is considered to have only two possible values: either present or absent. The sounds p or b are identical in all distinctive features except the two we have mentioned.

Now it turns out that after s (as in "spoon") we have a sound which is voiceless (like a normal p) but is unaspirated (like a normal b). This sound is called an allophone of p. It is phonetically different from a normal p (as in "pool") but forms part of the same phoneme, since people usually disregard the difference in pronunciation and are not even aware of the difference. Likewise, in Spanish, the letter e has two different pronunciations (like the vowels in bet and bait) but they do not occur in the same position in a word, and so there is no "minimal pair" (no pair of words that differ only in this sound). Therefore these two different sounds are classified as part of the same phoneme. The native speaker of Spanish isn't even aware that these are two different sounds. He spells them the same and he thinks of them as the same sound. The structural linguists point out that within any language the important distinctions are those between phonemes. The differences that are merely phonetic and not phonemic are not important, even though such differences might seem great to someone who is not a native speaker of the language.

From the words "phonetic" and "phonemic" Kenneth Pike has taken the last two syllables and made them into separate words: etic and emic. The distinction between etic and emic is applied not only to languages, but also to other features of cultures and ways of life. Etic differences are differences that could be objectively measured, or noticed by someone from a different culture, but make no functional difference within the culture in question. Etic differences may be categorical (yes or no) but are very often gradations. Emic differences are those yes-or-no differences that are treated as important distinctions within the culture. This distinction has been broadly applied. For example, one might ask whether the distinction between homosexual and heterosexual is an etic difference or an emic difference in the American culture. Likewise, one may ask whether the contrast between "separated" and "married and living together" is an etic or emic difference.

Within the Roman Catholic Church, which does not recognize divorce, being divorced is emically different from being single, while being divorced is only etically different from being married. Legally, however, it is the other way: being divorced is emically different from being married, but is only etically different from being single.

Another linguistic concept that is coming to be somewhat more broadly used is the distinction between being "marked" and "unmarked" made by the Prague school. The past tense is marked (by adding -ed to the word), while the present-tense is not marked (except in the third person singular, which adds -s to the word). It is characteristic that the marked form (the past) can only be used with its specific meaning, while the unmarked tense can be used with either meaning (the present tense can be used for the past). By extension of the concept, though not literally true in terms of markings on the word, the masculine gender is considered to be unmarked and the feminine marked, because we use masculine pronouns to include both sexes, and do not use feminine pronouns to include males. Like the emic-etic distinction, the distinction between

marked and unmarked is a linguistic distinction that is now being extended and being used to classify other kinds of human behavior.

Scientific and scholarly linguistics has dealt mostly with language of words, and has tended to neglect other forms of communication. And in studying language, scientists and scholars have focused on the abstract system (what Saussure called *langue*, language, as opposed to *parole*, speech). Furthermore, studies have focused on isolated words, or, in Chomsky's generative grammar, on isolated sentences. In doing so, scientists and scholars have neglected three basic truths: (1) The basic essential of language is speaking and hearing, or otherwise signalling among persons face to face. Writing is secondary. (2) Communication is used in a particular way to get something. (3) Communication in words is not the whole thing, nor even the main thing. Let us examine these three truths, one at a time.

1. *The basic essential of language is speaking and hearing.* The basic process is to put our thoughts and signals into spoken utterances as a code of communication; and, for the other person, to decode the message, to hear it with understanding, to decode it, to decipher the message, to grasp its meaning. Writing is only a representation of speech. Speech, not writing, is the real thing.

We often lose sight of that fact. We tend to think of the written word as the real thing. The reason we do so is that speech is ephemeral. Speech is a string, a series of happenings in time. It happens and it is gone. Writing is more permanent; our records are kept in writing. Suppose that a person moves from his native country to another country where the system of correspondence between sound and spelling differs. If he keeps spelling his name as he always has, people in the new country will mispronounce it. What should the person do? What would make sense is to change the spelling so as to keep the same pronunciation. But what most people do is keep the spelling. Then either they or their children are forced to change the pronunciation so that it will agree with the spelling (according to the language of the new country). That's a reversal of the natural order of things. It is the fallacy of misplaced concreteness.

What about our conversations with Washoe, the chimpanzee? Washoe doesn't use oral speech. But the system she uses, sign language, is comparable with oral speech and not with writing.

The coming of (first radio and then) television has moved us back toward counting more on the spoken word and less on the written word. In one way, this is good. (People have come to believe anything they see in print.) Television may help toward dis-spelling the false halo that writing has acquired. But (even worse than reading) television reduces people to passive receivers of communication. There is no give and take. Television may help to remind us of the first of these three principles that we are discussing, but it blinds us to the second.

2. *Communication is used in a particular way to get something.* It is an interaction, a transaction, something going on between two individuals, both of whom use it to achieve their goals or satisfy their cravings.

Linguists have concentrated on studying *langue*; that is, language as an abstract system. This has been true of all three periods in the history of linguistics. It is true of the comparative philologists, including the Young Grammarians (Neo-grammarians). It was true of those who did empirical, diachronic studies of contemporary languages, led by Bloomfield and Jakobson.

(In that period, Sapir, more than others, showed interest in communication as transaction.) The leader of the contemporary period, Chomsky, has focused even more exclusively on language as an abstract system. Chomsky defines language as a set of rules. Thus we see that each succeeding period has progressively lessened the attention given to the use of language in what goes on between one person and another. On the other hand, in the period since 1955, contemporaneously with generative grammar, there have been certain mavericks (most of them not identified as "linguists" by profession) who have done some fascinating studies of how people use language and other forms of communication in their dealings with each other. Gregory Bateson is one. His disciple, Jay Haley, is another. And Eric Berne is a third. These workers are aware that communication (by language and otherwise) is not a neutral system for conveying cognitive information. Rather, it is a way of sending signals to influence the other person's behavior and gain some pleasure, satisfaction, or reward for oneself.

3. *Communication in words is not the whole thing, nor even the main thing going on.* Communication in words is a recent addition, and is like the tip of the iceberg.

The whole animal world communicates by signals that are nonverbal. Verbal communication is something that we human beings have acquired very recently— sometime in the last million years. (As we have recently learned, our closest cousins, the chimpanzees, can learn to do it, too.) Thinking in words has become essential to that system of integration and decision-making that we call consciousness. So, in thinking things over within ourselves, in words, we delude ourselves into thinking that everything (or the main thing) that goes on within ourselves, or within the other person, or between one person and another, takes place in words. That's not true. Most of what goes on within an individual, and, most of the communication and transaction that goes on between one person and another, takes place with us the same way that it does with other animals: to wit, by nonverbal communication. Only a small part of it takes place verbally or consciously. This is an important fact, and it contradicts what most of us tend to believe.

Among the important forms of nonverbal communication, let's mention four: posture, gesture, facial expression, and tone of voice. (We may abbreviate these and use the memory device "pig feet".) These are arranged in degree of their independence from speech: from posture, which may have no connection with speech whatever, to tone of voice, which is a nonverbal aspect of speech.

One person's posture is assertive. Another person's posture is seductive. Still another person's posture is on guard, with armor, and perhaps rigid. By our posture we send messages to other people, but we are seldom aware of sending such messages.

Bodily movements are related to posture. One person's movements are awkward. Another's are fluent and smooth-flowing, with natural, spontaneous coordination.

The position in space may be considered here, too. People differ in the amount of space they stake out around themselves, the minimum distance they need to keep from someone else. If one person moves too close to another person, invading the space that the other requires for his privacy, the other may be threatened and offended.

Gestures are easily observable, but only if we watch for them. Some people talk with their hands, moving their hands constantly as they speak, or even as a substitute for speaking. Gestures with the hands are the commonest, but by no means the only kind. Shrugging the shoulders is a gesture. Tipping the head in one direction or another may be a gesture.

Receiving another person's gestures is something that we usually do unconsciously. We respond greatly to another person's gestures; they have great influence on us. But we respond intuitively and not reflectively. Our reception of the other person's gestures seldom enters our consciousness and we seldom think about it in words. It is part of the transaction or interaction that takes place intuitively and not with much conscious awareness. We are even less aware of the gestures that we make to other people.

Facial expression is a key to our feelings and emotions. A facial expression may reveal whether a person is confident, happy, discouraged, apprehensive, annoyed, or surprised. Some people show their feelings more openly than others. Some have learned to conceal them. Some think they conceal their emotions, when they don't. Our facial expressions may reveal things that we don't know we are revealing. (That can be a disadvantage in a poker game.)

There is no sharp boundary between gestures and facial expressions. A V change in facial expression may be a form of gesture. Thus we give signals by raising the eyebrows, by pursing or protruding the lips, by sticking the tongue out, by nodding or shaking the head, by rolling the eyes, by narrowing the eye opening, by winking, and in other ways.

