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About Us...: A Primer in Psychology for Junior High School

Kay Lyou

CULMINATING PROJECT

FOR BACHELOR OF SCIENCE DEGREE

IN PSYCHOLOGY

BY

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AUGUST, 1976

ABOUT US...

A PRIMER IN PSYCHOLOGY
FOR JUNIOR HIGH SCHOOL

BY

KAY LYOU

DEDICATION

To Sara

for

her wisdom,

her wit,

and

her wonder

...

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PSYCHOLOGY: WHAT IS IT ALL ABOUT?

The Greek symbol for psychology is Ψ, the Greek letter "psi." The word itself comes from the Greek "psyche," which meant to give breath, or to live, and later meant the spirit or the soul. The ending, "-ology," refers to a body of knowledge (for example, biology, sociology, etc.).

Psychology is a discipline
a science, and
a profession...

When we take a course in psychology, we are studying the *discipline* of psychology, that is, we are investigating the body of knowledge about the subject.

The *science* of psychology is the investigation of behavior and the measurements of behavior. A great deal of research takes place in this part of psychology. The science of psychology, then, deals with

how we behave, and
why we behave that way...

and includes our physiology, or bodily functions, and our sensory perceptions, which means how we see, hear, feel and taste things. And a lot more.

The *profession* of psychology as a healing art has to do with the application of the discipline of psychology and the science of psychology to deal with how we feel as individuals, and how well we are functioning within our societies. The kind of psychologist whose image appears in TV shows and in novels is usually called a therapist, or a clinical psychologist; this field is part of the profession of psychology.

These are very general descriptions, and do not completely define the field of psychology. If you wanted to look at careers in psychology you would investigate many subfields:

Teachers in psychology can work in experimental or clinical psychology, or can teach a general course in psychology, like the kinds of things covered in this book. They can teach on university, college, or high school levels, or in special schools.

In clinical work, there are general clinical psychologists, counseling psychologists, and child psychologists. There are also school psychologists and mental health assistants.

In addition to all these, there are ways of working with psychology without being a psychologist. These include certain counseling areas, such as those in which medical social workers perform, art therapy, vocational counseling, and many others.

The person who earns a medical degree and approaches psychology from the view of a physician is a psychiatrist, and there are many fields in which a psychiatrist can apply his training.

As you can see, there is a lot to the field of psychology both as a study and as a potential area for a career choice. Each kind of work in this field requires a special kind of training,[1] and each meets a different kind of need.

We still haven't described all the ways in which psychology is involved in our lives, but we have looked at some general ideas. If we look at an elephant, and we talk only about his ears, or his trunk or his skin, or his tail we are not describing the elephant. We need to look at the whole elephant, as well as to pay attention to his interesting and unique features. Now we will look at the field of psychology as we would our imaginary elephant, and we will learn some of the different approaches to the field.

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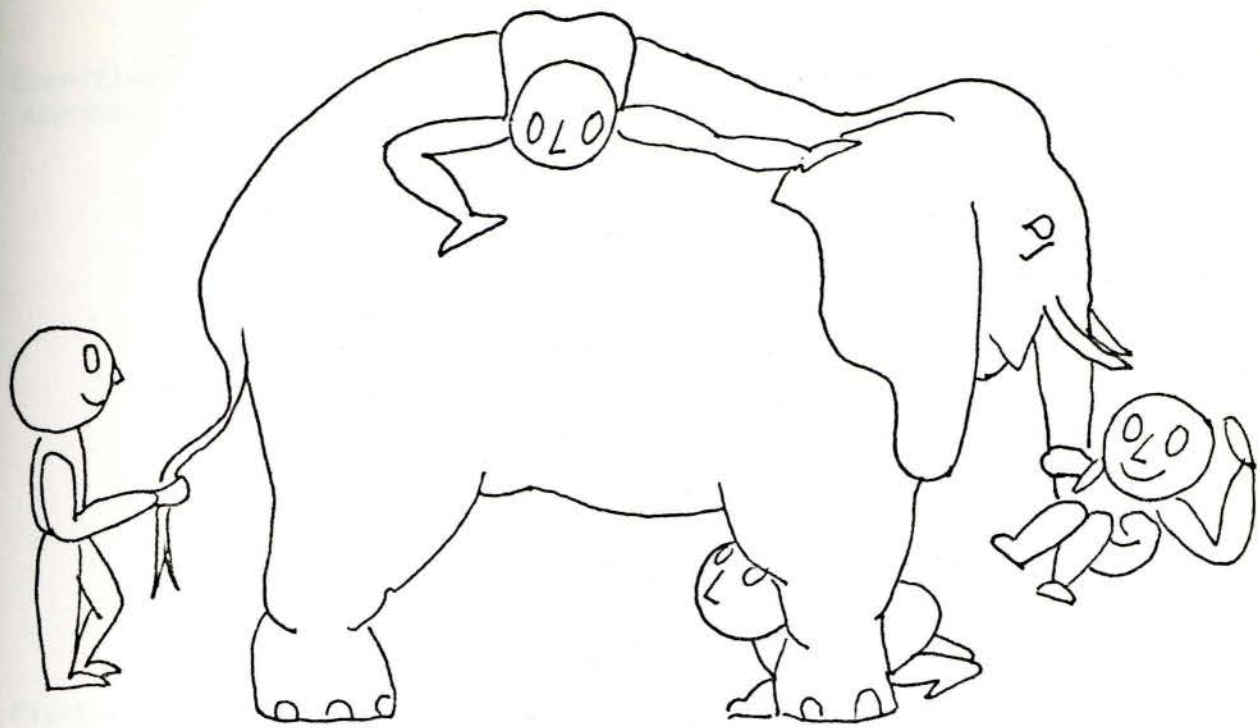
[1] For more information about careers in psychology, write to the American Psychological Association, 1200 Seventeenth Street, N.W., Washington, D.C. 20036 for a copy of their booklet, *A Career in Psychology*.



Physiological Approach

Physiological psychology is concerned with the function of bodily processes. The brain has about 12 billion nerve cells; we need to know something about how those cells work, including the relationship between nerves and muscles. We need to know how hormones work, and we also need to need to know something about how we perceive things, that is how we see, hear, and have a sense of touch, since a good part of our action is based on what we perceive of the world outside ourselves.

Behavioral Approach

Another way we can look at our "elephant" of psychology is to look at how the person behaves or, in some cases, how the animal behaves, and to determine why he behaves that way. We need to know what part reward for behavior plays, and what stimulation starts a particular pattern of behavior. This is called the behavioral approach.

Cognitive Approach

There are those students of psychology who concentrate on how we think, how we remember, and, in a different sense from the physiological view, how we perceive. For instance, how are you able to tell the letters on this page from one another, and how do you perceive of their groupings as words? In other words, how do you "code" the material you learn, and store it in your memory? The cognitive approach also looks at "mental imagery," and at how we go about solving problems. Those who take the cognitive approach that something more than a stimulus and a reward is involved in human (and in animal) behavior.

Psychoanalytic Approach

During the late 1800's, an Austrian physician named Signmund Freud (pronounced Froid; rhymes with Lloyd, or enjoyed) studied human behavior and human problems and developed the concept of psychoanalysis. Freud decided that a good deal of what man does is based on *unconscious* processes. That is, he felt that we do not really know why we behave the way we do, and that often we do things because of goals we have set of which we are not consciously aware. He worked a lot with dreams, and with a technique called free association (the connection of one thought with another by saying the first thing that comes into your mind when a word is spoken), and through these methods he helped people become aware of their hidden motives.

Humanistic Approach

Humanism is a general philosophy (even sometimes thought of as a religious tenet) as well as an approach to psychology. This school of thought believes that we are not just responding to stimuli-reward systems, as the behaviorist view would indicate; nor are we acting out of subconscious motives in most of our

behavior, but we are free to choose how we act, and are therefore responsible for our own behavior. This concept, called *self determination*, is one which you will come across again as you continue your education, and you will also come across the opposite concept of *predetermination* which proposes that things are already predetermined, and that you cannot change that pattern.

As has begun to become apparent, there are two major and opposing philosophies of psychological approach. The first is that all behavior can be predicted, and thus controlled, and this is generally the scientific or behavioristic approach (predetermination); and the second concept is that which was described in the humanistic approach, namely, that each individual has a free choice and is a self determining human being.

We will discover that psychology is not really an either-or proposition. Both philosophies, and all the approaches we have described to psychology, have a useful function to help us understand what our mental processes are, how we behave, and why we behave that way, as well as how we can go about changing our behavior so that our lives can be the happiest and most fulfilling possible.

As you study psychology, you will see how it relates to other subjects you are studying. Since human psychology has to do with human activity, you will begin to see the relation of psychology to history, to politics, to sociology, and to anthropology, and you will begin to notice stories in the newspapers and on radio and TV which are involved with psychology. Man interesting books have been written on psychological subjects; some are fiction, and some report real events. When you come right down to it, since psychology is about people, and that means everyone, you are very likely to find something in the study of psychology, and probably quite a lot, will apply personally to you.

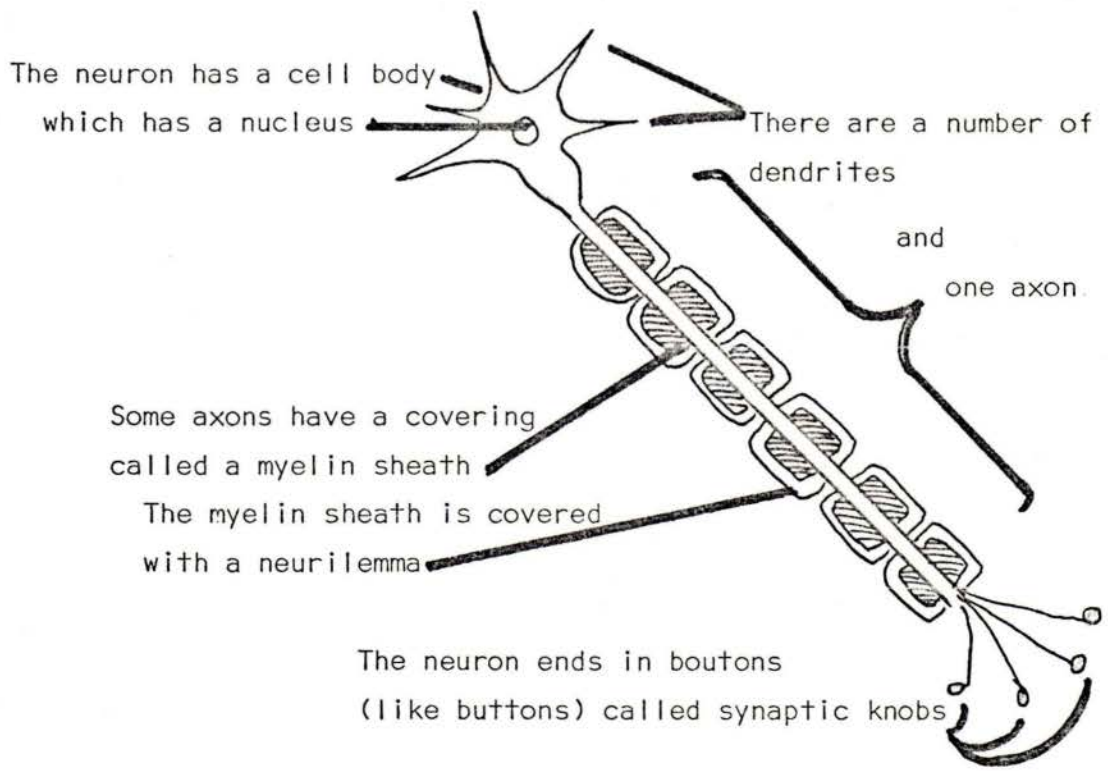
PHYSIOLOGICAL PSYCHOLOGY

In a very general way, we need to have an idea of how certain parts of the body function. The word physiology is related to the words "physical" and "physician," which have as their root the Greek physikos, which means natural. Physiological psychology is the study of the psyche and the physikos as they work together.

When we talk about behavior and mental processes, we talk about doing something or thinking something, and these processes require the cooperation of several body functions among which are the nervous system, the muscles, and the glands. We will look especially at the nervous and endocrine systems.

Nervous System

We will start our look at the nervous system by examining its basic unit, the *neuron*.

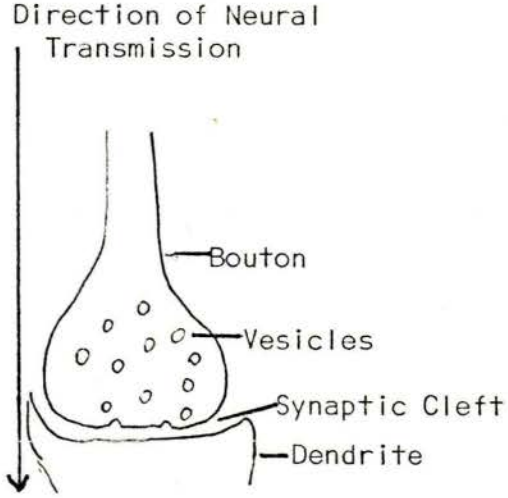


The boutons of one neuron come together (synapse) with the dendrites of another neuron. The dendrites receive information, and the axons transmit information; it is a one way street. The neuron may have an axon which is very short (many are only a few thousandth's of an inch long in the brain), or one which is more than 3 feet long, as from the spinal cord to the big toe.

A *nerve* is a bundle of axons of hundreds or thousands of neurons.

Neurons connect to one another through a *synapse*. The bouton (that button-like object at the end of the axon) almost comes into contact with the dendrite of the next neuron. Between the bouton and the next cell's dendrite is the *synaptic cleft*, a tiny space into which chemicals from the synaptic vesicles are discharged, and from which these chemicals are taken up by the reception areas in the surface of the dendrite.

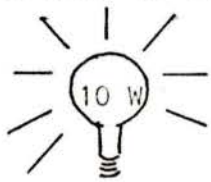
Neural transmission involves both an electrical impulse and chemical transmission, that is, it is an electrochemical process. The substances released into the synaptic cleft by the vesicles are called *transmitter substances*, and there are several different kinds of these chemicals.

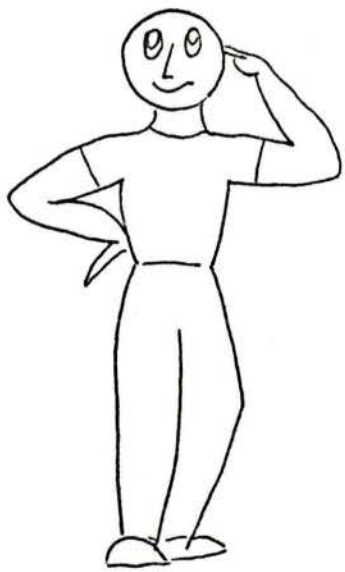


The chemical transmitter which is at every synapse where a nerve axon ends at a skeletal muscle is Acetylcholine (called ACh). Any drug which blocks ACh, then, can cause paralysis. Curare, which was once used by South American indians to dip the tips of their arrows, is such a poison. In the case of this drug, the receiving cell is blocked from taking up the ACh, and the muscle cannot be stimulated to move, causing paralysis. When paralysis affects the muscles involved with breathing, death follows.

