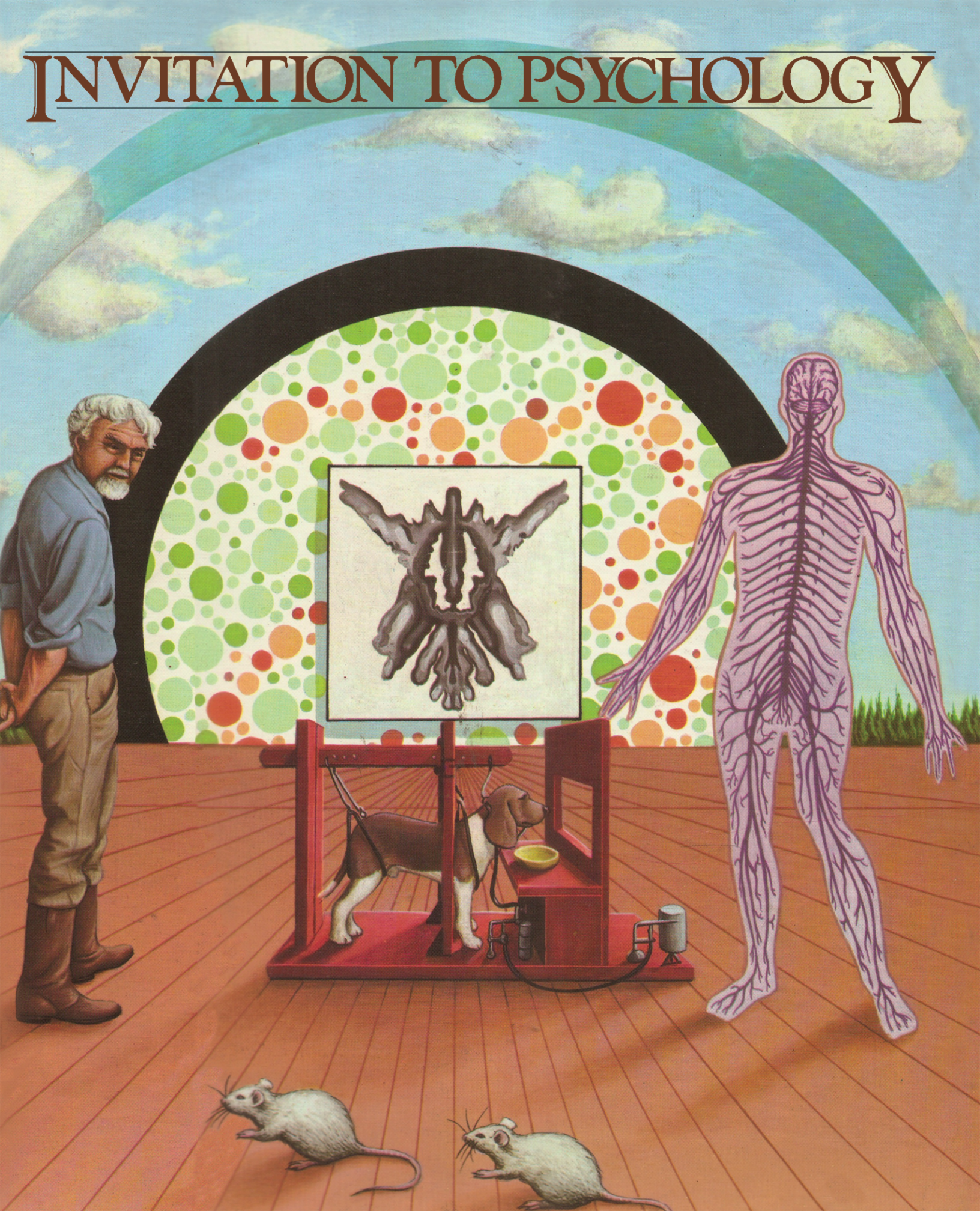
INVITATION TO PSYCHOLOGY



INVITATION TO PSYCHOLOGY

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PREFACE

Anyone who has taught introductory psychology knows that students and teachers bring different expectations to the course. Most teachers want to give their students a broad picture of the science of behavior. Most students tend to think of psychology in more personal terms, and hope to come away from the course with a clearer understanding of their friends, their families, themselves.