Sometimes information is conveyed by a very swift, fleeting change in facial expression; the person giving the signal is not aware of it, and the receiver may not be sure of it. An important example was in the Kennedy- Nixon presidential campaign debates in 1960. People who heard the debates on television considered that Kennedy had won. Perhaps one reason was Nixon's appearance (needing a shave). But there is a more important reason. A psychologist-psychoanalyst in Chicago studied the films, frame by frame. He ' discovered that repeatedly (as on hearing something his opponent said) Nixon's face changed expressions. First there would be a fleeting scowl, lasting only a small fraction of a second, and then a smile or other expression which lasted.

The scowl was so swift and fleeting that viewers couldn't be sure they had seen it. But they could tell that something was wrong, and they had a vague feeling that they didn't like what they saw.

The great Charles Darwin wrote a book, *The Expression of Emotions In Man and Animals*. Darwin showed that many of our gestures and facial expressions are abbreviated forms of overt action. Some of these matters have been studied more recently by vanHooff, in a 1972 publication. He said that smiling is evolutionally derived from the bare-teeth display, which monkey and apes show when they are confronted with a threat, and have a tendency to flee; it occurs more strongly when escape is cut off. Thus smiling is one of our most primitive social signals. Among chimpanzees it is used to establish friendly contacts within the group. Smiling may have been originally a counter-threat ("See, I have teeth; if you bite me, I can bite you, too.") Human babies show reflex smile at the age of six or eight weeks when confronted with somebody's face. Laughter may come from an entirely different signal, the relaxed open-mouth display, often accompanied by a short cry, given by -apes when playing.

Tone of voice, as we have said, is the nonverbal part of speech. We can define it in terms of pitch and loudness, and rhythmic or non-rhythmic changes in pitch and loudness. Speed of speech may be included in a broader sense. Hesitations or delays may be noted (how long does a person wait before he begins to answer?). Tone of voice often shows attitude: begging, complaining, demanding, insisting, commanding, inviting, seducing, teasing, and so forth. Tone of voice may give the message, "I'm just a poor helpless child!" (from someone who is actually a capable adult).

Nonverbal communications may serve as independent communications in their own right. On the other hand, they often serve as meta-communication; that is, as comment on the verbal communication that they accompany. (Meta-communication is a term of Gregory Bateson. It may also be called deuterocommunication. That consists of messages sent at a higher level of abstraction. Bateson got his concept from Whitehead and Russell's theory of logical types.)

Thus for example, while the words may give one message, the posture, gesture, facial expression, and tone of voice, tell us how we are to take the message. This nonverbal communication may say, for example, "Don't take this message seriously. I am only joking. " It may even say, "I mean the opposite of what I say. "

Consider this example. The committee of the U. S. Congress was investigating charges that some large corporations had unlawfully conspired to agree on the prices they would charge. The vice-president of the one company said, "We have always instructed our men not to agree on prices with our competitors. Every six months, I gather the executives and read that policy to them." But one of the junior executives revealed, "Every time he read that part, he winked at us. "

The wink was a signal that the message was to be taken as meaning the opposite of what it said. It was a meta-communication. In this case, it seems to have been done consciously and deliberately. In other situations it is done subtly and intuitively, and the person giving the signal is not much aware of doing so. This is a convenient method of self-deception. It allows a person (especially a naive idealist) to believe that he or she is following certain rules or standards, while in practice he or she is expressing an intention (and an invitation) to do otherwise. As Lord Byron recognized in the last century, a typical example is communication between a man and a woman about sexual intentions.

Among mammals preparing to mate, the female gives subtly seductive signals and the male responds assertively. This biological pattern seems to be reinforced by a culturally learned pattern in most societies (though perhaps in other cultures it is reduced or even reversed by the cultural convention). A girl is taught that she is not supposed to take the initiative, not supposed to make advances to men. But most girls learn to become skillful in giving subtle signals of their receptivity, signals which are so subtle and nonverbal that one can deny giving the signals, and may be unaware of doing so. In some social groups, a girl is trained to say, "No, don't do it, " when she means "Yes, let's do it." In general, men are less skilled than women in communicating by subtle, nonverbal signals. Some men, like Lord Byron, are skillful at correctly sensing a women's receptivity or lack of it, and respond accordingly. Other men, being less skillful in interpreting the nonverbal signals, make embarrassing mistakes and seem clumsy and awkward.

Like cultural anthropologists, historians have traditionally been idiographic rather than nomothetic. This is a distinction first made by Gordon Allport (a Harvard professor of psychology who has been interested in the study of religion and is one of the authors of the Allport-Vernon-Lindzey Study of Values). An idiographic study is a study of particular things, such as historical events, or a particular culture, or someone's life. A nomothetic study is a study of general laws and principles, such as in physics, biology, mathematics, philosophy, and economics. Allport said that clinical psychology, concerned with diagnosis and treatment of individuals, is an idiographic study, while experimental psychology and social psychology are nomothetic studies. Idiographic studies may be classified among the humanities, while nomothetic studies are called sciences.

The value of idiographic studies was pointed out by George Santayana, who said, "Those who forget the past are destined always to repeat it." He was speaking of the study of the history

of the world. But he could have been speaking equally of autobiography. Some psychotherapists and counselors (but not all) think it important to have a person recall and emotionally relive his past life and early childhood, in order to understand his ways of responding to his present and future life. Those who remember their past are freed of the need to keep repeating their mistakes.

Historians, working idiographically, have mostly been wary of drawing general conclusions from the past. Charles A. Beard, a leading American historian (born 1874), when asked to tell the lessons of history, could list only four:

1. When the gods would destroy, they first make mad with power.
2. The mills of God grind slowly, but they grind exceeding small.
3. The bees fertilizes the flower it robs.
4. When it is dark enough, you can see the stars.

While most historians have-worked idiographically, a few have tried to be nomothetic, that is, to treat history as a science and formulate the general principles of laws of history. The leading historian who has attempted to do so is Arnold Toynbee. To Toynbee the unit of study is a civilization. Toynbee believes he can distinguish at least 19 civilizations that are known to history. Six of these are still in existence today: our western civilization, the Eastern Orthodox civilization (including Russia), the Iranic (including Turkish) civilization, the Arabic civilization, the Hindu civilization, and the Far Eastern civilization. Every civilization goes through the same stages of rise and fall, and, at last, disappearance. In the period of most vigorous growth we find hard work, dedication, and belief in the system, as well as inventiveness. In the predecessor to our civilization, the Hellenic (ancient Greek and Roman) civilization, it was the Greeks who led in most creative period. Then comes a period of consolidation in which the old civilization becomes politically united under a single rule. The rulers are not necessarily from that geographical area which has been most productive. In the ancient Hellenic civilization, it was the Romans and not the Greeks who supplied the universal state. In one of its successors, the Eastern Orthodox civilization, the universal state was supplied by foreigners, the Ottoman Turks. In our own civilization, we have been through a period of greatest growth and inventiveness, and perhaps we are about to form a universal state.

Under the universal state, things become rigid and discordant. The universal state is ruled by a dominant minority which is no longer a creative minority, and no longer does enough good to pay for the advantages its members enjoy. This ruling class degenerates into a quarrelling group of grasping people, interested only in their own power and wealth. Over a period of a few generations, two disgruntled groups appear. One is called the internal proletariat. That is the group of poor people, living under the universal state, who have become cynical, disaffected, and alienated, and no longer loyal to the state. These people constitute the slums that grow in any civilization when it is past its prime. Eventually these people will become converted to a new religion, a charismatic, evangelical missionary religion which sparks their enthusiasm and spreads like wildfire. This new religion, which may or may not be of a political nature, gives the people again something to believe in, since they have lost their faith in the old civilization which is decaying. This new universal religion gives the disaffected person in the population a new sense of purpose, usually more or less in opposition to the dominant minority of the universal state.

The other opposition group is the external proletariat (or "barbarians"). These are tribes of people living outside the civilization. In the early days they had admired the great civilization, but

in its dying days they lost respect for it. For the Roman Empire, the Germanic and Slavic tribes became the external proletariat. In the end the empire collapses because most of the people within it have lost their loyalty to it and adopted a new faith, while the barbarians attack it from outside. Indeed, Gibbon, at the end of his work, *The decline of the Fall of the Roman Empire*, summed it up in one sentence: "I have described the triumph of religion and barbarism." Toynbee would reword that, "I have described the triumph of the internal proletariat (with its new universal church) and the external proletariat." (Toynbee got the word and concept, proletariat, from Marx, though, as we shall see, Toynbee holds a cyclic theory of history, while Marx' s theory is progressive and millennial).