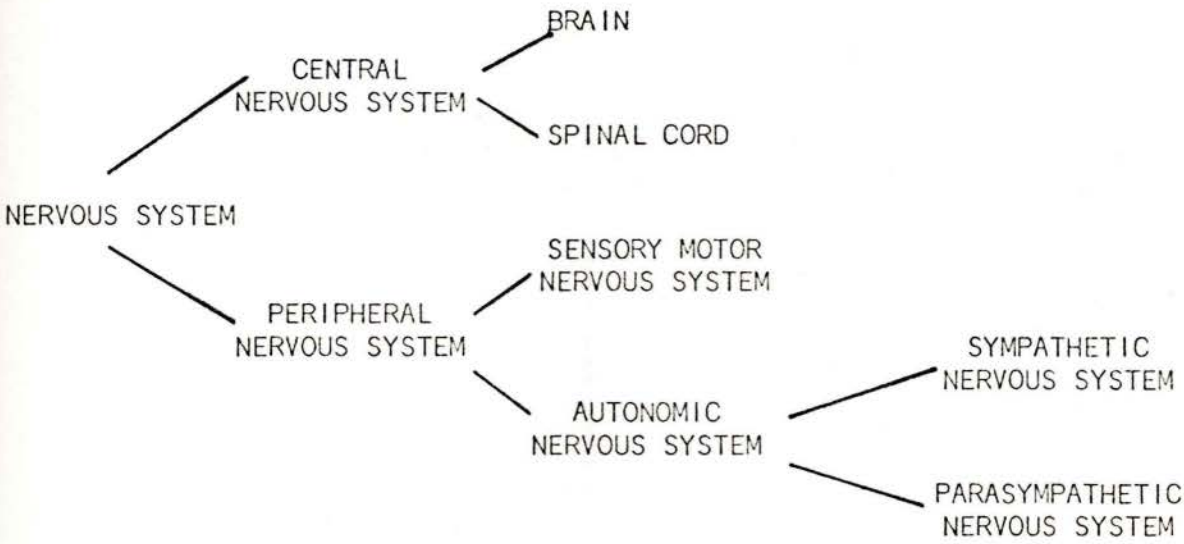
Some tranquillizers block the release of some of the neural transmitters, allowing fewer messages to get through, thus calming the person. Other drugs, called antidepressants, increase the amount of neural transmitter, thus inducing the neurons to take more messages. Dolpamine is another kind of neural transmitter which works in specialized areas of the brain. This transmitting substance appears to be in short supply for sufferers of Parkinson's Disease, which is an illness where the person may have symptoms of severe and uncontrollable shaking, especially of the hands. Some patients are helped by the administration of dolpamine, though others find the side effects of this manner of increasing the level of the transmitter are excessive and cannot be helped by this method.

There is still a great deal to be learned about neural transmission and the chemical transmitters, as well as the effects of different drugs on the nervous system. It is interesting to note that the energy required for the electrical stimulus to fire one neuron so that the transmitters are released into the synapse is about a billionth of a watt. If you figure there are 10 billion neurons (we figured 12 billion) in the brain, if all of the neurons fired at once (not that that kind of thing happens), the total supply of power would be 1/10th the wattage of a 100 watt lightbulb — 10 watts!



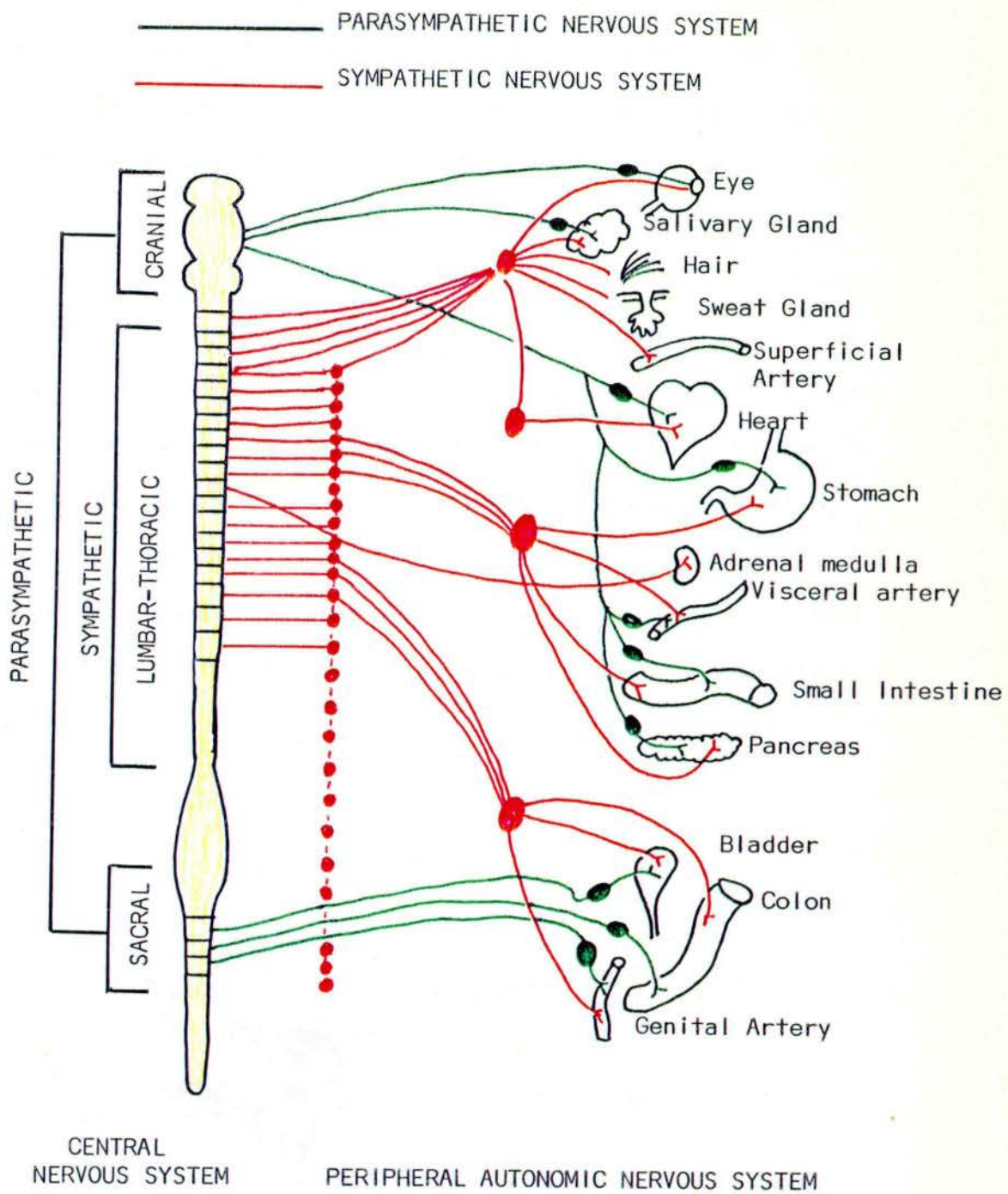


The nervous system is so complicated, we study it in separate sections, but we need to remember that all these sections work together in actuality, and that many parts of the nervous system are working all the time without our conscious awareness.



The central nervous system is comprised of the brain and the spinal cord. The peripheral nervous system is anything outside the central nervous system. The nerves involved with the skin, muscles and joints are part of the sensory motor (sometimes called the somatic) nervous system. The nerves that control such processes as the heartbeat, breathing, the digestion of food, and all those things we don't need to think about are part of the autonomic nervous system.

Within the autonomic nervous system are two very busy subsystems. These subsystems are the sympathetic nervous system, which gets the body ready for stress and for emergency, and the parasympathetic system, which tries to keep everything calm and orderly. In an emergency, the sympathetic system pours adrenalin into the system, takes blood from the digestive area and gets it to the muscles, makes the heart beat faster, and gears the body in other ways for fight or flight.



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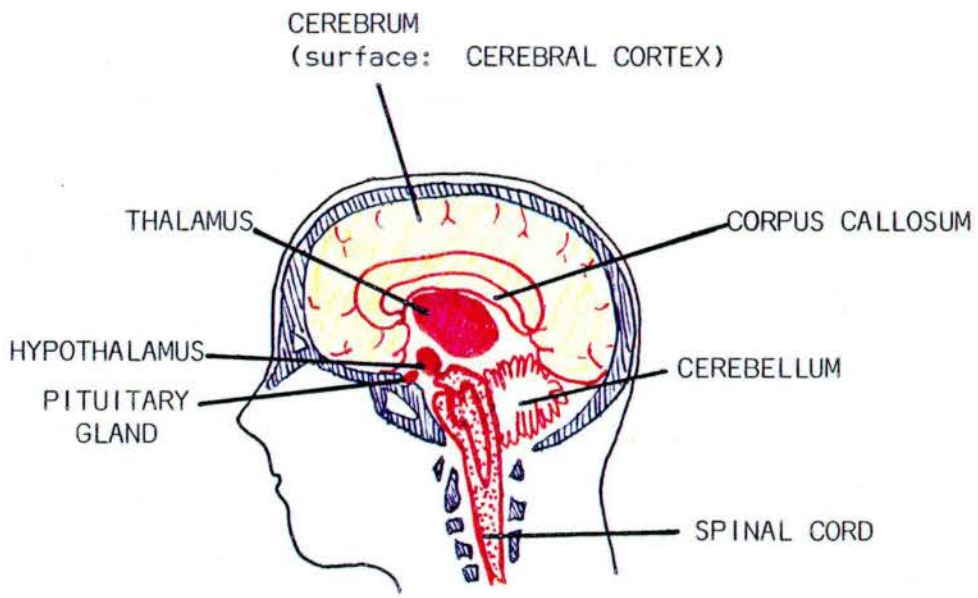
THE HUMAN BODY

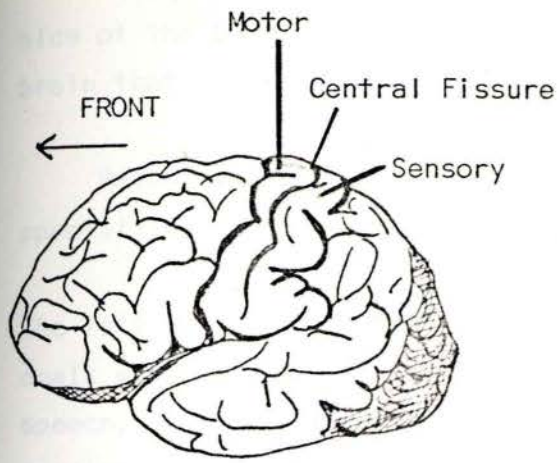
The *brain* is a very complicated structure with a lot of functions, and it is the master controller for what is happening in the body. It is also the seat of the emotions. The brain is the receiving station for what is going on around us; it filters in what we see, hear, smell, touch and taste, and it gives orders for action. The brain processes information in ways that are still not totally clear, and tells the lungs to keep breathing, the various glands to release hormones, the heart to continue to pump, and generally runs the show. The brain keeps pretty busy without our even being conscious of its activities most of the time...and then it takes on the task of reasoning, learning, thinking, and even forgetting. The brain does not cease activity when we alter our state of consciousness, such as when we sleep or when we practice meditation. Changes take place in the type of activity being performed, but much unconscious activity is taking place all the time.



The cerebrum, with its covering the cerebral cortex, manages the perception of senses, voluntary muscle movements, learning, memory, thinking, emotion and consciousness. The thalamus is called the sensory relay station as it transfers information on its way to the cortex. The corpus callosum contains those fibers which connect the two sides, or hemispheres, of the brain (we will go into the two hemispheres a little more later on). The cerebellum has to do with balance and coordination and movement; it is interesting to note that the cerebellum in the cat takes up about a third of the entire brain space — perhaps this has something to do with the cat's agility and ability to "land on its feet." The hypothalamus has control of temperature, metabolism and endocrine balance, as well as other functions; you will find more about the hypothalamus in the chapter on Motivation and Emotion. The pituitary gland has been called the "master gland," but as you will see when we get to the endocrine system, its reputation has been slightly altered in recent years.

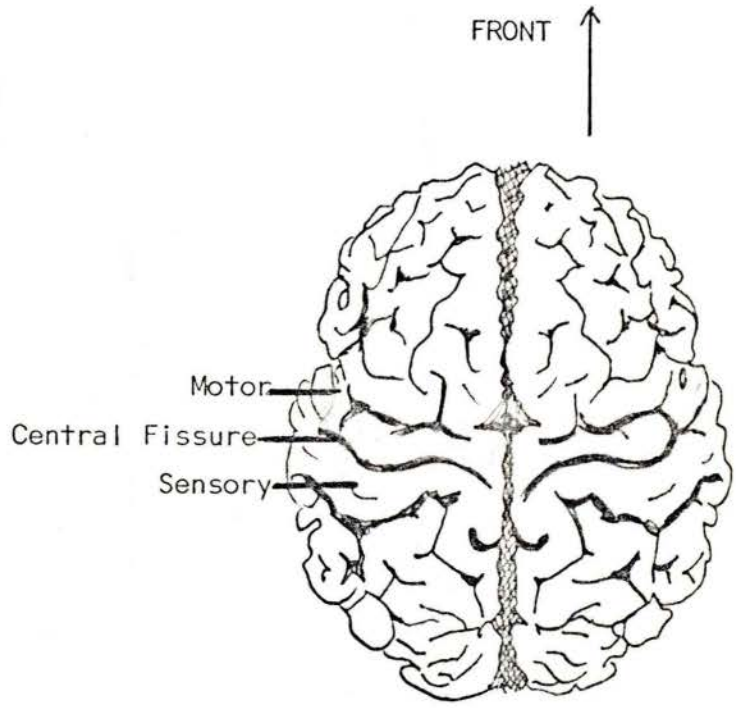
The cerebral cortex (where the conscious thinking takes place, along with motion and sensation, etc.), has ridges and crevices (known as sulci and fissures), and because of this "folded over" structure, it has more surface than it would seem to have. Some of the fissures are deeper than others, and some of these divide the brain into lobes.

About the middle of the brain, going from ear to ear, is the central fissure. The ridges, or sulci, on either side of this crevice are very significant: in front of the central fissure lie the neurons which affect the motor area, that is conscious muscle movement. Behind the central fissure (toward the back of the head) are the neurons which constitute



VIEW FROM LEFT SIDE OF BRAIN

the sensory area, that is these neurons are involved with the sensation you feel when someone pats you on the back or when you touch velvet, or hold a warm cup of cocoa.



VIEW FROM TOP OF BRAIN

If you look at the brain as though you were standing above the person and looking down, you will see that there is a major division down the center of the brain; this division creates two parts of the brain which are called hemispheres (half-spheres). These hemispheres have come to be referred to commonly as the left brain and the right brain. Some very interesting work has been done recently in the study of the functions of each of these hemispheres. One very important concept to remember is that the left brain deals with the right side of the body, and the right brain has to do with the left

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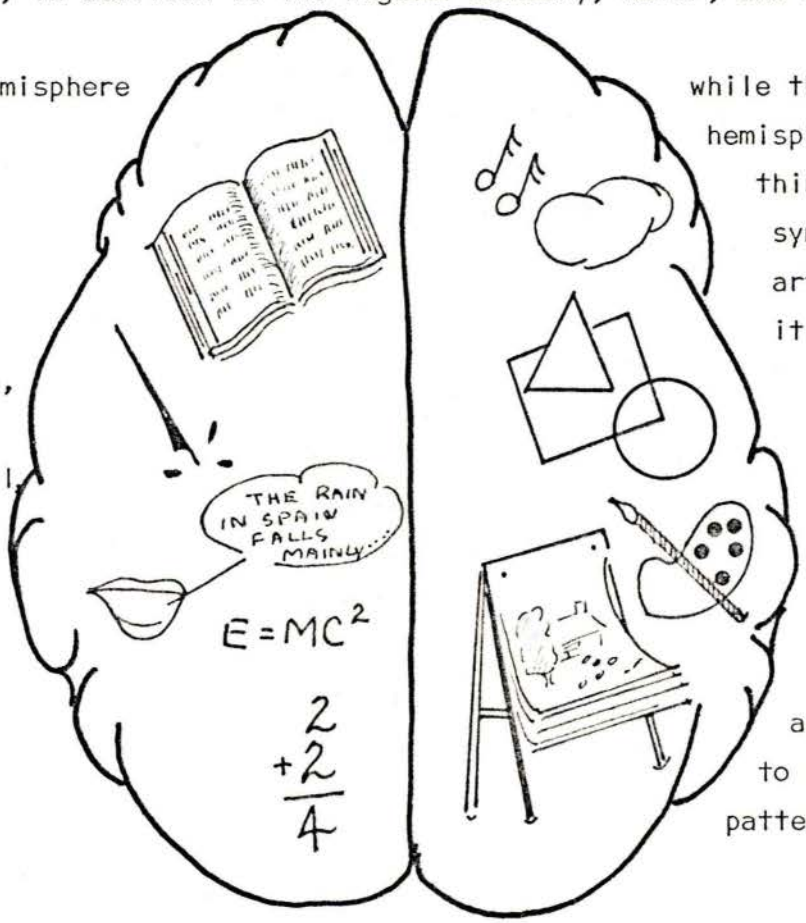
Illustrations taken from Sidman and Sidman, *Neuroanatomy*, Little, Brown and Company, 1959

side of the body. When you stub your left toe, it is the right side of your brain that tells you your toe hurts!