Some textbooks ignore this problem. They simply describe the various branches of our science, and leave it to the teachers and students to relate this information to the everyday events of their lives. Most textbooks try to have it both ways, by sprinkling little human interest nuggets throughout the text in the form of brief asides and essays, usually in boxes. In our teaching experience, such asides are more distracting than engaging. Their relationship to the main text is not always evident, they are often too brief to be clear, and they disrupt the narrative flow of the text. The effect is rather like trying to listen to a lecture while someone is telling a string of funny stories.

We think there's a better way to resolve this dilemma of differing expectations. We think it's possible to present psychology in a way that is inviting without being superficial—a way that does justice to the science of the discipline without slighting the human fascinations that are so much a part of it. The first step, of course, is to keep the differing needs of teachers and students in mind. We have built that first step into the structure of our textbook by writing two different kinds of chapters.

The first variety covers the basic data and research within each of the traditional areas of psychology. In these "basic" chapters, we have tried to provide up-to-date and complete coverage of important developments in each area. Our second type of chapter is innovative. In these "exploring" chapters, we examine some of the practical applications and implications of the findings discussed in the basic chapters. We describe how basic psychological data are being used in the outside world, and we discuss ongoing, often controversial explorations into some frontier areas of psychology. In other words, information about explorations and applications that is often scattered through the pages of other texts is brought together into systematic chapters in this text.

These "exploring" chapters do not follow every basic chapter, of course. They are included only when it seems reasonable and interesting to do so. Thus, the first "exploring" chapter follows an introduction, a physiological, and a perception chapter. The second "exploring" chapter does not appear until after the basics of learning, memory, and cognition have been discussed. In short, "exploring" chapters have not been forced into the table of contents. They occur only when they can illuminate and illustrate some present-day applications of psychological theory and discovery.

Though we discuss many unique and challenging new topics in the exploring chapters, we have not done this at the expense of our basic chapters. The basic chapters are written to hold a reader's interest through a balance of engaging writing, good examples, and essential information clearly presented.

We believe this dual-chapter approach does more than resolve the dilemma of differing expectations. It also protects the flow of the main

text, allows maximum flexibility in topic coverage, and avoids choppiness. Instructors and students may choose what they want to cover in the way of applied and exploratory information. "Exploring" chapters may be selectively emphasized or even omitted. Students will not be confused about what is and what is not essential, established information, as they often are when a text is filled with boxes.

Of course, we had other reasons for writing this text. Three of us have written successful undergraduate texts within our fields of specialization, and these fields do not overlap. Thus, the fusion of our voices seemed likely to produce informed coverage, at the introductory level, across the board. And because there are only four of us, we felt confident of our ability to bring forth a single voice.

Finally, we wanted to write a textbook that would speak to the concerns and interests of today's students and instructors. For example, sex stereotyping has narrowed the possibilities of life for both women and men in our society, and so we have done our best to keep it out of these pages. Sometimes this has led us to use the awkward but inclusive "he or she." More often, we have simply alternated between the sexes from one example to the next. Whether the person in question is designing an experiment or is a subject in it, is suffering from some mental disorder or is treating it, that person is about as likely to be female as male. Of course there are exceptions to this rule—disorders that affect males or females almost exclusively, or the fact that some classic experiments in psychology used only males as subjects. But wherever possible, we have tried to show both women and men in the broadest possible range of roles, because we believe an invitation to psychology should open doors, not close them.

John Houston
Helen Bee
Elaine Hatfield
David Rimm

December 1978

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Finally, we thank our many friends in the College Department of Academic Press; Otter Crest will always be a very special memory for us all.