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It is not clear how the events of the present day fit into that picture. For example, one may view Communism as the new universal state that will rule the world for several centuries. On the other hand, one might view Communism as the new universal religion which will destroy the universal state.

At times, Toynbee expressed his cyclic theory of history in rather mystical terms: "The two alternating forces or phases in the rhythm of the universe which Empedocles calls Love and Hate have also been detected by observers in the Sinic world, who names them Yin and Yang. . . Each in turn comes into the ascendant at other's expense; yet even at the high tide of its expansion it never quite submerges the other, so that, when its tide ebbs, as it always does after reaching high water mark, there is still a nucleus of the other element left free to expand, as its perpetual rival and partner contracts, until it arrives in due course at the opposite turning-point where the whole movement begins all over again. . . The factor which in the last 6,000 years has shaken part of mankind out of the Yin state, the Integration of Custom, into a Yang-activity, the Differentiation of Civilization. . ."

We know that in the history of cultural change, as people's way of life changes, the personality and character of the individuals changes, too. We don't know much about how this happens, nor where the change begins, in the society or in the individual. Economists, and a few anthropologists such as Harris, believe that the economic changes are primary, the changes in the ways in which people earn a living. The Marxists believe that, too. Marx believed that each ruling class in turn must disappear when the economic base on which it grew has disappeared. The royalties and aristocracies of Europe were functional under the feudal economic system, but they remain as a parasitic anachronism after the old feudal agricultural system had been replaced by industrialization. Soon those people were swept away by capitalists who established a laissez-faire system of political democracy. According to Marx, this, too, has outlived its usefulness and has become oppressive. It needs to be violently overthrown by the industrial proletariat. According to his dialectical logic, the Communist dictatorship, too, should in turn outlive its usefulness and be overthrown by a new antithesis. But Marx and the Communists don't see it that way. They believe (at least theoretically) that Communism will permanently eradicate all injustices and introduce a Utopia in which government will gradually fade away, no longer being needed because people will spontaneously treat each other fairly.

What has happened, in fact, in Communist countries? In some respects there have been improvements. Individual graft and corruption have been abolished in China and even to some extent in Russia. There is no longer a disaffected proletariat, such as the people of the slums who deface and destroy the suburban stations in New York. The people in Moscow take pride in their subways and do not deface them. When the electricity failed in New York City, in 1977, the people burst out in looting. It seems doubtful that the same thing would happen in Moscow or in Peking. Improvements like this are characteristic of the early stages of a new religion in which people have faith.

On the other hand, the Communist governments have killed great numbers of people whose loyalty could not be counted on; often whole ethnic groups ("genocide"); have ruthlessly suppressed all dissent and abolished freedom of speech, and have imposed an oppressive rule on people. Is it true that economic conditions change first and cause all other changes in the way of life?

Since the middle 1920's a school of thought has grown up called culture- and personality, founded by Boas' s students, Ruth Benedict and Margaret Mead. Anthropologists in this school of

thought (often collaborating with psycho-analysts and psychologists) have studied child-rearing as the basic mechanism for transmitting a way of life and a way of thought from one generation to the next generation. Child-rearing is a basic means by which a culture is perpetuated or changed. It is attractive to believe, then, that the way of life of the adult people in a culture arises from their personality and character which they acquire in childhood; and that in turn arises from the child-rearing practices of their parents. If this hypothesis is true, the way to change a society's way of life is to begin by changing its child-rearing practices.

Those of us who work with criminals and delinquents surely find evidence to support this idea. A very high portion of criminals and delinquent children have come from homes in which they were badly neglected and mistreated as young children. Sheldon and Eleanor Glueck at the Yale Law School found good statistical evidence that this is so.

Is it possible that personality change precedes cultural change? Alfred Kinsey in this classical study, *The Sexual Behavior of the Human Male*, found that men in the several social classes showed different sexual behavior. Curiously, in those who moved from lower class to middle class, their sexual behavior followed middle-class patterns even before they had made the change in socioeconomic class. The evidence was that personality (or at least sexual behavior) changes first and that social class membership and economic role change as a result.

Max Weber, in his classical study, *The Protestant Ethic and the Spirit of Capitalism*, described a certain kind of religious teaching (and character) which was part of the Protestant movement. This syndrome has included working hard and consistently, and not spending money frivolously. It is in the countries where the Protestant movement prevailed that the people gradually became more prosperous and the capitalistic economic system arose and thrived. It is surely suggestive that the type of personality and character (accompanied by a type of religious and moral belief) came first, and the social and economic changes followed in its wake.

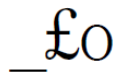
It is interesting that the character described by Weber (in 1906) bore a great resemblance to the character independently described by Freud (in 1908) which we have already discussed as the compulsive character (orderly, thrifty, and persistent) acquired as a coping response to the imposition of rules and regulations. It is related to Erikson's phase of autonomy, and to the second of the three levels in moral development according to Piaget, or the fourth of Kohlberg's six stages of conscience development. It is suggested that what happened around 1500 was a shift in personality and character development from naive idealism to moralistic and puritanical devotion to duty, and that this character change brought about both the change in religious belief and a change in the whole attitude toward life, resulting in the development of science, industry, and capitalism. On the other hand, it is still possible that the economic changes occurred first, or, at least, that the several kinds of changes occurred along with each other, each facilitating the other in a positive feedback.

Two views of human history have been opposed: the cyclic view and the progressive view. Toynbee's view is basically a cyclic one. History repeats itself, over and over again. As Koheleth put it in the Old Testament: "What has been done will be done again; there is nothing new under the sun." (Ecclesiastes 1:9)

On the other hand, a number of different viewpoints have shared the belief that human history is advancing in one direction. In evolutionary biology, every species, including the human one, is moving by selection in a particular direction, unlikely to move back to a former state. Christian biblical tradition believes that history is moving in one direction toward a climax and

termination. Marxism believes that human history is moving inexorably toward the triumph of Communism and resultant advancement in human welfare. Likewise, adherents of American democracy and free enterprise have often espoused a theory of inevitable progress toward a better world. Biologically, at least, it seems clear that human beings are more intelligent (though perhaps not more altruistic) than they were half a million years ago. Our ancestors half a million years ago showed no capability of developing symphony orchestras, television, airplanes, astronauts, computers, or even aqueducts. Continued movement in the same direction seems inevitable, and we cannot guess what capabilities our descendants may have in another half million years.

It is possible that both the cyclic theory and the progress theory may be true. Consider the example of a spiral. Movement in a spiral goes around in circles but also advances in one direction.



CHAPTER 6: ALTERED STATES OF CONSCIOUSNESS

We shall talk about various sets of conditions that may be called altered states of consciousness. What these conditions have in common is that all of them are (or at least can be) temporary; and in all of them, to varying degrees, there are recognizable (sometimes dramatic) changes in a person's awareness, perception, memory, self-definition, role, function, and goals. Somewhat arbitrarily we have divided these conditions as follows: (1) sleep and dreams; (2) spells; (3) brain injury; (4) psychosis; and (5) chemical states.

SLEEP AND DREAMS

Someone once remarked that we are all psychotic (mentally ill) one-third our lives: to wit, when we sleep and dream. This remark has some truth. In dreaming, as in psychosis, we use primary process and not secondary process. That is, our flow of awareness is in terms of desires, feelings, and symbols, and not in terms of rationally calculated means to an end. But dream imagery is more sight than hearing; in that way dreams are like spells and like chemical states and not like psychosis.

Sleep is a state of relative inactivity, or rest, which in mammals seems to be needed for health and for life. (Dement has defined it as "a readily reversible suspension of sensorimotor interaction with the environment.") Not all organisms seem to need sleep. Some plants go through an annual cycle, shedding leaves in the fall, lying still in the winter and growing again in the spring. Some plants have a daily cycle, such as the night-blooming *Cereus*. All the invertebrate (better, non-chordate) animals and the fish, amphibia, and reptiles are cold-blooded. Not keeping a constant temperature, they take the temperature of their surroundings. When warm (but not hot enough to be killed) they are highly active; when cooled, they slow down, and when cold enough they can stop outward activity and slow even their metabolism almost to a halt; and then recover when warmed. (Some people have tried to devise a way of freezing human beings without killing them, so that they can be revived after a few centuries; but what makes us think that the people of the future will choose to bring us back to life?) Some one-celled organisms enter a "spore" form under cold or other difficult circumstances, halting activity, can stay frozen indefinitely, and revive when circumstances become favorable.

Sleep is most readily identifiable in the birds and especially in the mammals, the so-called warm-blooded animals who must keep their temperature within a narrow range to live. Besides daily sleep, some animals have a seasonal hibernation, notably bears. In hibernation, metabolism is slowed down but not stopped. Bears lose weight during hibernation because they eat little or nothing while they continue (albeit slowly) to burn their fuel (oxidize their fat).