Recently it has been found that each side of the brain has certain specialties, in addition to the regular sensory, motor, and other functions.

The left hemisphere deals with speech, reading, writing, naming, mathematics, and is intellectual, logical, and analytical



while the right hemisphere looks at things symbolically and artistically; it deals with music, intuition, creativity, spirituality; this side tends to recognize faces and figures, and to perceive abstract patterns...

The two sides are not split all the way through the brain, but are connected by several organs, the largest of which is the corpus callosum (shown in the figure on page 11). Because of these connections, our bodies function as total entities; we can write or perceive forms with either hand, and our whole beings are involved with reading or with music. Sometimes, however, in rare cases of a severe form of epilepsy, the corpus callosum has been surgically divided. This surgery decreases the number and severity of the epileptic seizures, but researchers have found that in these patients, the left hand really doesn't know what the right hand is doing!

Endocrine System

The endocrine system has to do with glands that discharge their products (hormones) directly into the blood stream. These are called ductless glands. The *hormones* are chemical messengers; they signal the body in some manner. Some ductless glands secrete, or control the secretion of, several different kinds of hormones. The pituitary gland is one of these.

The *pituitary gland* was once thought of as the master gland, and indeed it does control a number of functions and a number of other glands in the body. But more recent studies have indicated that the tiny *hypothalamus* is a mighty dictator. It appears, in many cases, to be telling the pituitary when to release certain hormones which, in turn, set off series of hormonal discharges. The hypothalamus is the center for the control of temperature, and also controls thirst. It is the seat of "pleasure" and anger centers, and you will find more about the hypothalamus in the chapter on Motivation and Emotion. In addition to its other excretions, the pitutitary is the source of the growth hormone, and therefore controls physical development with regard to growth. Both of these glands are found in the most protected part of the head — roughly right in the middle — as can be seen in the illustration on page 11.

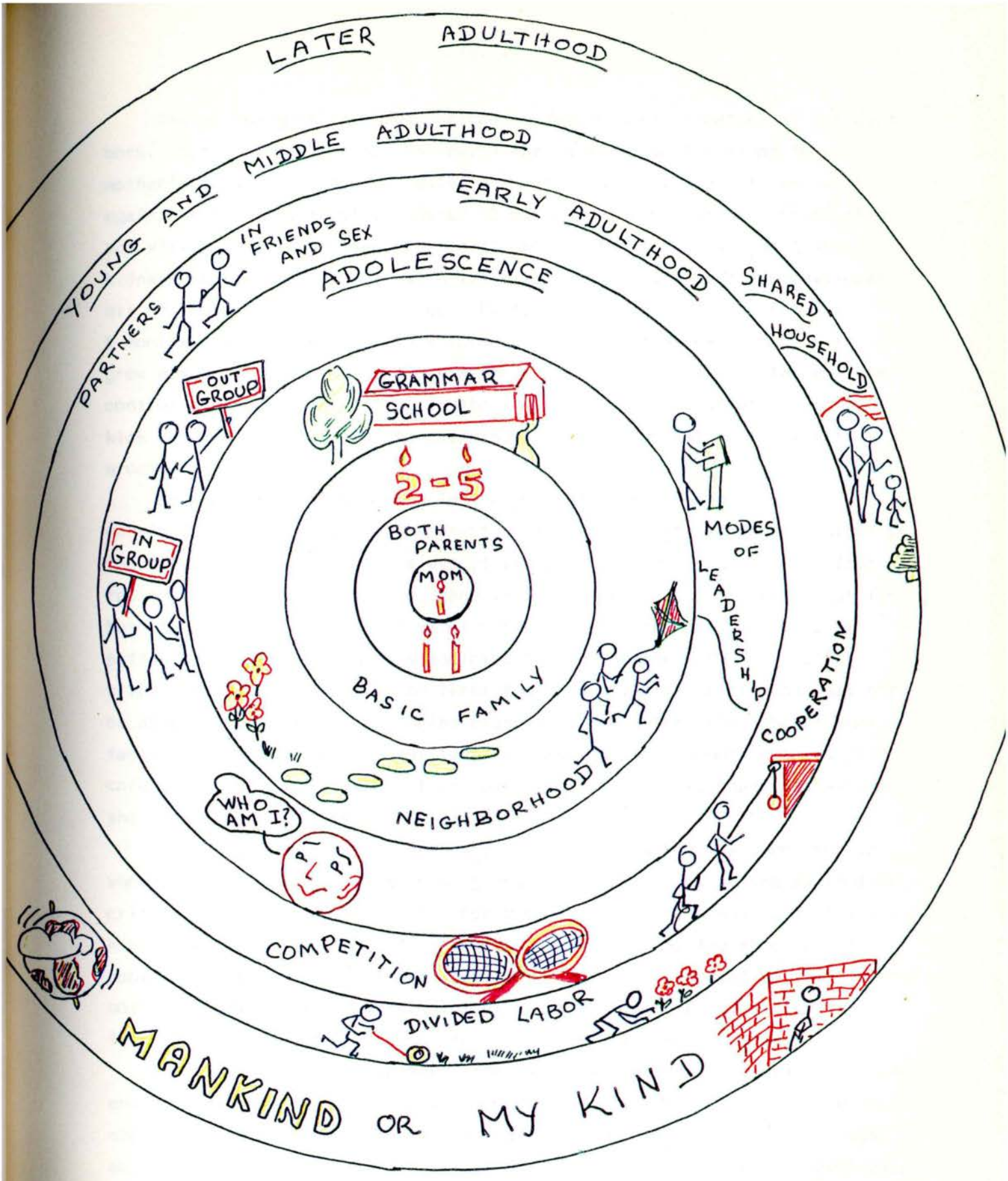
Another endocrine gland of particular importance is the *thyroid*, which controls metabolism (how food is converted into energy and body tissue), and is very involved in fatigue and energy levels, as well as the weight of an individual. The *adrenals*, located in the kidney, put out adrenalin, and adrenalin gets the body ready for emergencies, activates the sympathetic nervous system we looked at earlier, and allows you to lift more, run faster, and meet stresses at your optimum possible condition. The *gonads*, or sex glands, produce hormones which not only develop the lower tone of voice and the facial hair of the man, and breasts and menstrual functions for the woman, but they also have definite effects on the emotional moods of each person. The sex hormones have a very complicated signaling structure. As with many of the other hormones, there are interactions in which each is dependent upon another to keep the body functioning at its best. It is an amazing system, all working together to keep the body in balance.

HUMAN DEVELOPMENT

Our world is very small and very close to us when we make our first infant howls, and as we grow older, it becomes larger and fuller. It goes something like this...

Mom is our first major contact. She, or someone like her, is our first source of food and comfort. Soon we move on to include Dad, and then the rest of the family. Then we take a giant step from home to neighborhood, and then to school. We make new friends in grammar school, we move on into Jr. High where we develop what are called "In Groups" and "Out Groups." These are "peer" groups, that is, groups composed of our equals ...and in these groups, some are more equal than others. "In Group" people are those whom we accept and who accept us; "Out Group" people don't meet our needs or our criteria. When we are in this age group, the reaction of our peers is very important to us, and means more and more; what our parents think means less and less. Our world has become bigger. Then as we grow more mature, our relationships begin to change, and we develop close friendships and learn about partnership. Now we have come, through the school years and afterward, to know ourselves more securely, and we establish loving relationships with our peers. We compete, we cooperate, we choose a way of life. It is time to set up a household, and learn to share the tasks thereof; we establish a family. The family grows, and we grow. This is a time of responsibility, and a time of giving. The children of ours go through their growing up, just as we have, leave home, set up their own families, and we, as adults, then have a great change in our lives. We re-establish the relationship with our partner and learn to enjoy things together, and alone, again and, if all goes well, we grow to old age.

This is an idealized and all too brief view of development; the road, though it follows the general outline, is certainly not all that smooth! Let us take a closer look.



based on concepts
of Erik Erikson

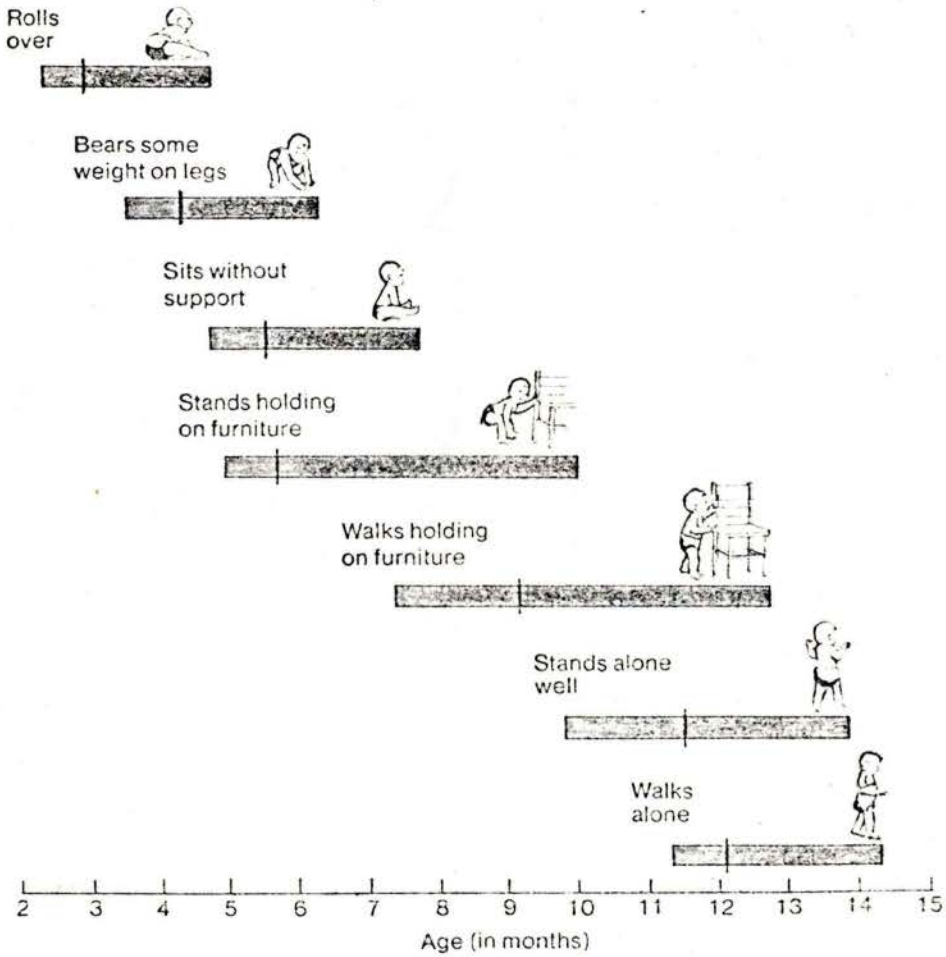
One of the most critical periods of development is before we are even born. During the 9 months (280 days) the baby is carried along in its mother's womb it is growing faster and more complexly than it ever will again. Within the first trimester (3 months), the mechanisms for hearing and vision come into being; by the 4th month, the fetus has functioning kidneys and can grip things with its fingers and thumb, and has developed all of its organs to some degree. By the 150th day (when the fetus is 5 months old), it is completely formed. It needs the next 4 months to grow and mature, and to complete some important features like temperature control and sucking ability. In these months the fetus gives its mom a kick once in a while, just to exercise its limbs and let mom know it's around.

So what happens to mother in the first four or five months she carries her baby is pretty important. If she does not get proper nutrition, the baby, though it will take everything it can, including calcium, from the mother's body, may suffer. And if the mother does not have enough for both the baby and herself of vital minerals and nutrients, her body will suffer too. If the mother is addicted to heroin, the baby will suffer withdrawal symptoms within the first few days after its birth, and may not be able to survive. Even smoking cigarettes makes the fetus' heart beat faster, and may have other deliterious effects. If the mother takes good care of herself, gets her rest and eats properly, and is happy and well, she has an excellent chance of having a healthy baby.

Let us presume the mother has given birth to a healthy youngster in whom everything was in good working order at birth. Now we are at another critical period in development. For 9 months the baby's environment was a kind of water-bed in the mother's womb. He or she was fed through the umbilical cord, and his or her waste materials were disposed of through the mother's body. Now the little infant is on its own. But it is still thoroughly dependent; it cannot fend for itself for many years.

In his physical development, the baby goes through a regular sequence, and research has shown that this is so in the child's emotional and his cognitive (thinking) development as well. Each child may not go through each sequence at the same rate, but generally the same order of development is followed by all.

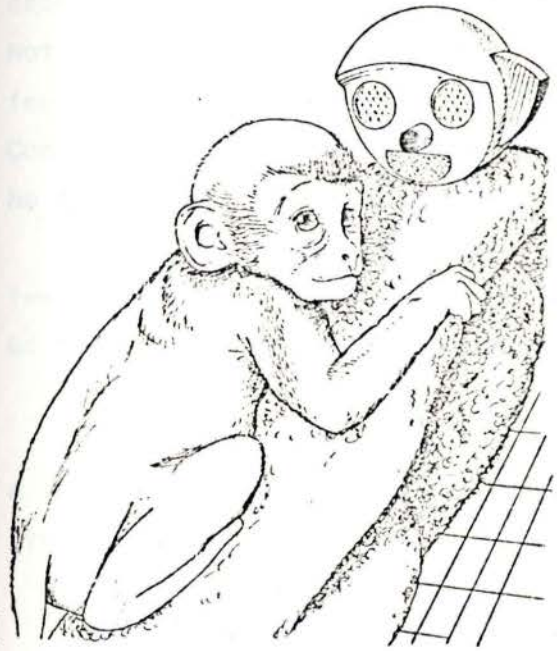
The brain, though it has the full number of cells at birth, doubles in size in the first 6 months, and doubles again by the age of four. Somewhere between 2 and 5 months the baby rolls over, and somewhere between 11 and 15 months he walks alone.



after Frankenburg and Dodds, 1967
from Hilgard, Atkinson and Atkinson, *Introduction to Psychology*, 6th ed., Harcourt, Brace and Jovanovich, 1975

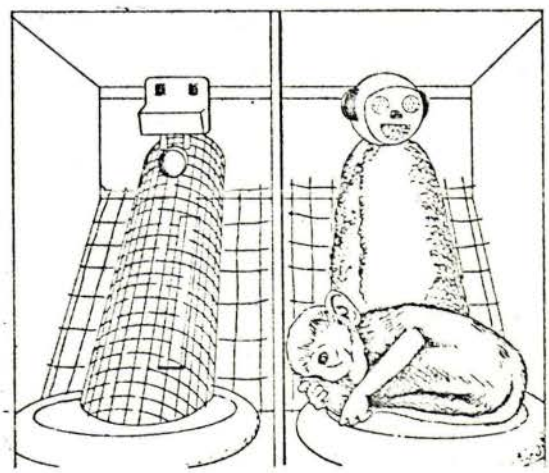
What is happening emotionally during this time? A number of experiments have been done with animals and a number of studies with children which let us know something about infant emotional needs.

What happens if the baby is deprived emotionally early in his life? Studies have shown that children develop more slowly when they are not given attention and handled, and that some appear to be mentally retarded. Animals, when kept alone and deprived of things to see and hear (sensory stimuli) do not adjust well. Some very interesting studies have been done with monkeys by a group under the direction of H. F. Harlow.



Wire monkeys were made up to (faintly) resemble rhesus mother monkeys. One wire "mother" monkey was left uncovered, and the other was covered with terrycloth and given a somewhat monkey-like face. The mother-monkeys were so constructed as to allow the baby to nurse from a bottle. Though the infant monkey would drink from the uncovered wire model, it would cling to the terry-cloth mother and would cuddle to this make-believe mother for comfort.