J. H.
H. B.
E. H.
D. R.

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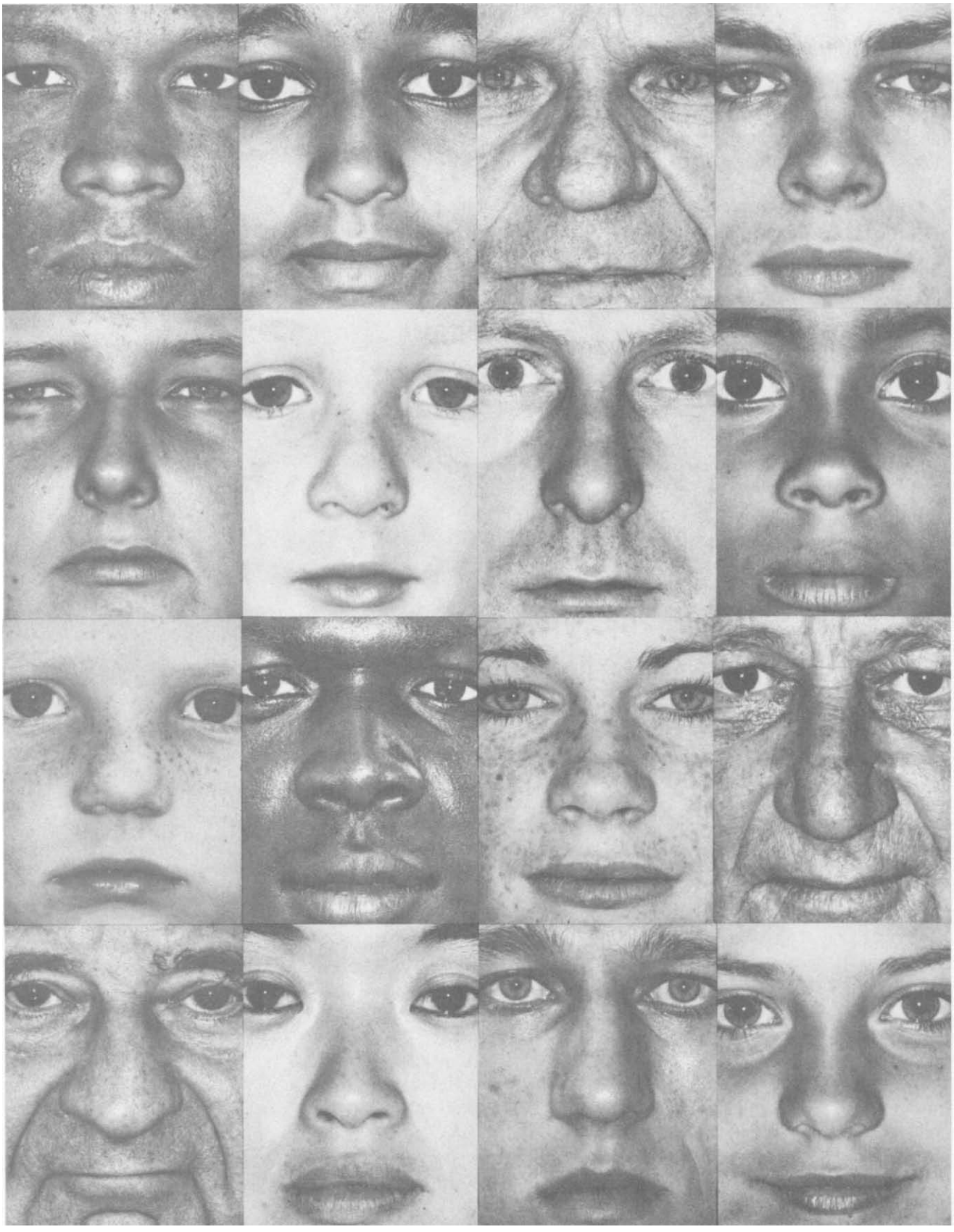

1 WHAT IS PSYCHOLOGY?

The Diversity of Psychology

Areas of Specialization

- ☐ Physiological
- ☐ Sensation and Perception
- ☐ Learning and Conditioning
- ☐ Memory
- ☐ Cognition
- ☐ Motivation
- ☐ Emotion
- ☐ Development
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- ☐ Percentages: Who Does What?
- ☐ APA Divisions