Even when we sleep, our heart continues to beat; our heart muscle continues to contract rhythmically. The only rest it gets is between beats, about once a second. No other muscle in our body could survive with only that kind of rest. In the case of muscles, we can identify what chemical changes take place on contraction, and what chemical changes need to take place during a state of rest; so that the muscle can work again. But we have not identified what kind of imbalance takes place within us that requires eight hours of sleep to restore good function. We have not identified any chemical or physical change that requires eight hours of sleep to go back into a healthy state.

Stages and types of sleep can be studied by means of the electroencephalogram (EEG), which was developed long ago by Berger. This apparatus measures the electrical activity of the brain. It is not specific enough, of course, to tell us what a person is thinking about. The electrical activity of the brain, though it has some randomness, generally shows some regular rhythm. Cycles of one-to-three per second are called delta waves; cycles of four-to seven per second are called theta waves; cycles of eight- to thirteen per second are called alpha waves; and cycles of fourteen-to- thirty or more per second are called beta waves. A waking, relaxed person typically has alpha waves, about ten per second. Stimulation of various kinds will block the alpha rhythm temporarily. For example, asking a person to do some mental arithmetic will block the alpha rhythm. Emotional tension can block the alpha rhythm. The normal EEG of a person who is tense and anxious may consist of nothing more than low-voltage rapid activity. The EEG is taken with the eyes closed, and opening the eyes will interrupt the alpha rhythm. When a person examines something visually (such as a picture) he gets lambda waves, which are sharp or saw-tooth waves over the occiput (back of the head).

Biofeedback consists of training certain bodily functions which are not ordinarily under voluntary control. The training is done by a machine that measures the bodily function, and gives a signal (usually a sound). One must decide in advance what range of measures is the goal to be achieved.

The sound serves as a feedback signal to tell the person when he is achieving his goal and when he is not. Sometimes the purpose is muscular relaxation.

The tension in the muscle is what is measured, and the sound tells the person how tense or how relaxed his muscles are. This is a good way of training people to relax their muscles. Sometimes the electrical conductivity of the skin, which is a result of perspiration (a function of emotional state) is the thing that is measured. (That's also one of the things that is measured in the so-called lie detector, along with rate of breathing and heartbeat.) Sometimes the function measured in biofeedback is the EEG, and the goal is to train the person to have more alpha rhythm.

Sleep varies in depth, and the depth of sleep can be measured by the EEG. Some like to distinguish four stages of sleep, from stage one (the lightest) to stage four (the deepest). In stage two sleep, the alpha rhythm is at 12 to 14 cycles per second, with its amplitude varying in "spindles" (sigma rhythm) of one to two seconds. As sleep becomes deeper, we find more waves that are slower and of high amplitude, two or three per second, and eventually, one per second. (This is called "slow" sleep.) During a normal night's sleep, a person goes through several cycles from light to deep sleep and back again. Usually, most of the deepest sleep is in the first four hours.

In 1953 scientists at the University of Chicago discovered a strange phase of sleep characterized by rapid eye movements (REM). Since that time a great deal of research has been done on REM sleep. REM sleep occurs as part of the light sleep (stage one sleep), but it has some peculiarities. REM sleep, in an average person, comes about every 90 minutes and lasts for about 20 minutes of the 90. So REM sleep takes about one-fifth or one-fourth of a person's sleeping time. It has been discovered that if you wake a person while he is having REM sleep, he will report dreams. So it appears that the times of rapid eye movement are times of dreaming. That makes sense, because dreams are characterized by visual images. It has also been discovered that during REM sleep people are sexually aroused (men have erections and women have vaginal lubrication) and this is true of children as well as of adults. During REM sleep the heart beat and the rate of

breathing are more rapid, and the blood pressure is higher, than at other times. Angina pectoris (heart pain) tends to come in REM sleep.

The EEG in REM shows the pattern of light sleep (stage one) but also some differences. In REM sleep we find saw-tooth waves as we find when a person is actively looking at something. We find low-voltage rapid activity, which is like a person awake, but the alpha waves are lacking. REM sleep has been called paradoxical sleep, because in one way it is like deep sleep (the big muscles are very much relaxed and people are hard to rouse), but in other ways there are signs of arousal (those we have mentioned, and also -/itching of muscles). Most people show more REM sleep in the second half of the night than in the first half.

REM sleep is found in other mammals and in birds. In all (with the possible exception of the chimpanzee) the EEG in REM sleep is the same as when awake. Destruction of the reticular formation in the pons (hindbrain) abolishes REM sleep. Certain giant nerve cells have been shown to be the source of turning the REM phase on and off. There is also evidence that REM-1 like periods, though less clearly identifiable, occur at intervals in the waking state. REM sleep is blocked by certain drugs, including reserpine, amphetamines, MAO inhibitors, alcohol, and barbiturate sleeping pills, but not chloral hydrate. Benzodiazepines (such as¹ Valium and Librium) block slow-wave sleep, but only slightly block REM sleep. No sleeping pill should be taken for more than a few days: people who take sleeping pills every night come to sleep worse, not better.

If a person is deprived of all sleep, or if he is woken whenever he enters the REM sleep phase, he compensates, when next allowed, by having increased numbers and durations of REM phases. So it was thought at first that REM sleeping, and the dreaming that goes with it, perform some essential function, needed to help us cope with the problems of the world and stay out of psychosis or mental illness. But that notion has proven false. Deprivation of REM sleep makes people more alert and less depressed.

Contrary to what one might think, it is in deep slow-wave sleep, not in REM sleep, that people talk in their sleep, walk in their sleep, scream in terror, and wet the bed.

Some people require more sleep than others. (We are not talking about insomnia.) It has been shown that short sleepers and long sleepers differ mostly in their amount of REM sleep. Short and long sleepers get the same amount of deep slow-wave sleep, but the short sleepers have very short REM periods, while the long sleepers have very long REM periods. Short sleepers are decisive people who make decisions swiftly. Long sleepers are worriers who think things over a long time before making a decision. Napoleon and Edison were short sleepers, while Einstein was a long sleeper.

Anxious people have difficulty going to sleep, while depressed people have difficulty staying asleep. Depressed people go rapidly into REM sleep and have strong REM activity. This is especially true of people with primary or endogenous depression, that is, physically healthy people with no apparent reason to be depressed.

Throughout history people have wondered about dreams. Some people have believed that dreams predict the future, and backed this belief by citing cases in which somebody had a dream and later the dream came true. Such claims are difficult to deal with scientifically. To show this was not a chance coincidence, one would have to gather statistics, counting the number of times that people dreamed things that did not come true (or for that matter, things that came true that people did not dream). We have mentioned the case of the chemist Kekule, *whose* geometric concept of the resonant structure of the benzene ring came to him in a dream.

It is not uncommon that dreams are interpreted as a religious experience particularly as a sign of a task or mission given by God. Interpretations of dreams are found in the Bible: Genesis, chapters 40 and 41; Daniel, chapters 2, 4, 5 and 7.

The great modern work on dreams is Sigmund Freud's book, *The Interpretations of Dreams* published in 1900. This is a classic, well worth reading, along with his other book, *The Psychopathology of Everyday Life*, published in 1904. From a courageous study of his own dreams, as well as those of his patients in psychoanalysis, Freud drew many bold conclusions. He rejected the idea, held by most scientists of his day, that dreams are only froth, not worthy of serious notice. Freud found dreams to be a great path to understanding the thoughts and feelings of which a person is not aware (because he censors them out of his awareness). These thoughts and feelings appear in disguised forms in dreams. Dreams show a person's wishes, and, in particular, those impulses about which a person has strong mixed feelings, both wishing and fearing the outcome at the same time. Freud found many disguised Oedipal wishes. He said that dreams represent abstract ideas by concrete symbols. Symbolism in dreams is the same as symbolism in psychoneurosis, symbolism in legends, and symbolism in popular usages. Dreams show both displacement (by censorship) and condensation. Often there is inversion of time and inversion of content. The dream content is a translation of the dream thoughts into another mode of expression. Elements that enter into the composition include a person's unsatisfied urges that are connected with strong emotions; and the events of the previous day; as well as bodily discomforts that threaten to wake a person. Freud felt that a skilled psychoanalyst could discover the latent (hidden) content behind the manifest content of a dream. Of course, any single dream (like any poem, literary work, or work of art) can be given many different interpretations. Several different interpretations may all be true at different levels or for different purposes. Perhaps we may say that dreams are "over-determined" (a word that Freud used about symptoms).