Still, the terry-cloth mother did not fulfill the social needs of the little monkey, and these animals when grown did not fit into monkey society. They did not mate easily, and if mating was finally accomplished, when they bore their baby monkeys, the females did not want to nurse their babies, and would not give them any cuddling or attention.



Illustrations after Harlow, 1958, from Deese, J., *Principles of Psychology*, 1964, Allyn and Bacon, Inc., Boston

As with the little monkey, the human infant needs attention and kindness and cuddling. The baby learns how to behave as a parent by the way he is treated as an infant, and he learns to respond to other humans in the manner in which he is treated.

One of the currently popular forms of psychotherapy, Transactional Analysis, provides a background philosophy that describes the feeling of worth we have for ourselves and we feel for others. The phrases used to describe these feelings are, "I'm OK, You're OK" or, "I'm Not OK, You're Not OK." The child who is neglected or who is beaten is very likely to feel either that he is "Not OK" or that his world is "Not OK," or both. Conversely, the infant who is loved and responded to is ideally "OK" and he feels that the world he relates to is "OK" too.

Those who have worked with child development agree that the first few years of a child's life are very important in his emotional development, as they are in the development of his body.

There have been several major studies of development, each done from a somewhat different point of view. We will briefly review a few of these studies here.

Erik Erikson has described man's development as a process of eight stages; some of the elements of these stages are illustrated on page 17. Erikson see each stage as a positive versus a negative possibility in overall development. The infant, for instance, from birth to one year, is seen as developing through a period of "Trust versus Mistrust." He either learns to trust those upon whom he is dependent, or he learns that they are not really very dependable and, according to most psychologists, this early trust or non-trust influences a person's entire life.

Between his first and second birthday, Erikson says the toddler who, just a few months before was so completely dependent, suddenly has a "violent wish to have a choice of his own!" This stage is called by Erikson, "Autonomy versus Shame and Doubt," and it is the time when he is relating to both parents, rather than just to his mother.

Between his second and fifth birthdays, the youngster starts going after things, and Erikson calls this age that of "Initiative versus Guilt."

The next stage goes all the way up to puberty, and this is during the early school years. In other cultures, where formal education is not provided during these years, they are still years of learning to be involved with the culture. Here the individual learns something about conforming, about rules, and about cooperation, that is, he learns to work side by side with another person. This time of the early school years is called the age of "Industry versus Inferiority."

Then comes adolescence. And everything changes again. This time it is a much bigger world. Erikson calls this the age of "Identity versus Role Confusion." We care, at this age, very much about how we look in the eyes of others. We try on different personalities, and try to put the image we think others see us as alongside our images of ourselves. The big question now is, "Who am I?" and we try to get part of our identities from our friends. We find during this period the appearance of "In-Groups" (my kind of people) and "Out-Groups" (those other folks). We feel included and liked in "In-Groups," and just the opposite in "Out-Groups." Loyalties are important, and rituals seem to help stabilize things, so we use them a lot during these years.

Even under the best of circumstances, it seems inevitable that there is confusion, and a lot of it, during some of the time of adolescence. This is a strongly ideological time; it requires a sort of non-conforming conformity. The adolescent's identity is constantly being examined and re-examined, and once the self is discovered, it becomes important to be oneself, and to share oneself.

This is a very important time, one where decisions are made which greatly influence the directions of our lives. We can always change these directions later, but it takes more effort and concentration once we have started along the road.

And this is just the beginning.

In early adulthood, some of the conflicts of adolescence seem to have become resolved, one's own identity has become confirmed, and the direction now is to merge with another in a sense of intimacy. Erikson calls this age "Intimacy versus Isolation," and he feels that if one does not develop close friends, and come to a relationship with one person of the opposite sex, one is in danger of becoming emotionally isolated from his world. This is the time when families are begun, and the whole process from birth forward begins again.

But there is more to come! When the babies are born, do Mom and Pop suddenly become pieces of furniture? We hope not! This stage of middle adulthood Erikson calls, "Generativity versus Stagnation." Generativity has to do with nurturing and guiding the next generation. This is a time to take care of, to be productive and creative (and this is true for those who have not chosen to be parents as well as those who have). The problems of the self are less prominent, and there is more time for little people, and for creativity. Then the kiddies go through their stages, and get to young adulthood, when they, as their parents before them, strike out on their own. We have arrived at Erikson's last stage, which he calls, "Ego Integrity versus Despair."

If the person whose life we have been following has reasonably completed the growing needed through all the stages of his or her life, he or she is ready to accept life as later adulthood presents itself. This is the point of a final consolidation of the personality. If he has not become integrated and has not developed fully through his earlier stages, our friend is likely to be in despair, afraid of death, and full of "little disgusts."

We have looked at development as Erik Erikson sees it; let us look now at a very different point of view, that of Jean Piaget.

Jean Piaget studied man's development from the point of view of cognition, or thinking. Piaget became interested in psychology after he had become an expert in one area of biology, and highly educated in philosophy. He took a job in a very famous institutute which studied intelligence, and was terribly bored with the whole business of testing

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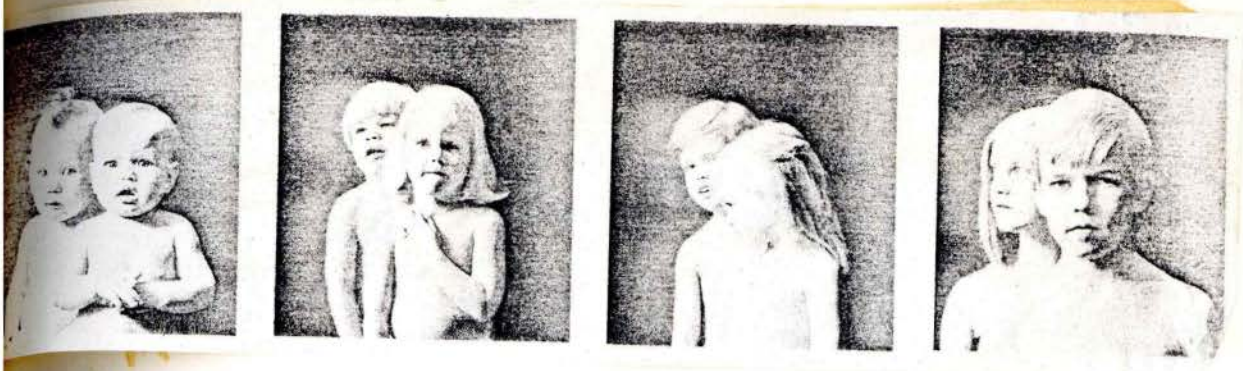
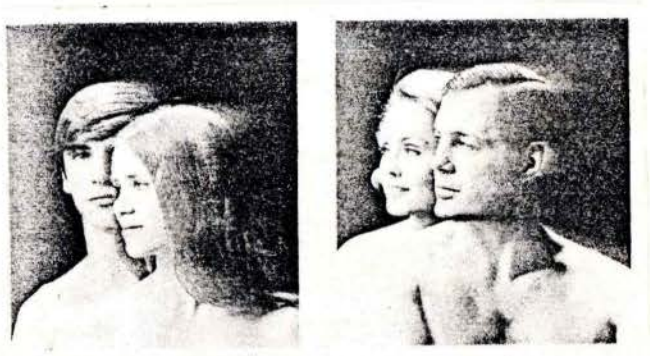
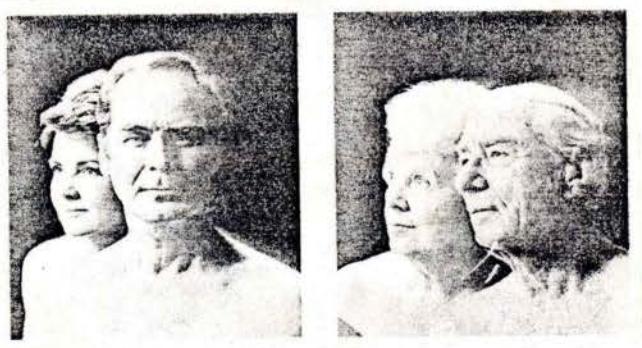






from Hilgard, Atkinson and Atkinson
Introduction to Psychology, 6th ed.
Harcourt, Brace and Jovanovich, 1975

until he discovered that children in the same age group taking these tests consistently made the same kinds of mistakes. Piaget became fascinated with this, and came to make a very careful study of the intellectual development of children; he observed his own, and wrote extensive and precise records of their responses from infancy. Piaget used the word "period" to describe a specific age level; within the period he defines certain stages.

The *sensory motor* period is from birth to about 2 years (chronological ages are not exact because of the variation in intellectual development among different individuals). This is a time when the intellectual development closely matches the physical development and abilities, especially the control of the muscles and the ability to use them. The senses develop in function too, and it is during this time that the child learns to coordinate what he sees with what he does.

There are 6 stages within the sensory motor period during which the infant moves from only reflex activity through coordination of his hand to his mouth. His hand and his vision begin to work together, and he begins to consciously repeat activities. He learns to conceive that objects are still in place, even though something has covered them up (they are no longer 'out of sight, out of mind'), and he begins to play by pretending.

The period which Piaget calls the *preoperational* time covers roughly those years between ages 2 and 7. Between 2 and 4, the child develops his language, and the language is very much about "me." During this age, the child does not understand what Piaget calls "conservation problems," that is, if you pour liquid from a wide pitcher into a narrow glass, the child will not see that liquid in the glass as the same quantity that had been in the pitcher. If blocks are piled up, they will not be conceived as the same number of blocks as if they are laid in rows.

Then comes the *concrete operational* period, from about 7 to about 11, when "conservation problems" can be solved. The youngster is working out logical solutions, and applying these solutions to concrete (real) problems. Still he has not developed to the point of solving complex verbal problems; that is yet to come.

During the *formal operations* period, the youngster begins to think scientifically. His cognitive structures have matured, and he is able to solve all kinds of problems, including verbal ones. These years, from 11 to 15, complete Piaget's general study of developmental periods. Piaget has done a number of other interesting studies, and is still at work in the field.

The last theory of development we will look at is that of Lawrence Kohlberg of Harvard University. There has been a great deal of controversy over Kohlberg's theory, which states that there are stages of development of moral values, just as there are stages of physical and intellectual development. Kohlberg found that it was not possible to attach specific ages to levels of moral growth, since cultural differences, differences in upbringing within the same culture, and differences of values of the society in which the individual grew up were so great, even within one country.

The first level in Kohlberg's theory of moral development he called *premoral*. Here the individual obeys rules only to avoid punishment, and he conforms only to obtain rewards...there is no conviction about right and wrong involved. At Level II, *morality of conventional role — conformity*, the person is "good" to get the approval of others, as well as to avoid disapproval. This level maintains its morality through authoritarian procedures. Here avoiding disobedience also avoids guilt, to say nothing of avoid conflicts with the authorities.

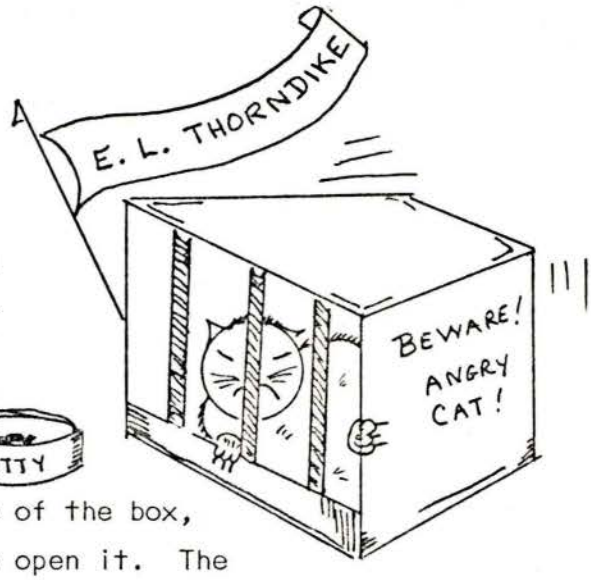
Level III, Kohlberg's highest level of morality, is *morality of self accepted moral principles*. The person himself has come to some conclusions about morality, and he conforms to those principles in order to avoid condemnation by himself, rather than by others. His morality is based on individual rights, democratic principles, and conscience, as he has developed it. Community welfare is highly influential in moral decisions for the person who has reached this stage.

We have considered human development from infancy to old age; now we will look at how we learn.

HOW WE LEARN

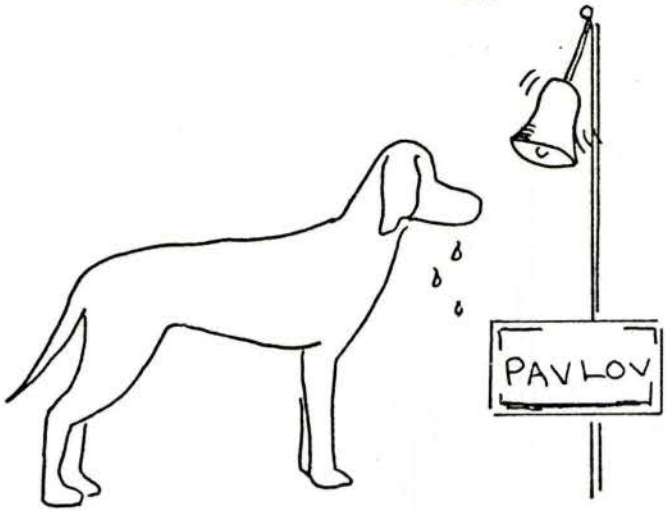
A great deal of research has been done in trying to discover just how we are able to learn things. We are going to look at some of the theories of learning which have come out of these studies.

TRIAL AND ERROR



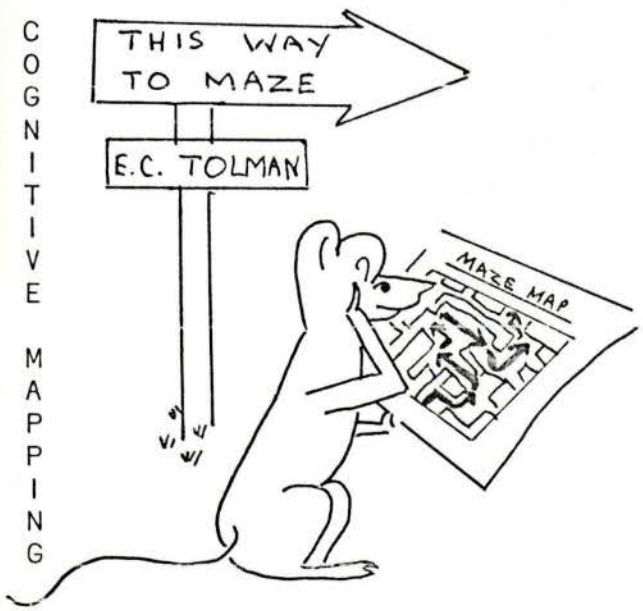
Trial and error learning means that we learn to do what works, and we learn what works by trying it. Edward L. Thorndike (who was born in 1874 and died in 1949) reported that he placed a very hungry cat inside a box, and a bite of food outside the cage. There was a latch on the inside of the box, but the cat did not know how to open it. The animal would dash about the box, and would claw in frustration and eventually it would hit the latch and find the door open. It would run to gobble the bite of food. After a few times of being put back in the box, and getting out by accidentally hitting the latch, the cat discovered how to hit the latch, and thus to open the door. The cat had learned, by trial and error, how to get out of the box. This was one of the first stimulus response experiments. The stimulus was the cat's hunger, along with the food outside the cage, and the response was at first frustration, then learning how to get out of the cage and to the food.