Defining Psychology and Its Goals

- ☐ A Definition
- ☐ Goals

Methods of Psychology

- ☐ Experiments
- ☐ Naturalistic Observation
- ☐ Tests
- ☐ Interviews and Questionnaires
- ☐ Case Histories
- ☐ Correlation

Levels of Analysis

- ☐ Points of View
- ☐ Psychological Perspectives
- ☐ Fields versus Levels

Two Kinds of Chapters

Summary

Suppose an airline pilot and a psychologist arrive at a social gathering. When the pilot is introduced and his occupation is mentioned, no one is likely to be confused or apprehensive about what he does. Airline pilots fly airplanes. But when the psychologist is introduced and her profession is revealed, the reactions of the other guests may be quite varied. Psychologists hear things like, "Watch out, she'll analyze you," "Now I'll have to watch my step, because she will be able to figure out why I'm so crazy," "I'd better not make any Freudian slips," and so on. These kinds of comments may well embarrass the psychologist, for her area of specialization may have very little to do with being sensitive to people's problems.

THE DIVERSITY OF PSYCHOLOGY

People outside the field of psychology often believe that every psychologist is an expert at figuring out people's emotional difficulties and detecting hidden personality quirks. Not so. In fact, most psychologists do not focus upon these kinds of issues. Psychology is an extremely diverse field, involving many different types of individuals engaged in many different forms of study.

It is this very diversity that will be the theme of this text, because we want to introduce you to the full range of activities that are included under the heading of psychology. Like most sciences, psychology is divided into dozens of relatively distinct fields. Some psychologists devote their entire careers to the study of human memory. Others study emotional development. Still others focus on the impact of groups upon individuals. And, of course, still others work within a number of different areas at the same time.

It is probably fair to say that individuals no longer become general psychologists. They train to become specialized types of psychologists, and so they might better be introduced at any gathering as social psychologists, clinical psychologists, developmental psychologists, and so on. One reason for these divisions within psychology has to do with the enormous amount of psychological knowledge that is now available. No one individual can master all of psychology any longer. There is just too much to know. Hence, even though they may work in more than one area, psychologists tend to specialize and become experts within a relatively narrow band of interests. Fifty or a hundred years ago, it was possible to be a general psychologist and comprehend most of psychology, but no longer.

In short, if you are thinking of becoming a psychologist, it is good to realize from the beginning that you will need to concentrate on a certain type of psychology. As you read through this text, which covers most of the major fields of specialization, you should be able to discover which approaches to psychology appeal to you the most. And if you enjoy a particular chapter in this text you might do well to look for an advanced course in that same specialized area.

In this chapter, we want to bring the overall field of psychology into focus for you as rapidly as possible, so in the first section we will briefly introduce the major divisions of psychology. Next we will consider a definition of psychology. Then we will explore some of the methods that psychologists use in gathering information. Finally, we

will consider the different points of view that are currently popular within psychology.

AREAS OF SPECIALIZATION

One of the quickest ways to describe the field of psychology is to say a few words about each of the areas of specialization. In a sense, we can define psychology by indicating what sorts of things psychologists do. Then, as we consider each division of psychology in greater detail in later chapters, you will already have some idea of the overall structure of the field.

The areas of specialization discussed in this section generally parallel the topics covered in the text. In other words, this section serves to introduce the plan of the book as well as the major branches of psychology. We begin with a discussion of what psychologists call the "hard" areas, and then move into those that are considered "soft" areas. What this means is that individuals in some fields (such as physiological psychology) are primarily interested in rigorous, basic research and precise measurement in the laboratory. People in the so-called soft areas are also interested in precision, but they focus more upon personal and social problems and issues that confront all of us outside the laboratory. The distinction between hard and soft psychology is not a clear one, but it is a useful first step in defining what psychologists do.