Dreams are characterized by *primary process* as opposed to *secondary process*, and that is one reason they seem irrational. Primary process is the kind of thinking we share with all animals. Primary process is intuitive and not verbal. It is impervious to logic. Primary process is concerned with relieving one's emotions and getting one's desires fulfilled as rapidly as possible. It is generally timeless (not distinguishing between things learned at different times), while aiming at achieving certain biological goals (satisfying certain desires) immediately and not always realistically. (Remember the ants who can be deceived so easily by other species of insects who imitate their signals; and birds who can be so easily deceived into rearing the eggs of another species.)

Secondary process is something characteristic of human beings (and, to a lesser extent, chimpanzees and other mammals). Secondary process depends on high development of the cerebral hemispheres of the brain. Secondary process includes the ability to reason and to calculate: to understand the world better and calculate how to deal with it. In secondary process we restrain our desires, we delay gratification in order to achieve these desires more efficiently and more realistically, more practically, with less risk. Secondary process operates through words and mathematical symbols. It is verbal and rational. Secondary process distinguishes events by time. Secondary process judges proposed actions in terms of their utility or usefulness.

As Freud said, this is no dethronement of the pleasure principle, but only a safeguarding of it. We human beings have not lost the primary process or pleasure principle, but have laid the secondary process on top of it as a governing mechanism.

SPELLS

Spells are a category of altered states of consciousness that occur mostly in naive idealistic people. A spell is so called because it typically comes on rather suddenly and typically goes away rather suddenly. It consists of changes in awareness, perception, memory, motor function, behavior patterns, and mood. We exclude changes resulting from brain damage and from drugs. Spells come about through sudden changes in the application of repression (blocking things out of awareness). People who are most able to use this blocking process, and to shift it, are those whom we have called naive idealists.

Psychiatrists and psychoanalysts use the term "hysteria" for spells and use the "hysterical personality" for naive idealism. I prefer to avoid those terms because their meaning in ordinary language is very different from their technical meaning in psychoanalysis. The third APA Diagnostic and Statistical Manual, known as DSM-III, which took effect in 1970, has substituted the term "histrionic personality" for "hysterical personality" (i.e., naive idealism), and "Briquet syndrome" or "somatization disorder" for "hysterical neurosis" (i.e., spells).

The simplest kind of a spell is that dealing with sensations or perception. Focusing on one kind of sensation and blocking other sensations out, we can develop headaches, backaches, dizzy spells, nausea, feelings of weakness, smothering spells, and anaesthesia's. These are technically called conversion, reactions (conversion of an emotional problem to a physical symptom). People who develop these things usually believe they are physically sick and go to a medical doctor, seeking medical treatment.

But all the medical tests are negative and the doctor can find nothing organically wrong.

A slightly different form of spell is a mood spell. For no apparent reason, people may have spells of joy and elation; or of energy, aggression, and assertiveness; or blue spells of discouragement and depression; or spells of fear, anxiety, uneasiness, and apprehension. We all have mood swings. Naive idealists have mood swings that are suddener, stronger, swifter, or more dramatic.

People seldom complain about joyous moods, but both the depressed spells and the anxious, fearful spells are distressing enough that people often go to medical doctors or psychologists or clergymen for help.

So long as mood spells are mild, they should be considered as "normal" mood shifts, not as something sick or pathological, and should not be given a diagnostic label. If they are crippling enough to be considered a sickness, and to get a diagnostic label, mood spells (like all the other kinds of spells) are technically diagnosed as hysterical psychoneurosis. But they are often misdiagnosed, not only by medical doctors in general, but also by psychiatrists and psychologists. Psychiatrists will commonly diagnose a discouragement spell as depressive neurosis, and an anxiety spell as anxiety neurosis. In this author's judgment, there is no such thing as an anxiety neurosis that is not simply a spell syndrome. It would be better if the category, anxiety neurosis, were abolished. But if psychiatrists use the category, there is no harm, because the anxiety spell is not being confused with some other real group of cases. On the other hand, there really is such a thing as depressive neurosis, which is not a mood spell. So when a psychiatrist diagnoses a discouraged mood spell as a depressive neurosis, harm is done by confusing two different processes that are not the same and should not be treated the same. A true depression or a depressive neurosis carries some risk of suicide and needs to be treated with anti-depressant medicines. People in discouraged mood spells, on the other hand, are not helped by antidepressant medi-

cines and do not intend to kill themselves. (Sometimes, however, they make dramatic suicide attempts to demonstrate their feelings and influence other people, and occasionally, by accident, they may actually kill themselves by these suicidal gestures.) One way to distinguish these is that the true depression or depressive neurosis comes on slowly, while discouraged mood spells come on suddenly. But it is not always possible to get a good history. Even well-trained psychiatrists often mistake a discouraged mood spell for a depressive neurosis and treat the condition unnecessarily with anti-depressant medicines, or even with electric shock. This is one of the circumstances in which the University of Kentucky's computer analysis of the MMPI can make the needed distinction and prevent the giving of the wrong treatment.

Related to the mood spells are the behavior spells. In such a spell, a person shifts rather suddenly to a different "personality" or "character" and a different way of acting, behaving, doing things. His conduct is different. Often, when the spell is over, the person will say, "I don't know why I did that! That's not like me!" These are cases that may be called multiple personality or split personality. Usually there is no disturbance of memory, but in extreme cases of multiple personality, a person in one "personality" has no memory of his conduct done when he was in the other mood phase or personality. Generally, the behavior pattern that is the person's usual one is the one that is socially acceptable, and the one that comes out only in occasional "spells" is the one that other people would generally disapprove of. In transactional Analysis terms, the socially acceptable pattern that the person usually follows is the antiscript, while the one that occurs in occasional spells is the script: making its appearance whenever necessary to make the person a loser and keep him from being a winner. For example, the behavior spells may be some kind of crime, resulting in imprisonment; or running away, resulting in loss of job; or gambling, with financial loss; or an alcoholic binge.

Among the Malayan people there is a spell called *amok* (in English we often spell it "amuck"). A person who runs amok suddenly becomes violent, and rages through the village with a knife or another weapon, attacking people at random and killing them, until he is captured or killed. In our own society, we call it going "berserk" when a person has a spell like that. The term is from the leutom Barsarkers, who put themselves into a frenzy before battle by eating mushrooms of a type that had a mind-altering drug.

Another state that is hard to classify is sensory deprivation, or stimulus deprivation. It may or may not be a form of spell. A number of experiments have been done on what happens to people when they are deprived of stimuli, or sensations. The results seem to show that we depend on having some kind of patterned sensory input, and when we don't get it, strange things happen to us.

Various procedures have been used for sensory deprivation. We can shut off visual stimulation by putting a person in the dark, and by taping the eyelids shut; or covering the eyes with a mask. We can shut sounds off, by using a sound-proof room. It is not sensory input itself, but change in the sensory input, that matters. An unchanging hum or a solid gray wall would be a constant input and would be the same as no input at all. Input of taste and smell can easily be cut off. Changes of touch, pain, temperature, muscle sense, and visceral sense are harder to control. One approach has been to have a person rest immersed under water held at a neutral temperature of 85 degrees F, with, of course, an underwater breathing apparatus.

Some people, under sensory deprivation, develop vivid fantasies, illusions, and hallucinations. One interpretation is that we have a hunger for stimuli. When we don't get real stimuli, we replace them with fantasy stimuli.

Spells may be normal (healthy), or they may be pathological (sick). Some of those we have described already are considered pathological. That is to say, they bring some sort of malfunction, disability, or disaster. Two kinds of spells that are not pathological are trance and hypnosis.

Trances occur in many cultures throughout the world. Perhaps the best known is the trance in Bali, which occurs in the actors (dancers) in some of the famous traditional ritual plays. This author has seen the dance in Bali, in which, at the climax, the performers plunge knives into themselves without hurting themselves. Trance may be described as a form of self-hypnosis. It occurs very often in a religious context. One of the best summaries is that given by Dr. L. J. West (professor and chairman of psychiatry at UCLA), on pages 891-893 in *Comprehensive Textbook of Psychiatry* edited by Freedman and Kaplan, 1967 :

"Self-induced. trances. For thousands of years men have apparently been aware of the possibility of inducing trance states in themselves, with or without the use of drugs. Characteristically, the Eastern mystic achieves the desired effect by undertaking a posture (such as the lotus position) that promotes immobility, and by concentrating either inwardly behind closed lids or outwardly on some object such as a pool of ink, a ball of crystal, or a religious icon. In time, depending on the degree of skill acquired and the expectation and prior preparation of the individual, there is a complete withdrawal of awareness of the environment and a sense of transportation into another mental sphere. A state of ecstasy or beatitude may be experienced if the trance brings with it a sought for sense of oneness with the universe or closeness to the deity."