CLASSICAL CONDITIONING

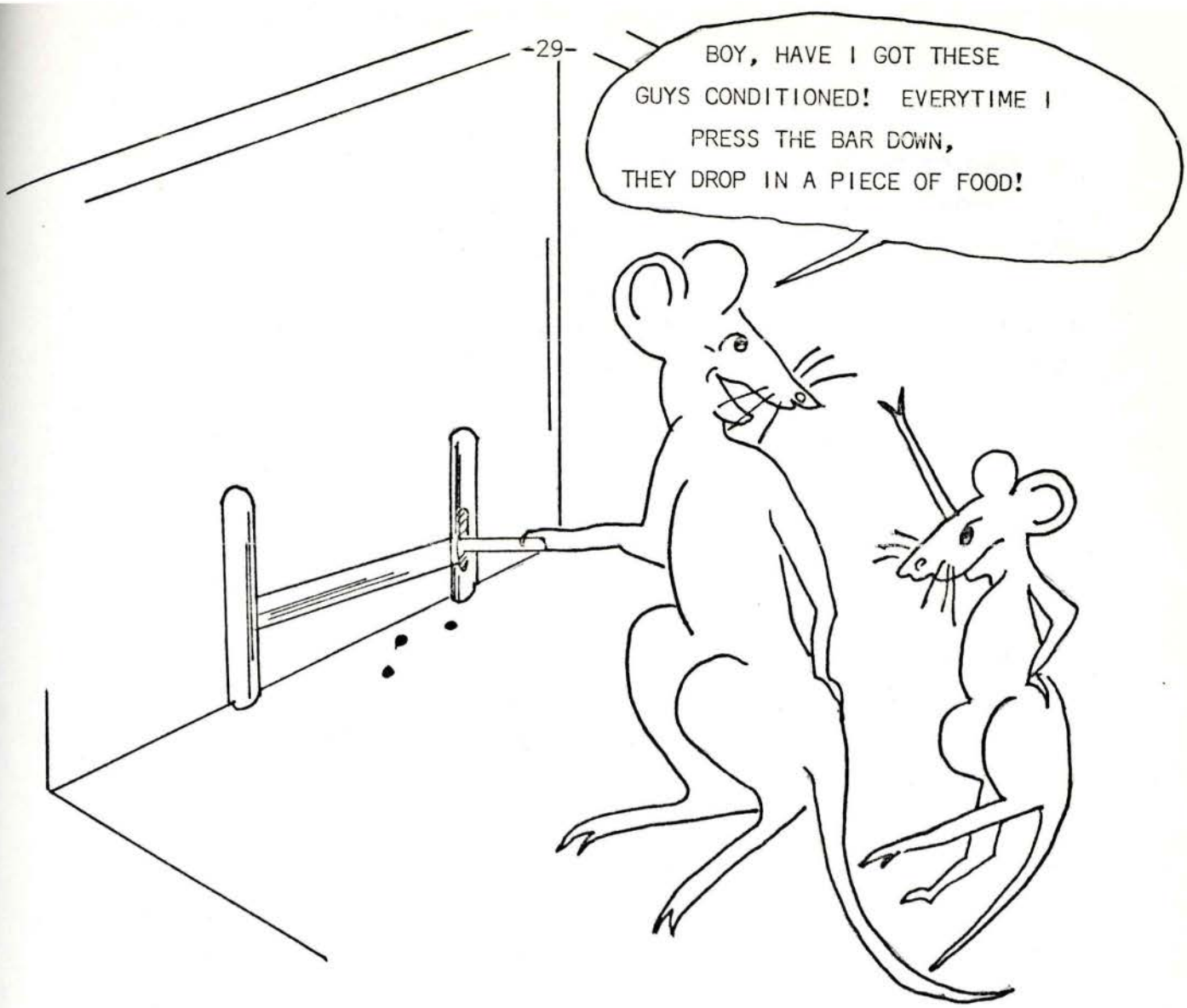


Ivan Petrovich Pavlov was born in 1849 and died in 1936. He is known as the 'father' of the concept of conditioned reflexes. His most famous experiment is one in which he used a dog, food, and a bell. Every time Pavlov fed the dog, he would also ring a bell. After a time, when Pavlov would ring the bell, even if there was no food present, the dog's mouth wood water, just as though the food was right in front of him. The reflex response of salivation (mouth watering) occurs when food (stimulus) is shown to hungry dog as a part of his digestive process; when the dog salivates when the bell is rung, he is associating the ringing of the bell with food, even though he can see the food is not there. This is a conditioned reflex, and this kind of learning is called classical conditioning. Incidentally, if the bell is rung enough times without food being present, the dog will stop salivating at the ringing of the bell, and the conditioned reflex behavior is then said to be extinguished.

COGNITIVE MAPPING



Edward Chace Tolman (1886-1959) approached learning somewhat differently from the S-R theorists. He looked at the purpose of behavior, and was convinced that behavior was *goal* directed, rather than reward directed. The easiest way to the goal was the one which would be used. The rat who had run the maze several times had actually developed a kind of cognitive map, a sort of sign learning of the easiest (and right) way.

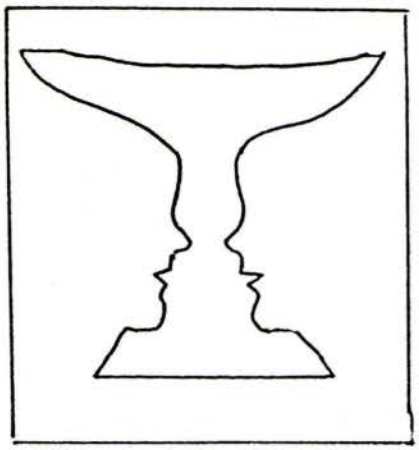


OPERANT CONDITIONING

B. F. Skinner was born in 1904, and is still working in research in psychology. His work is based on the stimulus-response theory. Where the stimulus was known, as in Pavlov's work using the food and the bell, Skinner classifies the response as *respondent* behavior. Where the stimulus is not known, the response, or action, is then called *operant*. Operant conditioning is reinforcement, or reward conditioning. The behavior causes reinforcement of that behavior, as in the case where the rat presses a lever, and each time he presses it a pellet of food drops in front of him.

Actually, we tend to do those things consistently for which we are not reinforced, or rewarded, every time, but rather at unpredictable intervals. A good example of this kind of reinforcement is the success of slot machines in Las Vegas -- they pay off only once in a while, but people keep putting money in them in the hope that they will be there when the payoff comes.

GESTALT THEORY



Gestalt is a German word which means a unified whole, or pattern. Three psychologists, Max Wertheimer, Wolfgang Köhler, and Kurt Koffka looked at learning from the point of view of what one perceives (what do we see, and how do we organize the picture), as well as how one solves problems. Our eyes look at a scene, and without being aware of it, we see a tree or a bird standing out against the forest and the hills. We don't see the detail of everything at once; we focus on something. What we focus on is the foreground, and the rest of the scene is the background. As you look at the illustration on this page, what do you see? A Grecian urn? Or is it two profiles facing each other? It depends on which you make the background and which the foreground. Our learning, and for that matter our general behavior, depends a lot on how we percieve our world, and what we perceive to be the foreground, and what we see as the background.

How do we solve problems? Wolfgang Köhler did some interesting experiments with apes in which he would place a banana out of reach of the ape (too high to reach if it was within the cage, or hanging far enough outside the cage to be out of reach). He would also provide, within reach, a method by which the banana could be reached if the animal could figure out how to go about it. If the banana was hung high within the cage, boxes would also be in the cage which, if piled on top of each other, would provide a solution to the problem. If the food was hung out of reach outside the cage, sticks would be left lying in the cage with which the ape could rake in the prize. Köhler observed the apes considering how the task might be approached and "thinking through" the problem. They would then test out the conclusion to see if it would work, that is, pile the boxes on each other and try to reach the fruit, or play around with the sticks to see if they could pull the fruit in; in most cases the apes were successful. Köhler called this *insight learning*.

PIAGET

Jean Piaget, whose theory of developmental psychology we have described, was also considered a learning theorist. In his evaluation of development, he explains at each stage what the child is able to understand, and he relates the ability to learn certain concepts to the level of development. For example, the child does not understand at age 3 or so that liquid poured from a short, fat container to a long, thin container is really the same in volume as it started out. You can see that Piaget's theory of development is also a theory of learning.

HUMAN INFORMATION PROCESSING

Human information processing has been analyzed for many years with a view to designing computers to behave, and to learn, in a manner similar to humans. According to present theories, humans process information in *chunks*, which are groupings of objects and events into classes. Our span of immediate memory is limited, so we can process somewhere between 5 and 9 chunks around the same time period. What happens if we overload the system? What happens if we try to process more than the maximum number of chunks at one time?

In 1961, James Miller listed the ways in which we defend ourselves from an overload of information:

- We omit. We just fail to process the information.
- We make mistakes. We process the information, but we do so incorrectly.
- We put things in a waiting line; we sort of hold onto the information during the overload period, and try to catch up when there is not so much coming at us at once. This is called queuing.
- We filter out what is important, and discard the rest without attempting to process it.
- We stop separating things out; we put all kinds of information, whether it belongs together or not, in one category.
- We escape; turn around and walk away from all the information flying at us at once.

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A more recent theory, called *social learning theory*, is based on the interaction between the person and his environment. Social learning theory states that we can learn by watching other, that we have *models* (people whom we imitate). Some of our motivation is concerned with our approval of ourselves, as well as the approval of others, according to this theory. These views have been promoted by Albert Bandura from Stanford University.

As you can see, theorists do not agree about how we learn, but years of experiments have led to some general conclusions. Many theorists feel that *repetition*, under the right circumstances, is helpful in learning. Being close in time relates things, and helps in learning; if you push the buzzer and the bell rings as you push, you have learned that pushing the buzzer rings the bell. If the bell didn't ring for five minutes, you might not be so likely to relate the two. Then there is the idea of *transfer of learning*, or *generalization*. An illustration of this would be that once you have learned to catch a softball, you can also catch a baseball, or a set of keys.

A lot of our learning is done through *symbols*. Words and numbers are symbols of things; the word "house" is not itself a house, it is the symbol we use in our language to convey the meaning of a house. Road signs are symbols. The word "rose" may make us think of a flower on a stem with stickers and small green leaves; we may be able to remember how the flower smells and that the petals are soft to touch. The word is not the flower, but it makes us think of the flower.

There is a lot to consider concerning what we learn and how we learn it. If we understand some of the principles of learning, we can better choose the way to approach learning a particular thing.

Now we will go on to why we want to do some kinds of things *(motivation)*, and something about the way we feel *(emotion)*.

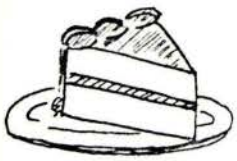
MOTIVATION AND EMOTION

When we were looking at endocrinology in the section on physiology, we found a relationship between how we feel and our hormones. Whether we feel happy or sad, energetic or slowed down, can be effected by how well those hormones are functioning. Now we are going to look more closely at the relationship of *motivation* (why we do a particular thing) and *emotion* (how we feel about things) to physiology (the way our bodies function).

What is motivation? We know that if we feel hungry, we look for food, if we are thirsty, we look for something to drink, and if we are in pain, we try to find a way to escape that pain. We are, in each case, motivated by an imbalance in our systems.

The concept of *homeostasis* (hō-mē-ō-stā-sis) is very important in understanding the motivational "why" in the body and in the mind. Homeostasis is a word which originated in the Greek: *homeo-* comes from *omoios*, and means "like," or "resembling," and *-stasis* means "standing." Homeostasis, then, is the concept of equilibrium, or things standing like they are, in balance.

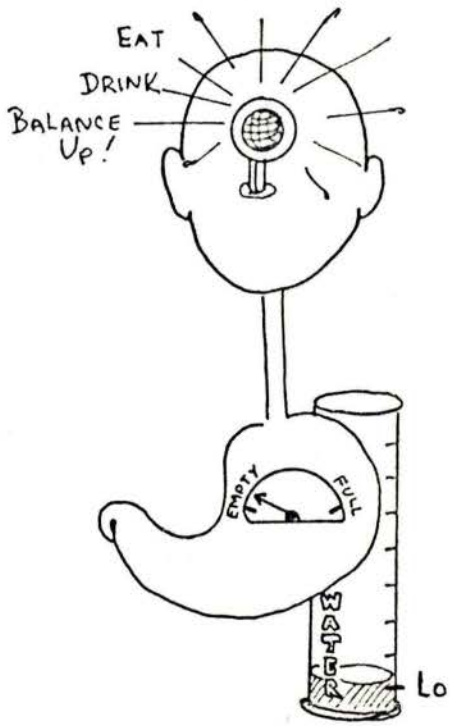
The human body includes a great deal of water; if for any reason the water supply is depleted, the person becomes thirsty. We need a certain amount of oxygen to feed to the body's tissues; if we are at a high altitude where there is less oxygen in the air, we breath faster. We each have a sort of vital internal thermostat, like the control for furnaces and air conditioners. When the right temperature is reached, the furnace or air conditioner receive a signal from the thermostat that says, "turn off." The "turn on" signal comes when the room becomes too cool or too warm. The body has a lot of "thermostats" to keep it in balance. Some work for temperature, others for food and water, and some for hormonal regulation. In the area of emotions, balance is important too. We like to reduce tension and keep the emotions in equilibrium; this is the emotional need for homeostasis.



Why do we eat?

Sometimes we eat just because the food looks good and smells good and tastes good — even if we are not feeling hungry before we see the food. Sometimes we eat because someone says it is time to eat.

Other times we eat because we are hungry. Where does "hungry" come from? Your stomach muscles begin to contract and send their message (sometimes they growl it!): "Send food!" And in the background, directing the scene, is the little hypothalamus in the brain.



When food is digested, part of it becomes a sugar carried by the blood. The blood is pumped all over the body to nourish every cell, and when the hypothalamus finds the blood sugar is getting low, it broadcasts its message, "Food time," and the rest of the body repeats the message.

One part of the hypothalamus tells you when you are hungry, and another tells you when you have had enough to eat. The hypothalamus controls drinking behavior in much the same way: it insists on keeping things balanced. If the hypothalamus is damaged, eating and drinking (and other behaviors as well) are thrown out of balance, and the person eats too much or drinks too much, or refuses to eat or drink at all.

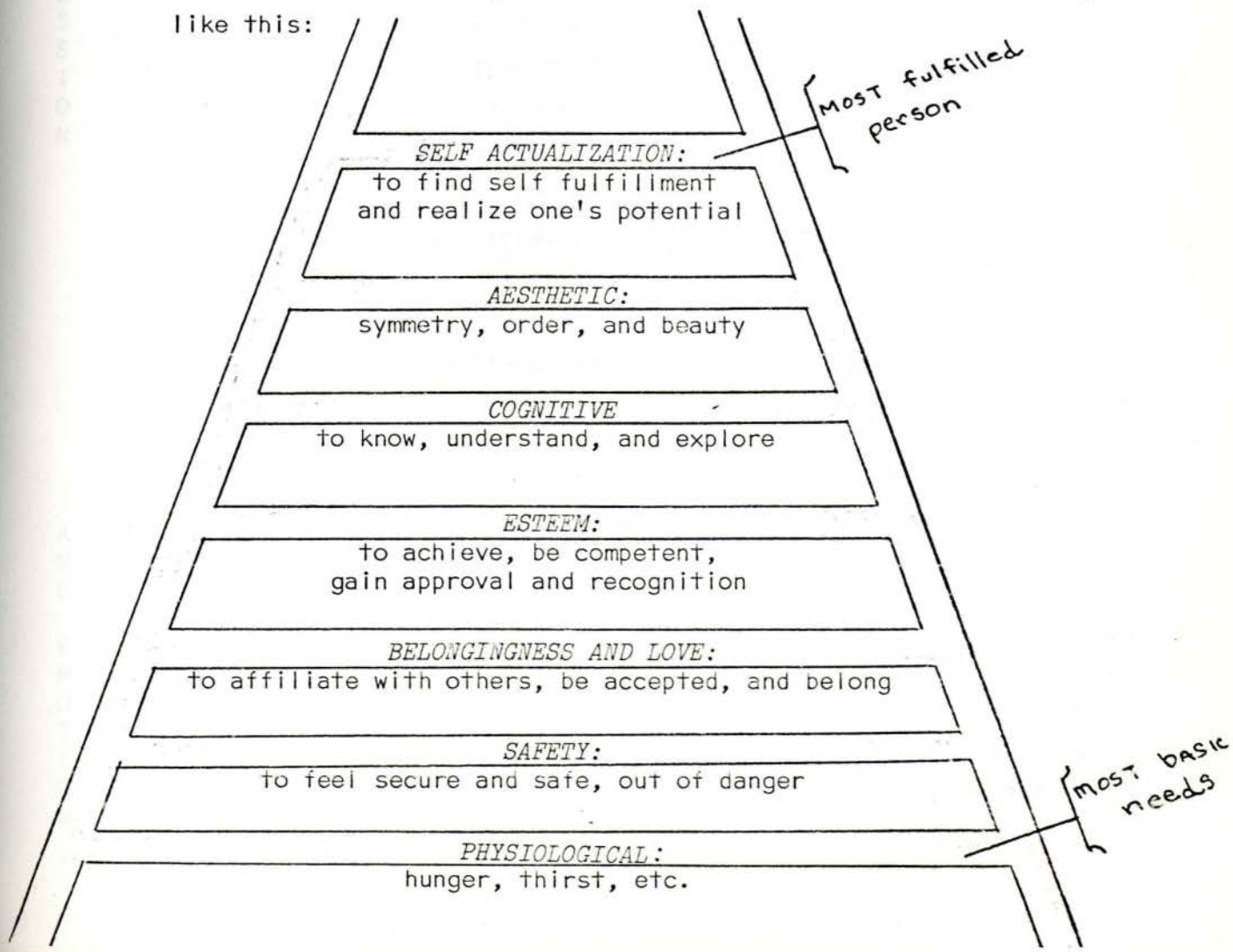
What about other kinds of motivation? Let us look at some of the theories about why we behave and feel the way we do.