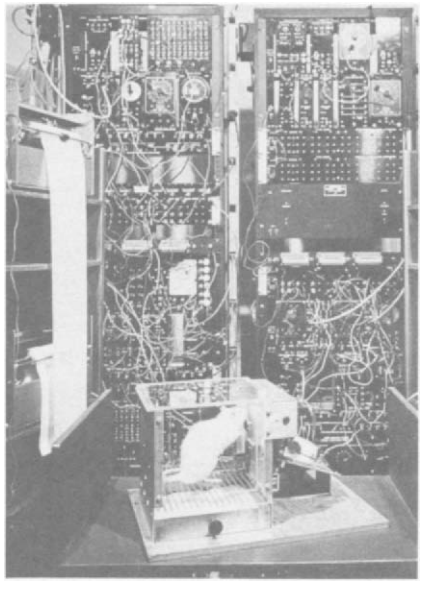
PHYSIOLOGICAL

Physiological psychologists are interested in the physical basis of behavior. They want to know, on a basic physiological level, how the machine we call our body works, and how that functioning relates to behavior. At present, the main areas of concern within this field are the functions of the *brain*, the *nervous system*, the *endocrine glands*, and the *genetic mechanisms*.

Each of these four overlapping areas of concern is discussed in detail in Chapter 2. For now, let us look briefly at some examples of how researchers explore the workings of these systems.

The human brain is of great interest to physiological psychologists. At present, the challenge is to learn how brain activity is related to behavior. One interesting line of research was begun by James Olds (Olds, 1973; Olds & Milner, 1954). It is possible to implant tiny wire microelectrodes in the brain of a living animal, without impairing the health of that animal. When a small electrical current is sent down that wire a specific part of the brain can be stimulated. Working with rats, Olds found some amazing effects when electrodes were implanted in a brain structure called the hypothalamus. He set the situation up so that each time a rat pressed a bar its brain was stimulated briefly. What happened in this situation? The rats began to press the bar . . ., and press the bar . . ., and press the bar. They wouldn't stop. Olds assumed a "pleasure center" was being stimulated. Some rats will press the bar 20 to 40 *thousand* times without stopping. They will drop from exhaustion before they quit. They will ignore food, water, and sex in order to press that bar. Since Olds' early work, investigators

The white rat is the unsung hero of thousands of psychology laboratory experiments. This rat is pressing a lever to get food while the electronic devices behind him record his activities. Olds and Milner's (1954) pleasure-seekers performed in similar surroundings.



have done much to map out the structures of the brain that can be described as pleasure centers. They have also found structures that seem to operate in the opposite manner. If stimulated in these structures the rat will stop, and stop quickly, as though the stimulation was unpleasant.

Using rats, we can't be sure what is experienced, because the rat can't tell us what it feels. For all we know, the so-called "pleasure center" might actually be a "repeat center." Stimulation of the brain in that structure might merely trigger neural commands to "do what you just did." But there is some data from human patients that suggests the centers may be pleasure centers, after all. These patients, stimulated in corresponding structures, report feeling wonderful, feeling giddy with happiness, and feeling free from worry and anxiety (Campbell, 1973).

Brain stimulation studies are typical of the kind of basic research being done in physiological psychology, and stimulation of the brain with microelectrodes represents one of the major research techniques used in this field. We will discuss other techniques in Chapter 2.

Brain stimulation researchers usually carry out their studies on lower animals. But other approaches to physiological psychology are of much more practical concern. For example, the whole area of *psychosurgery*, or the notion that surgical treatment of the brain can be used to lessen abnormal human behavior, is extremely controversial. Basically, the idea is to remove or destroy certain areas of the brain of a living human in an effort to eliminate the disordered behavior displayed by that individual (Brown, Wienckowski, & Bivens, 1977).

SENSATION AND PERCEPTION

Some psychologists focus upon the sense organs and how they operate. These psychologists are primarily interested in the physiological structure and functioning of the eye, the ear, the nose, and other sensory systems. But other psychologists want to know what we do with the information we receive through our senses. In short, they try to discover how we organize and interpret this information.