"Cosmic consciousness of illumination. Not all spontaneous dissociative experiences are unpleasant. With no apparent cause, one may experience a sense of fabulous joy and well-being, in which all the emotions that go with delightful discovery, profound insight, and a sense of immortality are rolled into one. Various drugs may precipitate such reactions; LSD is only one • example. *Related to states of ecstasy or dissociation involving religious experience* of other varieties as described by William James, *cosmic consciousness* is of special interest to psychiatry because it was defined by a prominent 19th century psychiatrist, Dr. Richard M. Bucke, in a remarkable book, *Cosmic Consciousness*. Since its publication in 1901 this work has undergone some 22 editions, the latest in 1964. Bucke's great experience occurred in 1872, when he was 35 years old, while he was walking home after a halcyon evening's discussion of poetry with some friends. He was thinking of nothing special when suddenly he felt an overwhelming state of happiness, comprehension, universal understanding, and love, accompanied by a sense of being enveloped or illuminated by an extraordinary rose light. In his magnum opus, Bucke presented evidence of similar experiences in the lives of a number of people, including Gautama, Socrates, St. Paul, Francis Bacon, Pascal, Spinoza, and Blake, as well as many of his own contemporaries, particularly his idol, Walt Whitman. Needless to say, Bucke did not define the experience as a dissociative reaction. His whole subsequent life was affected by it; he considered it to be a phenomenon of both religious and Darwinian evolutionary significance. "

Hypnosis is a kind of trance that is brought about under the supervision of an impressive, dramatic, charismatic figure, who is usually a father image invested with a great authority. In the Freedman and Kaplan book (pages 1228-1233), Spiegel has given us several related definitions of it: "A state of heightened suggestibility, heightened or aroused concentration. . .An altered state of intense and sensitive interpersonal relatedness between hypnotist and patient, characterized by the patient's non-rational submission and relative abandonment of executive control to a more or less regressed, disassociated state. . .Hypnosis is a structured form of aroused concentration that can be disciplined and directed toward specific therapeutic goals. . .The patient's dissociated attention is constantly sensitive to, and also responsive to cues from the hypnotist."

Hypnosis is not something magical or mysterious, but is a type of conditioned reflex to which some people (naive idealists) are more susceptible than other people. People who can take part readily in hypnosis are those who have a sense of drama, who relish the idea of placing themselves temporarily into someone else's control, and being relieved of responsibility.

Those who cannot easily respond to hypnosis include those who are rigid and inflexible, those who feel comfortable only when they are in control of a situation, and those who distrust the intentions of the person serving as hypnotist. Anything that can be done or undone in any kind of spell or trance can be done or undone in hypnosis. Some physicians successfully use hypnosis to remove the symptoms of a conversion neurosis or sensorimotor spell (headaches, vomiting, backaches, and the like). Hypnosis has been used as anaesthesia for surgery or childbirth. Persons in the hypnotic trance can be given post-hypnotic suggestions, and this method has been used successfully to help people stop smoking.

Although the word hypnosis comes from a Greek word for sleep, hypnosis is not the same as sleep at all. Peripheral awareness is reduced in both sleep and hypnosis; but focal awareness, which is reduced in sleep, is sharpened in hypnosis. Hypnosis is a turning of awareness away from most of the incoming information, and focusing it on a narrow range of information supplied by the individual in charge.

BRAIN INJURY

The so-called organic brain syndromes are altered states of consciousness. They may come on suddenly or gradually, and they may be temporary or permanent. Organic brain syndrome is a mental condition usually resulting from diffuse impairment of the function of brain tissue from any cause.

Some like to distinguish acute brain disorders, which are largely reversible, from chronic brain disorders, which are not. The distinction between the two is not sharp. Acute conditions are more likely than chronic ones to show either marked over activity (with confusion or delirium) or severe unresponsiveness (coma). Brain syndromes can be caused by cerebral vascular accidents ("strokes": haemorrhages or blocking of blood vessels), by a physical blow to the head, by tumors in the brain, by endocrine, metabolic and nutritional diseases, by infections, and by medicines, drugs, and poisons.

Brain damage, regardless of cause, is characterized by impairment of memory, of thinking, of learning, of orientation, and of judgment.

A person with a damaged brain is likely to have a good memory for things that happened long ago, but poor memory for recent things.

Memory is commonly tested in three time scales: immediate, short-term, and long-term. Immediate memory is tested by reciting to a person a series of digits, in a flat voice, at a rate of one per second. A normal person should be able to repeat six or seven digits forward and four or five digits backward. Short-term memory is tested by giving a person some information, telling him to remember it, and then asking him five minutes later, after talking about other things in the meantime. A brain-damaged person may be unable to do these things, while he can remember very well things that happened more than twenty years ago.

Orientation is a particular kind of memory that can be tested by questions such as these: What is the day, month, and year now? Where are we? What kind of place is this? Is it a school, a hospital, a clinic, a church, a jail, or a court? Who am I? What is my name? What is my job?

A particular kind of brain injury that causes altered states of consciousness is epilepsy (seizure disorder or convulsive disorder). This syndrome consists of temporary changes of consciousness and activity that are caused by the spreading of electrical impulses over the brain, from some oversensitive focus. Often the focus is a scar from an old injury.

Some epilepsy is hereditary, some is the result of injury at an identifiable time, and some of it is of unknown source. In many, but not all cases of epilepsy the diagnosis can be made from abnormalities of the EEG.

Grand mal epilepsy consists of gross bodily convulsions with loss of consciousness. The person falls down, usually hurts himself, often bites his tongue badly, and often wets his pants. The typical EEG pattern in grand mal epilepsy consists of bursts of high-voltage multiple spikes, and some irregular slow waves. But some 30 to 50% of grand mal epileptics fail to show EEG signs.

Focal epilepsy of Jackson is like a grand mal convulsion, but it begins with twitching of muscle groups in a small, specific part of the body, and then progresses in a particular order to involve the rest of the body.

Petit mal consists of a very brief and mild seizure that may not be noticed by the person himself or by others around him. A person may be unconscious for a very short time, 10 to 30 seconds. He may or may not fall to the ground from sudden weakness (not convulsion). He may have a very quick muscle jerk. Ninety percent of people with petit mal show the typical signs on the EEG, spike and dome at the rate of 3 per second.

A good neurologist can usually distinguish easily between true epilepsy and its imitation in a spell (either consciously by a malingerer or unconsciously by a naive idealist).

A rare type, called temporal lobe epilepsy, may be very hard to diagnose without an EEG. Temporal lobe epilepsy is said to produce episodes of destructive rage; or distortion of sight or sound; or localized pain. Temporal lobe epilepsy is often said to cause "fugue" reactions (a person going away and not knowing where he is). But this author is skeptical of any diagnosis of "psychomotor epilepsy" or temporal lobe epilepsy, especially in the absence of EEG abnormalities. A fugue reaction in which a man leaves home and wanders for several weeks is almost certainly some combination of irresponsible character and spells (hysteria), though some psychiatrists are misled into diagnosing psychomotor (temporal lobe) epilepsy.

Epilepsy is no reason for alarm, nor for shame. Most cases don't get worse. In most cases, all symptoms can be controlled by medicine. An epileptic whose symptoms are well controlled by medicine can be licensed to drive a car. If the epilepsy came from an injury and does not run in the family, there is no reason not to have children.

In the past, when the cause of epilepsy was not known, epileptics were in some societies honored as messengers from the gods, and in other societies fished as possessed by the devil.

PSYCHOSIS

A psychosis is a severe mental illness that interferes seriously with a person's ability to take care of himself and deal realistically with his surroundings. A characteristic of psychosis is unrealistic thinking, which makes it sound cognitive, but the psychoses are also characterized by emotional reactions and by difficulties in relating to people. Psychosis may come on suddenly as a spell. Almost half the patients in hospitals throughout the country are there for psychiatric conditions, including the psychoses and the organic brain conditions, some of which are from old age. Of all the patients in hospitals for psychiatric reasons, the greatest number (about half) bear the diagnosis of schizophrenia.

Schizophrenia is often divided into several types. Paranoid schizophrenia is characterized by delusions of persecution (the person believes that some other individual has betrayed him, is disloyal, and is doing him harm); and occasionally delusions of grandeur (a false belief by the person that he is someone prominent, such as God or Jesus or the President). Another type, catatonic schizophrenia, is characterized by staying still for a long time, in a stiff, rigid position or showing waxy flexibility.

Manic-depressive psychosis, as its name implies, occurs in at least two states. In the manic state the person is overactive, usually elated, and sometimes aggressive. He often talks rapidly and sometimes incoherently.

The depressed state is like neurotic depression but more severe. In the pure form of depression the person's movements, thoughts, and speech are all very slow. In a psychotic depression there are often delusional thoughts, sometimes connected with guilt ("my sins have caused the war and the national unemployment") or sometimes somatic ("my brain has rotted and turned to pus"). There is also a mixed type, called agitated depression, which combines the sad feelings of the depressed state with the over activity of the manic state.