FREUD

Sigmund Freud, the founder of *psychoanalysis*, says we have two major motivating forces: the instinct toward life (which he says gets its energy from what he calls the *libido*), and the instinct toward death. Freud associates the instinct toward life with sex, and the instinct toward death with aggression and destruction. Since the person may find early disapproval for both sexual and aggressive behavior, Freud believes that both of these fundamental drives become unconscious, and that the person is therefore motivated mostly by unconscious drives; he does not really know why he is doing things.

MASLOW

Abraham Maslow, who is considered an important figure in the development of *humanist* psychology sees things differently. He believes that there is a *hierarchy of needs*. That is, human needs exist in an ascending order, and humans do not move to the higher need without fulfilling the more basic need. It looks something like this:



It is difficult to concentrate on studying when you are really hungry or frightened. When you feel comfortable, fed, and secure, and on good terms with other people, learning and trying to understand how things work is easier and more fun; and so it goes, up the ladder of the hierarchy of needs.

AND ABOUT AGGRESSION

There have been some very interesting studies concerning aggression. Freud, you remember, saw aggression as a basic instinct. Social learning theorists, such as Albert Bandura, say aggression is a learned response, that it is copied from what we observe. Others say aggression is one of the results of frustration.

Jose Delgado, a physiological psychologist, knew that, in addition to all its other functions, the hypothalamus is the pleasure and anger center of the brain. He implanted tiny metal receptors called electrodes in the hypothalamus of the brain of a wild bull, and later got into a ring with the angry animal. Delgado held a radio transmitter and a cape. The cape would not have done him much good, but when the bull charged Delgado, pressure on the transmitter sent a signal to the electrodes in the bull's brain, and this interferred with the aggression center. The bull stopped in his tracks, and made no further effort to attack Delgado.

We can see that there may be a number of factors related to aggression. Some of these influences are physical, and some have to do with the emotional environment in which we live, other influences upon us, and our frustrations.

AND EMOTION

What happens when we feel intense emotion? A sort of happy tickle? Goose pimples? Butterfiles in the stomach? It isn't just imagination; there really are some physiological effects when we feel elated or when we feel frightened. When we feel rage or fear, the body gets ready for action. That part of the autonomic nervous system called the sympathetic nervous system takes over, and the heart beats faster, the pupils of the eye dilate, the

blood sugar level increases to provide more energy, the person breathes faster, and blood increases its ability to clot. All this in just seconds. At the same time, the other part of the autonomic nervous system, called the parasympathetic nervous system, sort of closes up shop. The blood that was working with the digestive system is diverted to the muscles for fighting or running. One of the hormones which is very important in bringing about these rapid changes is secreted from the adrenal glands of the kidneys. It is called adrenalin. When the anger or the threat have disappeared, the body returns its blood supply to the parasympathetic nervous system so that equilibrium may be re-established. To refresh your memory on the sympathetic and parasympathetic nervous systems, look at the illustration on page 10.

Do different people have the same kinds of facial experessions for emotions? Studies have shown that whether a person is from Asia, South America, the United States, or some remote jungle tribe, his smile and laughter mean joy, and if he is sad, anyone from another land would recognize his sadness.

Now let us move on to that quality we call personality.

PERSONALITY

What is personality? Here are several dictionary definitions:

...*the sum total of the physical, mental, emotional and social characteristics of an individual*

...*the organized pattern of behavioral characteristics of an individual*

...*the quality of being a person; existence as a self-conscious human being; personal identity.*

Many psychologists have looked carefully at the development and structure of personality; let us review what they have found.

S I G M U N D F R E U D

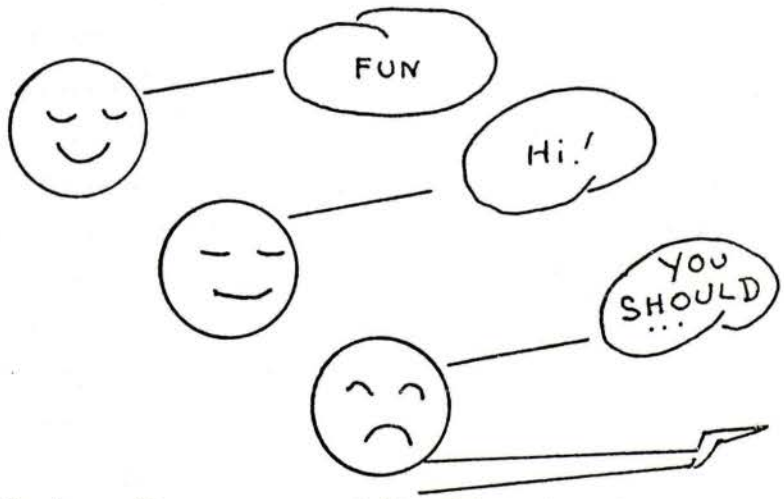
Here we meet Dr. Freud again (and you will see him one more time in this volume. As the grandfather of modern psychology (or at least one of them), we will find him on almost every psychological family tree!

Freud saw the personality as a structure of the

Id

Ego

Superego...



The id is the first on the scene, and the id wants pleasure; the id is the inner world of the person.

The ego deals with the real world, and is what you and I see in other people. Your ego is your concept of yourself.

The superego is the conscience. It sets the standards and moral values, and comes into being through what parents and other authority figures say and do when the child is very young.

We have just talked about the life instinct and the death instinct in the section on motivation, so we do not need to review them here. But we can look at the role of tension in the personality. Freud was convinced that a reward was anything that reduced tension, and that a punishment was anything that increased it. Freud felt that we develop our personalities in part through *identification*, which is the process by which we take on the attitudes and patterns of behavior of someone else — we sort of feel as though we are the other person in some way. Freud found that, as a rule, our primary identification is with our parents.

Freud proposed that we would defend our egos, and, as you may remember, he also thought that most of our motivation is unconscious. We would therefore defend our egos without being aware of what we were doing, and we would do this using any one (or a combination of several) means.

One way to avoid facing a threat to the ego is simply to *repress* thoughts, and bury them in the unconscious. Another way to handle material that does not agree with our concept of ourselves is to use the art of *projection*. Projection works like projecting a movie on a screen; we project our feelings to another person and it appears as though the actions and responses of which we do not approve in ourselves belong to the other person instead, as they really do, to us. Another method used to protect the ego uses *fixation* or *regression*. This means we either stop developing at a certain point (fixation), or go back to a particular point in development (regression), if life is too tough to handle.

Freud felt individual personality could be best analyzed by methods that probed the unconscious. He used the reported dreams of his patients, and the association of ideas, one with the other in quick succession, to expose what the unconscious was up to.

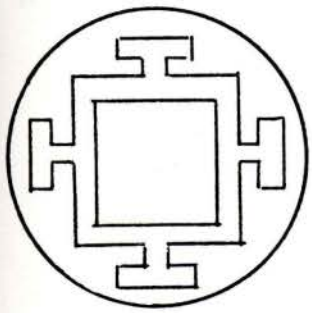
CARL GUSTAVE JUNG

Carl Jung was a student of Freud's, but he differed strongly with Freud's concept of the *libido*. Where Freud saw the libido as sexual energy, Jung defined it as the overall life force. Jung defined the *ego* differently too, as that place where the persons "views himself as the center of consciouness."

Jung conceived of two forms of unconscious: the *personal unconscious*, where repressed material is stored, and the *collective unconscious*, where man's past is stored in memory, often in the form of symbols. The collective unconscious is not a personal individual entity, but is part of the inheritance of all man.

Jung introduced the idea of *complexes* to psychology. Complexes are sets of thoughts and feelings which exist, almost as a separate entity, in the unconscious.

Carl Jung felt, as did Freud, that dreams are an important part of the personality, but he saw them as revealing not only the past, but as being forward looking as well. Jung worked a great deal with symbols, and the most famous symbol he describes is the *mandala*, or magic circle. A square appears within the circle, and sometimes forms representing deities are present. The mandala is found in the art forms and religions of many cultures, and Jung felt is was part of the collective unconscious, and that it appeared as an effort of the individual to become a unified entity.



Along with his view of the collective unconscious, Jung presented the concept of *archetypes*. Archetypes are defined as universal thought forms which contain emotion. Myths, dreams, rituals and works of art all demonstrate archetypes. In the collective unconscious, there are specific archetypes: birth, rebirth, death, power, magic, unity, the hero, the child, God, the demon, the old wise man, the earth mother, and the animal.

As you can see, Carl Jung had a language all his own. Among the words he gave to psychology are *introversion* and *extroversion*.

Extraversion is an attitude which is "other centered," in which the person takes his values from and gives his interest to the world outside himself, whereas introversion indicates an inward, keep-to-oneself attitude, with values coming from one's own feelings, rather than from "society."

Jung's theory was very extensive, and though we have covered only a part of it here, one can get the feeling that Jung saw man more as a spiritual being than Freud did. Jung saw man as a positive entity, a creative being seeking wholeness.

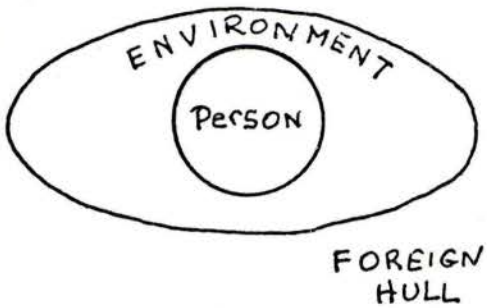
ALFRED ADLER

Alfred Adler was another student of Freud's; he broke away and formed his own group, and his ideas were labeled *individual psychology*. Adler's evaluation of man's personality emphasized social interest, and man's uniqueness as well as his creativity. Adler did not agree with Freud that man is motivated by unconscious drives; in his view, man is a conscious being, aware of the reasons for his own behavior. Adler saw man as goal-oriented, that is, as expecting something of his future, and being motivated by that expectation. Man is engaged in an effort toward superiority, and he arranges the style of his life to fit his goals.

Childhood had an effect on later life, according to Alfred Adler. Three experiences which could result in major personality problems in later life are physical illness, pampering, and rejection or neglect. Adler also had some ideas about the order of birth (which child was born first, second, last) and its affect on the personality. He felt the oldest child had problems because the second child would come along to "de-throne" him (to take away his special "prince-ship" as an only child); that the second child was, by the nature of position in the family, ambitious as he had to try to surpass his older brother or sister; and that the youngest child was likely to be spoiled. Generally, however, Adler's theory was not so negative; it emphasized the power of the creative self.

KURT LEWIN

Kurt Lewin's theory is called a *field theory*, in which the *life space* is the total psychological field. Lewin used mathematics to describe his theory, and he used diagrams to show the divisions between the person and his environment.



Based on this simple drawing, Lewin represented the person by dividing the inside circle into different *cells*, and the outside oval, which indicates the environment, was divided into different *regions*. The area outside the egg shaped form is considered outside the environment of the individual, therefore of no influence to the personality. This area is called the *foreign hull*.

WILLIAM SHELDON

William Sheldon made an effort to match temperament to body type in a very complex manner in his study of personality. He analyzed the body types of over 1000 men in his book, *Atlas of Men*, as *endomorphs*, *mesomorphs*, and *ectomorphs*. *Morph* comes from the Greek word, *morphe*, and means form. The prefixes of these three words are also from the Greek:

endo is from *endon*, and means "within"
meso is from *mesos*, and means "middle"
ecto is from *ectos*, and means "outer."

Sheldon describes these "types" as follows:

ENDOMORPH - This is a soft, round person who likes to eat, and whose digestive tract is the most central part of his personality; everything "within" is the theme. He is supposed to be sociable, even tempered, and affectionate. (Sounds a little like the mythical "jolly, fat person," doesn't it?)

MESOMORPH - Muscular and athletic, the mesomorph is likely to move toward action and adventure, to be aggressive, and to want to avoid being closed in. This is the "middle" person, neither concentrating on the "inside" digestive area, nor the fragile outside.

ECTOMORPH - This person is supposed to be long and fragile, a delicate physical type who tends to be "high-strung" and intellectual, and who prefers solitude to sociality. In this person, the brain and central nervous system are highly developed.

Do you know any people like these? Probably a few would fit fairly comfortably inside one of these categories, but most people are not so neatly described. Sheldon didn't know people who fit all that well either, so he figured out 20 traits for each type of temperament scale, and 17 measurements of the physique for each type on the physical scale.

Sheldon did not feel that his contribution to personality theory could stand by itself, but that it needed to be added to the other theories as a part of the total picture. His work, as you might guess, is still quite controversial.

B. F. SKINNER

We've met this fellow before, too, in the section on learning. Skinner is spoken of as a *behaviorist* in psychological circles. This means that he believes that all behavior is predictable (that you can tell what a person will do if you know enough about the person and all of the circumstances involved). Skinner believes that behavior is in response to the environment, the environment being all those things, people and events which come into contact with the person.

According to B. F. Skinner, we learn to behave in a certain way because of the "payoff," or reward, for such behavior. as has been described in the operant conditioning portion of the section on learning.

Skinner also believes that what a person is surrounded with as he grows up is very important to the development of his personality, and with this particular idea, most psychologists agree.

CARL R. ROGERS

Carl Rogers' theory is called the *self theory*, and it belongs to that area of psychology called *humanist*. Like Abraham Maslow, with his ideas about development in a hierarchy up to self actualization, Rogers believes we are directed by ourselves rather than our circumstances, that we start here and now, and that we can initiate things and change things in our own personalities. Rogers does not feel that we are buffeted about by every little breeze of happinstance, or environmental circumstance, but rather that we are responsible for our own behaviors, and that we can, in turn, make choices. Early childhood is not as important in this theory of personality as the present is. A positive sense of growth and a creative view of living are the issues here.

We have found that though each of these psychologists is saying things that are very important about personality, each is looking at the "personality elephant" differently, and we can learn something from each. Each person you know is unique, and each one means something different to you. That is a part of what personality is all about.

ABNORMAL PSYCHOLOGY
or
WHAT CAN GO WRONG

WE ADJUST...

From the day we are born, we learn to *adjust*, that is, to respond to stress. We learn that we have to wait 'till mother can come or the bottle is warmed, and for an infant, that is stress. And it prepares us for what is to come, because frustration, conflict and pressure are part of the human condition, and we must find ways to cope with these stresses.

There are special periods during the course of human life when we have to spend more energy on adjustment and coping than at other times. When we are first born is one such period. We have been settled comfortably in a nice warm spot for 9 months or so, and suddenly there is a great adjustment to make, and a lot of stress is encountered in the process. Another period is when we first start to school, and another in adolescence, when the struggle is so great to establish individuality and identity. There comes the time when we leave home to establish a home of our own, and have a special relationship with another human being; and again, when the children are born, and responsibilities mount, we have a lot of adjusting to do. About the time the children are grown and leave home, we have another adjustment, sometimes called the "mid-life crisis." It is a time of re-evaluation and assessment. Then we face the changes of retirement, and somewhere along the line, the death of some loved one. Finally, we have to look at the possibility of death for ourselves, and if we are fortunate enough to have come this far, we will have to come to terms with dying.

How we respond during such periods depends a great deal on the person each of us has developed to be along the way. Our basic attitudes determine in great part whether these periods are times of moderate stress, or times of serious crisis. A lot depends, as well, upon how much we must cope with at one time.

Each person's pattern is unique, still to general kinds of stress, most of us respond in a similar manner, that is,

- to *frustration*, we tend to react with anger
- to *danger*, we tend to react with fear,
- and to *being threatened*, we tend to react with anxiety.

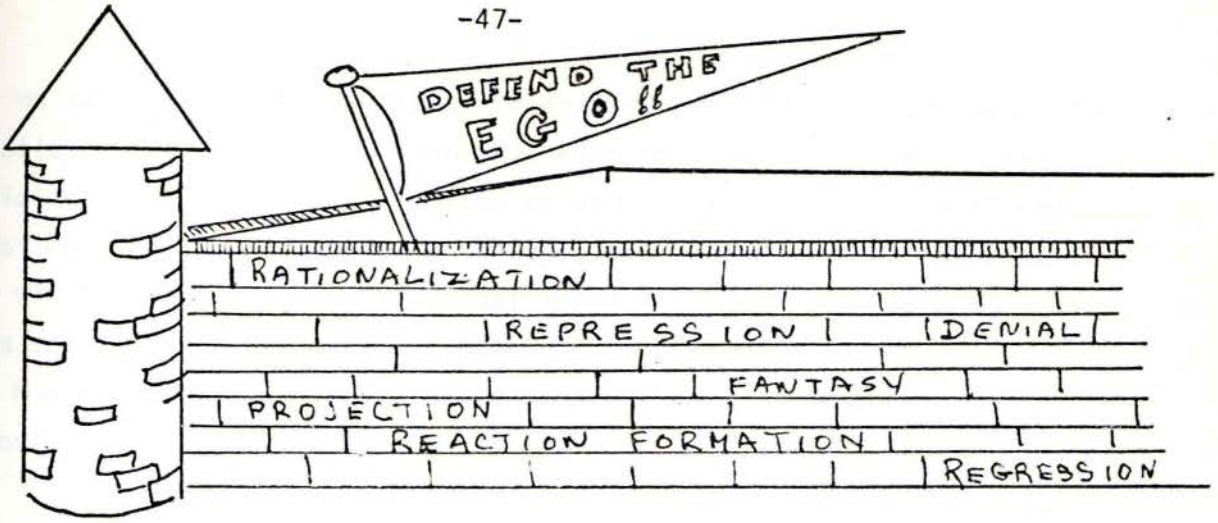
We have some ways of coping with everyday stresses that are almost automatic. For one, we cry. There are times when just crying it out helps a lot. Or we talk our problems out with someone to relieve the tension. This is a good way to get perspective, that is, to see the problem in relation to the rest of life. We try to walk away from the problem through words, to "get a little distance on it," and sometimes this helps in developing a solution. Another way we try to put things in perspective is to "laugh them off." Laughter itself relieves tension, but if the problem is serious enough, we may find tears following fast on the laughter. Sometimes dreams are a release; in dreams we can relive disturbing events and though we may feel frightened by the dream, we find ourselves less sensitive to the problem, and somehow relieved a bit.

When we are under everyday stress, we sometimes look to other people for temporary support and strength until we can get our balance; normally it isn't long before we regain our equilibrium.

If we can't resolve a situation which leaves us feeling threatened by thinking it through, or by any of the means we just talked about, we may have a 'fight or flight' reaction. We can attack (*fight*) or withdraw (*flight*), or we may find some means of compromise. The fight/flight reaction is common to all animals, as well as to humans; if an animal is threatened, he rarely just stands there. He is likely to size up the opposition, and either go after the threatener, or, if it is a lot bigger, he may run pretty fast the other way!

EGO DEFENSE MECHANISMS

When the usual ways of coping are not effective, and fight/flight response is not appropriate, we find other ways to protect ourselves: we resort to ego defense mechanisms. *Ego defense mechanisms* require a certain self deception, or distortion of reality. You may recognize some of them; most of us have used these techniques without realizing it.



We may *deny reality* (this really isn't happening to me!), or just not want to know about what really is happening. Then there is *fantasy*: here we imagine ourselves as 'the great hero' or the 'suffering martyr.' We may *repress* all painful thoughts, or we can *rationalize* (prove our behavior is reasonable, even if it isn't), or we can blame the other fellow for our problems (*projection*). There are some other responses we can make to defend our egos too: we can act very loving, when underneath we are full of anger, and cannot accept ourselves. This is called *reaction formation.* Or we can *regress*, that is, return our feelings to an earlier age, and not have to take present time responsibilities. There are many ways in which we can manage stress by ego defense mechanisms, but these are not very satisfactory solutions in the long run.

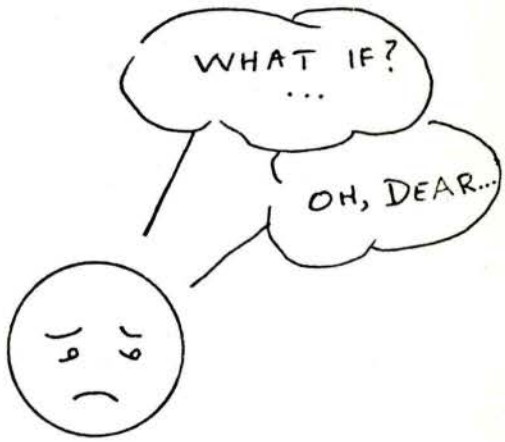
NEUROSES

What is *abnormal*? *Ab-* means 'away from' in Latin, and normal refers to the *norm*, or average. The difference between 'normal' and 'abnormal' is sometimes a matter of degree; at least this is so with most neuroses. *Neurosis* (plural: *neuroses*) means disorder of the nervous system, but we have discovered that the meaning is not quite accurate. Neurosis occurs when other ways of coping, including the ego defense mechanisms, don't work, or don't work well enough to relieve feelings of being threatened and anxious. The neurotic feels unsure of himself and inadequate; he will avoid, rather than cope with, problems, and he finds ways to unconsciously defeat himself and keep himself from growing up emotionally.

We all feel a little anxious sometimes, or a little depressed. The neurotic goes a bit further than this kind of occasional discomfort; he is sufficiently affected by his anxieties and inability to adjust to ordinary situations that he is generally unhappy, and unable most of the time to live without anxiety or guilt. That's not much fun; the neurotic usually needs some kind of professional help.

Now we will talk briefly about some of the different forms of neurosis.

- Anxiety Neurosis



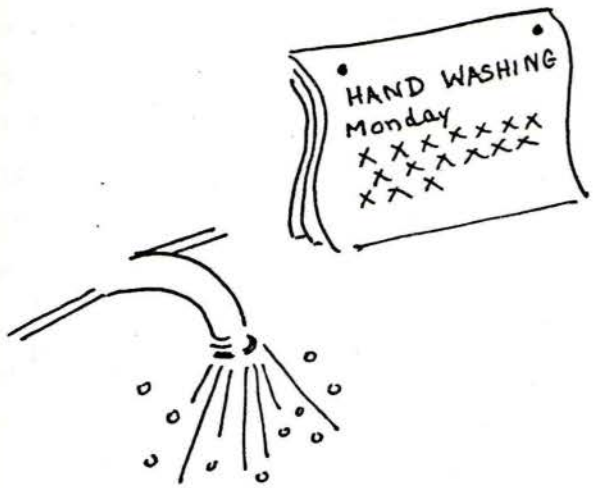
This is not just a little worried, but really feeling uncomfortable, anxious, and uneasy most of the time. Sometimes people with this pattern have what is called *floating anxiety*, that is, a feeling that something has to be wrong, but the person is not sure just what it is. Most of us have experienced this uncomfortable sensation at some time or other; the person suffering from anxiety neurosis may have this feeling all the time!

In addition to living in a state of apprehension, the person suffering from anxiety neurosis may have what is called an acute attack. An acute attack is one that comes about suddenly, and is very severe. Acute attacks of anxiety are often accompanied by a very busy sympathetic nervous system; the heart beats faster, perspiration and rapid breathing appear, the muscles get tense, and there may be nausea — all of the kinds of symptoms that go with some serious medical ailments, and those which we saw in our review of emotion and its physiological effects. As you can see, this one can be pretty miserable.

- Obsessive-Compulsive Neurosis

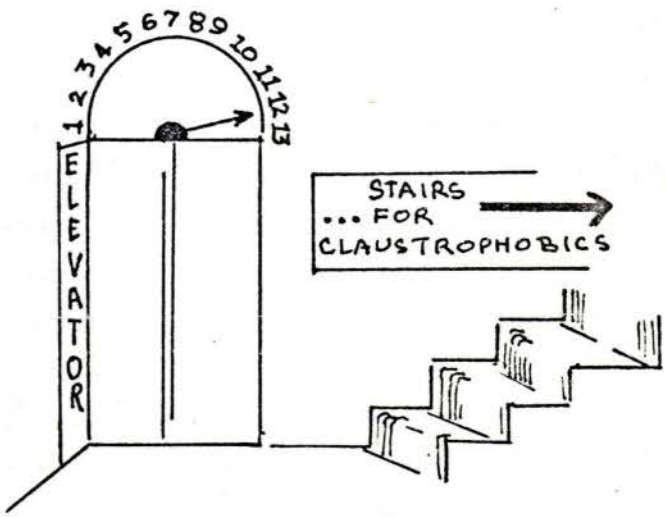
Obsessions are persistent unwelcome thoughts, and *compulsions* are persistent irresistable actions which must be performed ritualistically, like washing one's hands many times within a short time span. The person from this neurosis knows that his thoughts and actions are irrational, but

he can't seem to stop himself. His thoughts are often those of violence toward those whom he loves...his children, his parents...and they are frightening. The terrified neurotic wonders why he has such awful thoughts, and still cannot stop their appearance. Obsessive-compulsive neurotics suffer from terrible guilt, and condemn themselves for some behavior which they consider unforgiveable. The world seems dangerous, and it seems to help to try to keep everything orderly and develop rigid patterns of behavior. Any deviation tends to produce anxiety.



- Phobias

One can have a phobia about just about anything. A phobia is an irrational fear, that is, a fear not based on a real threat. There is *acrophobia* (fear of heights), *claustrophobia* (fear of closed in places — not for elevator riders), *pyrophobia* (fear of fire), and many others. The neurotic who suffers from a phobia runs his entire life based on that fear. Though he may know the fear is irrational, he cannot get rid of it.



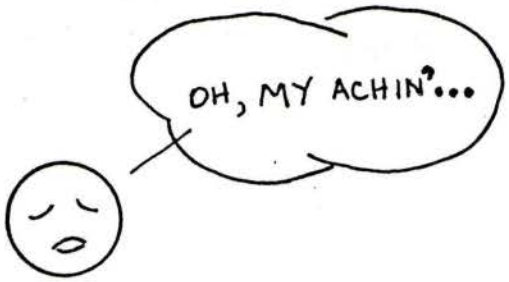
• Hysterical Neurosis

There are two kinds of hysterical neuroses. One is called *conversion neurosis*, and indicates a conversion of the emotional problem to a physical one. In conversion neurosis, the person may have paralysis, blindness, or some other ailment which is not due to physical causes, but which has been 'converted' from a psychological illness. Usually the paralysis or other physical problem helps the person not to perform some act about which he has conflict, that is, something which he is afraid he might do, but which does not meet with his code of morality.

The other kind of hysterical neurosis is called *dissociative neurosis*. *Amnesia* (loss of memory) occurs in some of these cases. One way to solve the problem is to forget who you are, and what the problem is all about! In some cases of dissociative neurosis, multiple personalities are developed. There have been some famous cases of muitiple personality; one of these was the basis for the motion picture, "The Three Faces of Eve." Another case involved many separate personalities; this history was recorded in the book, "Sylvia."

- Hypochondriacal Neurosis

Hypochondriacal neurosis is involved with a good deal of anxiety about the body. A hypochondriac (hī-pō-con-drē-ak) is certain he is suffering from some (or many disease(s) when there is no biological basis for his fears.



- Neurasthenic Neurosis

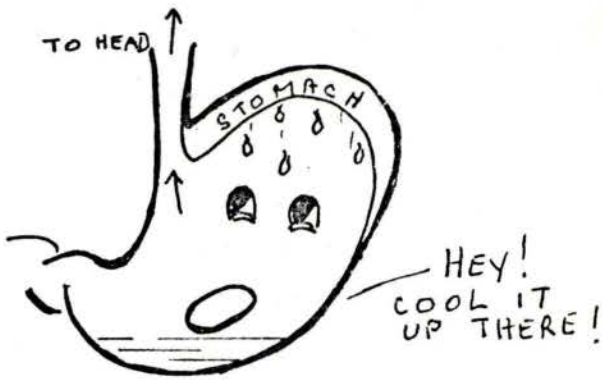
This neurosis has as its symptoms a feeling of tiredness and lack of interest, and a weakness that has no physiological cause, but rather is psychological in its origin.

- Depressive Neurosis

Here there is a prolonged sadness, usually associated with a happening that would normally create sadness or depression. In the neurosis, however, the dejection goes on long past when normally it would have faded, and it is often much more intense than the reason for the depression would have called for. There is also a conflict involved, and psychoanalytic theory says that this response is really anger turned inward to ones self. The feeling the person suffering from this kind of neurosis has is one of helplessness and futility.

• Psychosomatic Illness (or, Me Make Me Sick)

Psyche you already know, and *soma* means body. Just as the body affects the feelings and the behavior, psychological conflict affects the body. Some of the illnesses which are thought to be usually based in emotional conflict are ulcers, asthma, migrane headaches, some kinds of high blood pressure, certain kinds of allergies, and eczema (a kind of skin disease).



Psychosomatic symptoms remind us again that each person is a whole person; his soma, or body, cannot be separated from his psyche. *What he feels* affects his body, and *how his body is working* affects how he feels.

PSYCHOSES

Whereas the neurotic is still struggling to function in the real world, the psychotic often has lost contact with reality. We will consider several different illnesses which come under the general classification of psychoses.

• Schizophrenia

A Swiss psychiatrist named Bleuler first used the name *schizophrenia* to mean *split personality* because of the 'split' between the real world and the world of the person with this psychosis. There is a common misconception that this psychosis is involved with the multiple personality syndrome, but as you remember, multiple personalities are classified as hysterical neuroses.

There are several sub-types of the general classification of schizophrenia. These include among their symptoms withdrawal from the outside world, a kind of fragmentation, or breaking up in little pieces, of what the person perceives as his world, and of his behavior as well; and a general disorganization of personality. Now all this sounds as though it might happen to anyone who was under a great deal of sudden stress — we all have days when things become kind of 'unglued.' It is the extremity of these

symptoms, and their constancy, which puts the behavior in the area of psychosis.

There is, in schizophrenia, a "breakdown of perceptual filtering." As we learned earlier, when we talked about Gestalt theory in the section on learning, we generally see the world around us by choosing something in which we have a particular interest and focusing our attention on that while everything else is background. We do not pay attention to each blade of grass, each flower, each tree, the street, the cars, the conversation of the neighbors, the color of the sky, the sound of the airplane, the hammering down the street, and the color of the roofs of the houses as well as their architecture, all at once. We will, perhaps, look at a flower (and all else is background, and then perhaps we will say good morning to a neighbor, but not pay particular attention to the grass or the houses or the sounds, other than the neighbor's returned greeting. The schizophrenic seems to lose the ability to see his surroundings as a pattern, but seems to see *everything* any of his senses tell him as relevant. One schizophrenic in the early stages of his breakdown said, "I feel like I'm too alert... everything seems to come pouring in at once...I can't seem to keep anything out..."