Many patients have a circular progress, being manic at one time and depressed at another time, while some patients have only one kind of psychosis with normal interludes between. Notice that the onset or recovery or change of phase takes many weeks or months, in contrast to the shifts of moods in the spell syndrome, which may take only a few minutes or hours.

Occasionally one encounters pure paranoid psychosis which is not schizophrenia (that is, the person has a delusion belief of psychotic proportions, but is not incoherent and may seem sane when he is not on his favorite topic).

Nobody knows for sure whether the psychoses are caused mainly by biological, organic, hereditary factors, or by faulty learning of behavior and emotional reactions in childhood. There is some good evidence on both sides of that question, both for schizophrenia and for manic-depressive psychosis. There is good evidence that schizophrenia runs in families, and that, separately, manic-depressive psychosis runs in families. The evidence of schizophrenia is particularly clear and shows that the likelihood of schizophrenia, in kinfolk of a schizophrenic, is proportional to the closeness of kinship.

The anthropologist Gregory Bateson developed the "double-bind" theory of schizophrenia, based on faulty learning of communication. It is a mistake to interpret "double-bind" as a direct conflict between two requirements (do this, and do not do this). Rather, the double bind involves two requirements of different levels of abstraction, so that one is a comment on how the other is to be taken (a meta-communication).

Bateson described a schizophrenic patient, a young man in the Veterans Hospital in Palo Alto, California. When his mother came to visit him, he put his arms around her to hug her. The mother stiffened and drew back. Obviously she did not wish to be hugged. The young man, in confusion, withdrew his arms from around his mother. Then the mother chided him, "What's the matter? Don't you love me anymore?"

In this case we see a double bind. One communication, which the woman may be able to say in words (she implies it) is, "Hug me." Another communication, conveyed non-verbally in body movement is, "Don't hug me." That contradiction is not in itself a double bind. What makes it a double bind is the meta-communication, (at a higher level of abstraction): "Don't be aware that I have signaled you not to hug me." "If you don't hug me, there's something wrong with you; you don't love me. It's your fault."

Bateson's theory is that when children are repeatedly confronted with communication from their parents in the form of confusing double binds like this, the children respond by developing a disordered form of communication, which we call schizophrenia.

Schizophrenia is usually treated today with the anti-psychotic medicines. The first such medicine was chlorpromazine (trade name Thorazine), which was introduced into this country in the 1950 's. This medicine has some undesirable side effects and some risks, and so today a large number of other antipsychotic medicines have been developed, having different side effects and different risks. Many patients can be kept in reasonably good communication, and out of psychosis, so long as they continue to take anti-psychotic medicines; and many people continue to take these medicines for life, just as a diabetic takes insulin for life.

Depressive neurosis and the depressive phase of manic-depressive psychosis can be treated with anti-depressant medicines. The manic phase can be treated, when acute, with sedatives and anti-psychotic medicines, but thereafter is usually treated with lithium salts. Many patients continue to take lithium salts every day, permanently, to prevent a recurrence of the manic state. Such people need to have the amount of lithium in their blood checked often, because an overdose of lithium is fatal. Electric shock is still used occasionally for severe cases of depression, especially where there seems to be a serious risk of suicide, and the patient has not responded to antidepressant medicines.

Besides these chemical and physical treatments, patients with psychosis are also treated with psychological and social measures, and an effort is made to keep them mingling with other people, not to let them brood alone or vegetate. It is important to a person to have a sense of purpose and meaning, a feeling that he is doing something worthwhile that makes a contribution to the world and is appreciated.

All patients taking medicine for the treatment of schizophrenia or manic-depressive conditions should see their doctors for physical check-ups every three to six months because the medicines can have dangerous side effects.

Long ago a clergyman named Anton Boisen suffered a mental illness, a schizophrenic psychosis, and recovered from it, and wrote about it. Boisen believed that a psychotic episode is not all to the bad. He viewed the psychotic episode as a crisis, which challenged the person to reconsider and reorient his goals in life. Boisen felt that an episode of psychosis could be a valuable learning experience, and that a person might be better off after recovery than he was before having the episode of psychosis. In particular Boisen emphasized the rethinking of ideals, values,

and religious goals in life. Boisen later became a chaplain in a mental hospital and founded the movement to establish positions for chaplains in mental hospitals throughout the country.

One wonders: if Boisen were alive today, would he oppose the treatment of mental illness with medicines? It could be argued that straightening the person's thinking out with anti-psychotic medicines deprives him of the challenge to reconsider his goals in life and make creative use of the psychotic episode. There is still a small number of psychotherapists who prefer to treat psychosis by talking actively with the mentally ill patients without the use of any medicines. It cannot be denied, however, that the use of medicines has enabled people in vast numbers to recover from psychosis quickly, and to go home to live with their families, who, in the days before the antipsychotic medicines, had to live many years of their lives in mental hospitals.

The psychoanalyst Thomas Szasz has proclaimed that mental illness is a myth. Szasz says that the conditions for which psychiatrists and clinical psychologists treat people should be considered not as sicknesses but as problems of living. This may be a very feasible way to view people with personality problems and mild psychoneuroses. But as applied to seriously psychotic people, Szasz's model just doesn't seem to fit. Szasz has spent his professional career as a psychoanalyst treating relatively normal people, and has never had to treat seriously psychotic patients. Szasz takes the position that the laws providing for committing people to mental hospitals should be abolished, and that nobody should be required to take treatment against his will. Again, this makes sense for the kind of patients who go to see psychoanalysts, but it doesn't make much sense for the schizophrenics and manic-depressive psychotics. When these people are deprived of an opportunity to be committed to mental hospitals for treatment, they are picked up by the police for minor offenses and put in county jails. In jail they are treated harshly, not benevolently, and some of them hang themselves or die of neglect. Szasz's proposal to abolish commitment to mental hospitals may be a libertarian proposal but it is not a humanitarian one.

CHEMICAL STATES

There are many chemicals that change people's state of awareness, perception, mood, and behavior. Some of these, such as alcohol, caffeine, and nicotine, are taken lawfully and socially, by drinking beer, drinking coffee, and smoking cigarettes. Others are taken as medicines, in which the change in awareness, mood, or behavior may be the intended effect or may be an undesired side effect. Still others, such as heroin, are bought from unlawful sources. In general, the effects of these drugs last a few hours and then wear off.

Generally, a control mechanism in a living organism acts as a negative feedback. When some activity takes place, other activities are brought into play to limit it, to oppose it, and to stop it. That's like a thermostat; when the house cools down, the furnace turns on; when the house heats up, the furnace turns off. The effect is to keep conditions within safe and tolerable limits.

But under some conditions we have, at least temporarily, a positive feedback. Eating one salted peanut gives us an appetite for more. It's hard to eat one salted peanut and stop. Instead of serving as a negative feedback, turning us off, the peanut has acted as an incentive, a positive feedback, turning us on. Of course, this effect is temporary. After we have eaten more, we feel full, lose our appetite, and stop eating. Perhaps eating makes us hungry—but only up to a point; then the effect turns negative, and turns us off. The point is, does it turn us off soon enough? Or only after it has done harm? This is an important question about food, and also about drugs. In

the case of drugs, it seems clear that for many people, the control mechanisms don't work right, and people take enough drug to harm themselves. That is even true about food: many people, perhaps most people, have an appetite for more food than is good for us. The average person, if he eats as much food as he feels like, will soon be overweight. Most people have to make a conscious effort to restrain their eating.

Why is this so? One would think that evolution would eliminate harmful tendencies, and leave us with drives and urges adjusted to levels that help us survive.

One answer may be that our ancestors lived in a world of scarcity of food. The best strategy for survival was to gorge oneself with food when it was available, so as not to starve in the long periods of famine.

Another answer may account for our cravings for sweets, leading us to eat more sugar than is good for us. Our ancestors needed vitamin C, and could get it only from eating large quantities of fruits, which had a sweet taste. So, those who had a "sweet tooth" and ate large quantities of fruits were most likely to survive. The invention of refined sugar did us harm by providing us with candy, which has great incentive value for us, but gives us only calories without vitamins. When we eat one piece of candy, or one piece of cake, we get a craving for more—but it's not good for us.

With habit-forming drugs (addicting drugs) the problem is different. Our body has negative feedbacks for their effects. The trouble is that the negative effects last a long time, after the person stops taking the drug, and they are uncomfortable. They are called withdrawal effects, and for the most part they are the opposite of the effects of the drug. Narcotics cause narrow pupils, slow heart, low blood pressure, clamped-down bowels, delayed ejaculation, and itchy nose. Withdrawal causes wide pupils, runny nose, tears, yawning, sweating, hair standing on end, restlessness, spontaneous ejaculations, abdominal cramps, vomiting and diarrhea. So a person takes more drugs to relieve the withdrawal symptoms. That's one thing that makes the drug habit-forming.