As you can see, there is a lot of confusion in schizophrenia. In addition to this disorganization, there is often deep depression, fear, or *delusions* ("I am really Napoleon, but no one here recognizes me because I am in disguise..."). Among the symptoms of schizophrenia there are hallucinations and flattened affect. In *hallucinations* the person hears 'voices,' and gets instructions to behave in a certain way, or 'sees' things that are not really there. *Flattened affect* is especially distinctive in schizophrenia; this means that the expression on the person's face is blank, and that he shows little or no emotional response.

In the kind of schizophrenia known as the *catatonic* type, the patient is severely withdrawn, and can stay frozen in one posture, staring into space, and not moving to go to eat, or even to go to the bathroom. The person in a catatonic state has a sort of waxy look about his skin which is peculiar to that form of behavior. This same patient may then go into a phase of acute excitability where he rushes about and talks incoherently. In this phase, he

may injure or even kill himself, and he also may be dangerous to other people and may threaten their lives as well.

We will talk later about paranoia as a separate psychosis, but a note should be made here about the form of schizophrenia called *paranoid schizophrenia*. This is a particularly dangerous form of the illness in which the patient is certain that everyone is against him. The symptoms of paranoid schizophrenia are suspiciousness, delusions of being persecuted and endangered by others, and delusions of grandeur. This is one of the forms of this illness where the person is convinced he is Napoleon, or perhaps Jesus Christ, or some notable figure. The paranoid schizophrenic is likely to hear voices directing him. Sirhan Sirhan, who was convicted of assassinating Senator Robert F. Kennedy recorded in notebooks that he saw Kennedy's face in the mirror blotting out his own face; he would then write orders to himself saying, "kill Kennedy." Sirhan was diagnosed as a chronic paranoid schizophrenic psychotic.

- Paranoia

in simple *paranoia*, the person is affected much as the paranoid schizophrenic is, except that he has no hallucinations; he does not hear voices telling him to do things, and he does not see faces not his own in mirrors. The paranoid is certain, however, that he is being plotted against, and that people are taking advantage of him. Anyone who has the bad grace to try to talk the paranoid out of his delusions becomes one of the "enemy."

Usually there is just a grain of truth about the paranoid's suspicions, but he in his illness enhances and enlarges this all out of proportion to reality. The paranoid is often a very angry person, and he tends to project his own faults onto others. These persons can be extremely dangerous once they have concluded that a person or group is responsible for their persecution.

Both schizophrenia and paranoia are considered to be thought disorders; manic-depressive psychosis and involutional melancholia are considered to be *affective*, or emotional disorders. As a point of interest, although in

everyday usage, we pronounce 'affective' with the accent on the second syllable (af-fec´tive), when dealing with this word in the context of psychology, the accent is on the first syllable, that is, af´fect, and af´fec-tive.

• Manic-Depressive Psychosis

All of us have our 'up' days and our 'down' days, and this is especially true during times when our lives are uncertain, and when a lot of changes are taking place. We become a little more excited than usual as life takes on new learning, and as we grown and change, but we also get a little more depressed than usual when the novelty wears thin and we find that because of these changes we are a bit less familiar with our world, and thus a bit less secure. Adolescence is a time of such changes. The *manic-depressive*, however, is not just a little up and a little down; he is very high or very low (or sometimes just one or the other). On the *manic* (or 'up') side of the picture, the person has a very short attention span, and seems to be elated. He talks a lot, and rapidly, and behaves very actively and impulsively. He doesn't seem to tire out, and has less than average need for sleep. The same person can change within a short period of time (sometimes even within minutes) to the *depressed* side of the psychosis, and be suddenly gloomy and depressed and withdrawn. Here there is a lot of fatigue and discouragement, his activity slows down to as little as possible, and he blames himself for everything. This is a very sad time.

Sometimes the stage of manic and that of depressive are separated by a short period when the tortured psychotic returns to something like a normal outlook for that brief span.

As we will see in the section on therapy, drugs are used to help with therapy (and sometimes to get the patient in a state where therapy can even be attempted) with psychotics as well as with neurotics. In the case of the manic-depressive, therapists are becoming increasingly convinced that the chemical *lithium*, which appears normally in the body in small quantities, when given in appropriate does over a period of

days, allieviates the symptoms of the psychosis. It appears that the manic-depressive needs regular doses of lithium as the diabetic needs regular doses of insulin, or some chemical which acts like insulin. The strange part about this discovery is that there does not seem to be any lack of lithium in the body of the manic-depressive; the reason the chemical works is not yet known, only that it does.

- Involutional Melancholia

Involutional means turning inward, and *melancholy* means sadness. Involutional melancholia is a kind of sadness that comes on for both men and women (fortunately, not in too many cases) around the time we call the *change of life*, or *climacteric*, which usually occurs somewhere between the ages of 45 and 60. The same hormones that got very busy in the reproductive system and got it going in adolescence now slow down, or cease to function. It is also a time when the youngsters of the family grow up and leave home, so the person tends to review his life. He may find himself highly disappointed in his career or his home life, and in the process of this assessment, may become depressed to the point of psychosis. About three times as many women go through this form of depression than men.

There are not great swings back and forth in this psychosis; the feeling is pretty much one of pessimism and restlessness, along with feelings of failure and guilt. One becomes very self-centered, and turned in, and sometimes the melancholy gets so bad that the patient no longer wants to live and attempts to take his own life.

Involutional melancholia is less likely to occur with individuals who are emotionally broadly based, and who are generally interested and active in a number of different areas. It is more likely to take place with women whose whole lives have been involved with keeping up the home and rearing children to the exclusion of all outside activities, and who have limited themselves severely in this manner for many years.

PSYCHOPATHIC PERSONALITIES

The *psychopath*, or *sociopath* suffers from a problem that has to do with morai or ethical development. The psychopath does not really have

either a thinking or an emotional disorder; it is more accurate to say he has a moral, or character disorder.

The psychopathic personality does not conceive of any sense of guilt, nor does he have any sense of justice as we know it. He is capable of killing people or damaging property without conscience. He may be able to spout off a line of ethical values, but in truth he has none, and is not the least concerned about anyone being hurt or mistreated. The psychopath is usually impulsive, and doesn't count the cost of his actions, especially the cost to anyone else. He satisfies his own wants, and usually wants more than the usual amount of excitement. He is not concerned with what anyone else might want.

The psychopath is often a charming and intelligent soul who gets his way through appearances, but his main issue in life is just that: to get his own way. And he does not allow things to stand in his way. Though this kind of personality can come across with a great deal of charm, he cannot hold up through any prolonged interpersonal relationship without disclosing his real person, thus his personal relationships are notoriously bad. The psychopath attempts to manipulate people, that is, to get them to do the things he wants in an underhanded way. Because he has no conscience, this person is a real danger to society. He is generally smart enough to stay out of hospitals and jails, so there are not very many psychopaths in either form of institution. The need for exceptional excitement has been seen by some as a possible involvement with a physical basis for this disease.

There are other forms of abnormal or maladjustive behavior, including compulsive gambling, juvenile delinquency, and drug (including alcohol) abuse, but we will not go into detail about these here. Now we will look at some ways to approach helping people with neuroses, psychoses, and general emotional problems.

THE HEALING ARTS OF PSYCHOLOGY

How do we treat mental and emotional disorders? It has not been many years since people with such illnesses were chained. Only in 1793 was Philippe Pinel allowed to remove the chains from Paris asylum inmates. Within this century, and especially within the past 30 years, we have learned a great deal about ways of helping the emotionally ill, and a number of innovative therapeutic methods have been developed.

The root word for *therapy* appears both in Greek and in Neo-Latin, and means healing; the treatment of a disease; a curative power or quality. There are many approaches to psychotherapy, and we will look at some of the more widely used methods. Most forms of therapy, in must be noted, work much better with neurotics than they do with psychotics.

PSYCHOANALYSIS

As you know by now, Sigmund Freud brought psychoanalysis into being. Modern psychotherapy dates from his work, most of it in the early part of this century.

In psychoanalysis, the main techniques used are *free association* and the *analysis of dreams*. In free association, the rule is to say *everything that comes into your mind*, without selecting or 'editing' the material. Sometimes the person will simply come up with a blank...when this happens, the psychoanalyst looks for unconscious unwillingness to acknowledge some thought, and tries to get the patient to overcome that unwillingness, which is termed in psychoanalysis, *resistance*.

The patient in this form of therapy uses the therapist as the object of both his anger and his love, and as this process develops it is called *transference*. He also goes through a reliving of past intense emotional experiences, and this is called a *catharsis*. Catharsis comes from a Greek word which means "to cleanse." When the patient comes to understand his own conflicts, he is said to have acquired *insight*, and then it is his task to work through his problems. Psychoanalysis is a long and an intense process, sometimes going on for years. It works best with people who are interested in solving their problems, and who like to talk. For this reason, it is not the treatment of choice for psychotic personalities.

BEHAVIOR THERAPIES

In this therapy, the idea is to *change the behavior*; there is no major effort to find out why the behavior exists, or to approach its source. Behavior therapy is based on the stimulus response learning theories, especially on conditioned response (as with Pavlov's experiments) and operant response (as proposed by B. F. Skinner). The proponents of behavior therapy say that insight is all very well and good, but the goal is to change behavior, and whether or not insight comes about in the process is relatively irrelevant. Insight, they propose, does not guarantee any change in behavior.

- *Desensitization* is one of the techniques used, and it is particularly helpful with phobias. This technique consists of teaching relaxation, then slowly increasing exposure to the feared thing until the patient finds himself relaxed in situations which used to make him miserably uncomfortable.

- *Assertive (or Assertiveness) Training* is helpful for people who need to learn to speak up for what they consider to be right, and to say "No" when people are taking advantage of them, as when someone steps in front of you in line. This therapy is really based on teaching coping techniques for everyday living to the patient.

- *Aversion Therapy* is based on a negative reward for certain behavior. For instance, when the alcoholic wants a drink he can have one, but he is also given a shock along with his drink each time he raises the glass to his mouth. For smokers trying to 'kick the habit,' the same kind of thing is done, or perhaps a cloud of stale smoke is blown in the smoker's face each time he puffs on the cigarette.

- In some cases, one cannot get enough attention from the patient to get his cooperation; for these people *behavior shaping* techniques are sometimes used. Here any behavior which goes in the direction of the desired behavior is rewarded, for example, the person who will not communicate is rewarded when he attempts to talk, even

though the result is just a strange sound. Reinforcements are used in these techniques only when the behavior is what you want. Once the person has learned to tell you what he wants, the therapist does not respond to any other kind of signal than that speech; there can be no mere pointing or tugs on the arm, only a verbal request will do.

- *Modeling*, that is, patterning ones behavior after someone else, has proved an especially successful therapy when dealing with phobias.

TRANSACTIONAL ANALYSIS

Transactional analysis was brought to the public eye through Eric Berne's best selling, "Games People Play," and through another best seller, Thomas A. Harris', "I'm OK, You're OK." Transactional analysis looks at the interactions, or *transactions* between people, and is based on ego states described as the *child*, *adult*, and *parent*. When both partners in the transaction are in the same ego state, the transaction can go on forever! If one is in the state of the *parent* and the other is in the state of the *child*, and they agree to each stay in the role, they can continue to communicate, but if the person in the *child*, for instance, decides to be analytical and respond from the *adult* ego state, the whole conversation will stop. It sort of says we ask for what we get in our interactions with others.

CLIENT CENTERED THERAPY

This form of therapy, developed by Carl Rogers, does not direct the person. The task of the therapist is to reflect what the client is saying, rather to evaluate it, and to clarify. This therapy is based on the theory that the person is free to choose, and that he will choose well if he can see clearly.

GESTALT THERAPY

Gestalt, as we have noted before, means "whole," and gestalt therapy emphasizes integration and unity. This approach was developed by

Frederick ("Fritz") Perls in the late 1960's. The therapy is sometimes conducted on an individual basis, but often is done in a group with one individual on the "hot seat" at a time. Perls puts a lot of emphasis on dreams, and his theory in the analysis of a dream is that *everything* in the dream is really the person dreaming it. Through these symbols, he feels a great deal can be learned about the personality.

GROUP THERAPIES

There are many group therapy techniques, including encounter groups, family therapy, and psychodrama. In psychodrama, the person plays roles and thus gains insight into the total picture of his problem which is difficult to achieve without group feedback and an opportunity to "stand in the other fellows shoes."

CRISIS INTERVENTION

This is sort of band-aid therapy, but is a very important part of community aid to people who are under sudden and oppressive stress. There are "Hot Lines" in many communities; some for drugs, family conflicts, runaways, people in difficulty with the law, or who are lonely, for rape, and for pregnancy. And there are the suicide prevention centers. The first such center was founded in Los Angeles in 1958; now there are more than 200 across the country.

TOOLS IN THERAPY

The most widely used tool in psychotherapy is, of course, *talk*. All of the therapies we have discussed are based on communication either on a one-to-one basis, or with groups. There are, however, other tools; there is *electroshock therapy*, which is used for extremely depressed and suicidal patients. There is *hypnosis*, which some therapists feel opens doors otherwise closed and thus allows help to the patient. *Biofeedback*, in which the patient learns to control the state of his mind by becoming aware of the state of his brain waves, can lower blood pressure and calm the patient considerably. *Drugs*, including antidepressants, anti-anxiety and anti-psychotic perscriptions (and, of course, lithium for the manic depressive) are also a very valuable tool when carefully administered.

Therapy is an effort to restore equilibrium to the disturbed person. It is hoped this will be done by giving us better tools with which to cope, and thus allowing us to behave more appropriately and productively, and to be happier in the process.

. . . . .

We have had a good look at the elephant of psychology. We can now see that each point of view has a value, and that we need to be aware of all of them. And we are learning more each day. About us.

BIBLIOGRAPHY

American Psychological Association, CAREERS IN PSYCHOLOGY (booklet), American Psychological Association, Washington, D.C., 1975

Beard, Ruth M., AN OUTLINE OF PIAGET'S DEVELOPMENTAL PSYCHOLOGY FOR STUDENTS AND TEACHERS, A Mentor Book, New American Library, Times-Mirror, New York, 1969

Coleman, James C., ABNORMAL PSYCHOLOGY AND MODERN LIFE, 5th ed., Scott, Foresman and Company, Glenview, Illinois, 1976

Desse, James, PRINCIPLES OF PSYCHOLOGY, Allyn and Bacon, Inc., Boston, 1974

Erikson, Erik H., CHILDHOOD AND SOCIETY, 2nd ed., W. W. Norton and Company, New York, 1963

Goss, Charles Mayo (ed.), GRAY'S ANATOMY (Gray, Henry, ANATOMY OF THE HUMAN BODY), 29th ed., Lea and Febiger, Philadelphia, 1973

Hall, Calvin S. and Gardner Lindzey, THEORIES OF PERSONALITY, 2nd ed., John Wiley and Sons, Inc., New York, 1970

Harlow, H. F. and M. K. Harlow, "Learning to Love," AMERICAN SCIENTIST, 54:244-72, 1966

Harris, Thomas A., I'M OK -- YOU'RE OK, Harper and Row, New York, 1969

Hilgard, Ernest R., Richard C. Atkinson and Rita L. Atkinson, INTRODUCTION TO PSYCHOLOGY, 6th ed., Harcourt Brace Jovanovich, Inc., New York, 1975

Hilgard, Ernest R., and Gordon H. Bower, THEORIES OF LEARNING, 4th ed., The Century Psychology Series, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1975

Jung, Carl C., MEMORIES, DREAMS, REFLECTIONS, Vintage Books of Random House, New York, 1963

Perls, Frederick, Ralph F. Hefferline, and Paul Goodman, GESTALT THERAPY, A Delta Book, Dell Publishing, New York, 1951

Sidman, Richard L. and Murray Sidman, NEUROANATOMY, Volume I, Little Brown and Company, Boston, 1965

Stone, Irving, THE PASSIONS OF THE MIND, A BIOGRAPHICAL NOVEL OF SIGMUND FREUD, A Signet Book, New American Library, Times-Mirror, New York, 1972