Let's examine the various drugs that affect awareness, mood, and behavior.

Alcohol and barbiturates (and other sleeping pills) have much in common. They are sedatives. They lessen the activity of the nervous system, including the brain. They relax us. They put us to sleep. They relieve worries and anxieties.

For many people, some of these drugs (such as alcohol) bring first a stage of excitement. People who are slightly drunk may sing songs loudly and fight. That comes about because some parts of the brain have an inhibitory action on other parts of the brain. The inhibitory brain is put to sleep first, releasing some other part of the brain to a temporary over activity. It appears that alcohol gives more of a stage of excitement than sleeping pills do. But that may be an illusion, stemming from the fact that people commonly drink alcohol at parties, and take sleeping pills alone.

Both alcohol and barbiturates impair people's ability to think, to do arithmetic, and to drive a car safely. Both alcohol and barbiturates lessen a person's politeness, and ability to keep secrets, and to hide his true thoughts and feelings. For that reason, psychiatrists use barbiturates (sodium amytal by mouth or sodium pentothal by vein) as a substitute for hypnosis, to recover repressed memories and find out what really happened. These methods have been used in the

military service in the diagnosis and treatment of combat neuroses. Likewise, spies will get a person drunk to learn secrets from him. *In vino veritas*.

Long-continued use of large amounts of alcohol causes serious damage to the brain and leaves a person mentally incompetent. It also does serious damage to the liver, and people die that way.

Barbiturate drugs have been of greatest value as sleeping pills, and were used to relieve "nervousness" (anxiety) before some safer medicines were developed. The drawbacks of barbiturates are (1) that suicide is easily done by overdose; (2) that, as used to relieve anxiety, they produce too much drowsiness in proportion to the degree of relief of anxiety; and (3) that in heavy chronic doses they can produce a true addiction, shown by withdrawal symptoms. The picture seen in barbiturate withdrawal is weakness, trembling, anxiety, and convulsions, and sometimes delirium tremens.

The term delirium tremens is used for a syndrome seen usually in heavy drinkers of alcohol. It is apparently a withdrawal syndrome, though not all authorities agree. The four classical components of delirium tremens are delirium (confusion), trembling, visual hallucinations (often of animals or snakes), and fear.

The issue of prohibition of alcohol is the classical issue of individual freedom versus protection of the public. To what extent should a government restrict everyone's freedom to do something, in order to prevent a small number of people from harming themselves by overdoing it or doing it badly? This is a basic issue of political philosophy and ethics, on which there is no general agreement. U. S. national prohibition was repealed when it became clear that large numbers of otherwise law-abiding people were buying unlawful liquor, enriching bootleggers and gangsters, and corrupting the police.

Another category of drugs is that of *narcotics*, mostly derived from the opium poppy, including morphine, which is used medically to relieve pain, and its derivative heroin, widely sold unlawfully to addicts. Manufacturers of illegal drugs convert the morphine into heroin because it is three times as powerful, weight for weight, and so will bring three times as much money. It is also likely that heroin, because its effects wear off more quickly, is more addicting.

Opium and heroin do not produce a stage of excitement. Narcotic users do not fight nor sing loudly, but sit quietly. People seldom commit crimes under the influence of heroin as they do under the influence of alcohol. But because heroin is addicting, and gives unpleasant withdrawal symptoms, a person addicted to heroin will commit crimes to get the money to buy more drug. It seems clear that the worst effects of heroin result not from the drug itself but from the fact that it is prohibited, illegal, and expensive. For that reason, the British government supplies free heroin to people who owe that they are addicts. For the same reason, the United States government allows the treatment of heroin addicts by methadone maintenance. This merely substitutes one addiction for another: the patients become addicted to methadone instead of heroin. Methadone has the advantage of slower action, so that it need be given only once a day. While some doctors will maintain patients indefinitely on methadone, others only give it temporarily to heroin addicts for withdrawal purposes, first avoiding the heroin withdrawal symptoms by substituting methadone, and then withdrawing the methadone. Compared with heroin withdrawal symptoms, the methadone withdrawal symptoms are much milder, but last much longer (several months as compared with two weeks). Among those who have been through both withdrawals, opinions differ about which is worse. Neither is all that bad. Addicts like to exaggerate the unpleasantness of the withdrawal symptoms.

Drugs of the amphetamine class are commonly known as "uppers" or stimulants. They are chemically related to the hormones epinephrine and non-epinephrine, and they do, indeed, stimulate the nervous system. Their effect is like caffeine, but stronger. At one time the amphetamine drugs were commonly taken to reduce appetite in people trying to lose weight. They were commonly taken (like coffee) by college students studying for exams. They were also commonly taken by truck drivers, to stay awake while driving at night.

Taken in large quantities over a period of time, the amphetamine drugs produce a psychosis with a strong paranoid element. In some cases it is indistinguishable from paranoid schizophrenia. The person has ideas of persecution and has hallucinations in which he hears people talking about him or threatening him. He is more likely than a paranoid schizophrenic is to have visual hallucinations.

Because of pressure from the government, and from medical leaders, amphetamines are much less prescribed by physicians than formerly. Again the issue is raised: is the government justified in prohibiting use of a substance which many people find pleasant and useful, in order to prevent a few people from harming themselves by misusing it?

Cocaine is a stimulant drug that gives many people a highly pleasant feeling that lasts only a few minutes. As a result, many people will spend huge amounts of money in a few hours' time to get the effect over and over again. Frequent use of cocaine is said to be a stylish fad in the entertainment industry. In its early days, Coca-cola contained cocaine, but that has not been true since cocaine became unlawful many years ago.

Lysergic acid diethylamide (LSD) is one of a set of drugs called hallucinogens or *psychedelia drugs*. Its effects vary widely with the individual, but with sufficient quantities everyone will get some release of angry feelings that had previously been unconscious, and, most strikingly, hallucinations. The hallucinations are primarily visual and involve bright colors as well as distortions of shape. The emotional effects are unpredictable. Some people get great joy and pleasure; while other people (or the same people on the next "trip") will have a very frightening experience (a "bad trip"). Many people who have had a hundred or more "trips" on LSD have "flashbacks" and some such people are found later in a schizophrenic psychosis. It is not clear whether the LSD causes the psychosis.

Mescaline is another psychedelic drug. Mescaline (from the peyote cactus) have effects somewhat like those of LSD. Almost no mescaline or peyote is available on the market. The drug that is widely sold as peyote or mescaline to unsuspecting buyers is almost always PCP, an animal tranquilizer that produces hallucinations. PCP is also known as "angel dust" or "purple micro-dots". It is a very bad drug, often bringing violence and harm.

Marijuana is a product of the hemp plant, which was formerly grown commercially in the United States to make rope (before nylon came along). Marijuana is taken by smoking and is unlawful in all states, although California and some other states have removed penalties for possession of small quantities for individual use. Many people mistakenly think marijuana is a narcotic and is a dangerous drug. Though unlawful, it is widely used socially under the same circumstances as alcohol, and for much the same purposes (but on the whole by people who are less conventional). Marijuana distorts the sense of time. Musicians like it because it gives them a (false) feeling that they can play faster. Marijuana makes many people feel cheerful and giggle. In larger quantities it makes people forget what they are saying in the middle of a sentence; and it gives vivid visual hallucination, in brilliant colors, especially with the eyes closed in the dark.

What are the dangers of marijuana? For one thing, it impairs the ability to drive. People should not drive under the influence of marijuana, any more than under the influence of alcohol. Some people condemn marijuana because it is often sold by the same unlawful sources that sell heroin, and consumed by the same crowd of people who consume heroin. This association has been exaggerated: marijuana is smoked by vast numbers of people who would not touch heroin. So long as a number of mind-altering drugs are unlawful, and there is a market for them, it is likely that some people who sell one drug will sell other drugs, too. This association would disappear if one or the other drug were decriminalized (liquor stores don't sell heroin).

Marijuana does not produce the brain damage nor the liver damage that alcohol does. Of the two, marijuana seems less harmful than alcohol, and so it seems strange that marijuana is prohibited, while whiskey is lawfully sold.

An allegation has been made that marijuana damages the chromosomes, but so far, evidence has not supported that conclusion. Some law-enforcement authorities (notably the late Harry Anslinger) have felt that the use of marijuana, continued over many years, leaves a person listless, irresponsible, and lacking in ambition. It is possible that long-continued overuse of it does that; though it is also possible that any such correlation is the reverse that people who already have that character are the ones who tend to overuse the substance over a long period of time.