For example, suppose you and a friend have just talked with an acquaintance who has been fired. During the conversation the fired person said, "I don't care. It's probably for the best anyway." You and your friend heard the same statement. Pretty much the same sound waves entered your ears. In other words, you both experienced the same *sensation*. But your *perceptions* of the situation may differ. Your friend may say, "I'm glad she doesn't care and is handling it so well." You, on the other hand, might say, "I don't think she really means that. I think she is covering up her disappointment." Your perception of the situation differs from your friend's, even though you both experienced the same sensation.

From this example we can see that perceptions are hypotheses, or guesses, about what is "out there." These guesses are usually based upon limited or potentially confusing sensory information—such as an ambiguous remark or tone of voice. They are also governed by past

experience. In this case, your perception is influenced by your experience with other friends who have been fired, as well as your limited knowledge of your acquaintance's earlier feelings about her job. We tend to perceive, or give meaning to sensory information, on the basis of what we expect to perceive, and upon what we have perceived in the past. Obviously, our perceptions can be accurate or inaccurate.

In Chapter 3 we talk about sensation and perception in some detail. For now, let us consider only one example of the kind of experiment done by psychologists in this field. Figure 1-1 shows the setup used in a *perceptual conflict experiment.* The subject is seated facing a window. A square piece of plastic hangs behind the window, while a black cloth covers the subject's hand. The subject is asked to feel the object and to look at it through the window. But the "window" actually is a distorting lens so the square is projected onto the subject's retina as a rectangle. (The black cloth keeps the subject from seeing a distorted image of the hand.) The subject is then asked to identify the object. The subject is seeing a rectangle but feeling a square. What will the subject report? More often than not they report that the object is a rectangle, even though it is a square. This kind of experiment demonstrates the dominance of vision in the human (Radeau & Bertelson, 1976). In other words, if our senses give us conflicting information, we trust our eyes more than our other senses. This dominance of vision does not appear in all species. Sharks, for example, are very dependent upon a sense of smell, and do not have a well-developed visual system. Many more experiments and concepts involving sensation and perception will be described in Chapter 3. For now, we turn to the field of learning.

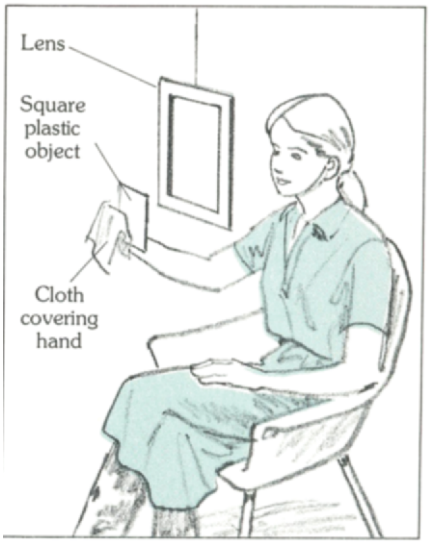


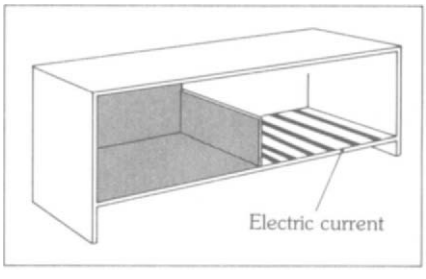
Figure 1-1
A perceptual conflict experiment. The image of the square is distorted by the lens so that the subject sees a rectangle while feeling a square. The dominance of vision over touch is demonstrated by the fact that the subject perceives a rectangle.

LEARNING AND CONDITIONING

Learning psychologists investigate a wide range of topics, from very simple to very complex forms of learning, and from learning displayed by lower animals to human learning. In general, psychologists define learning as a *relatively permanent change in behavior that is the result of practice.* We will deal with this definition in detail in Chapter 5. For the present, let us consider one particular learning situation, known as *avoidance conditioning,* that will serve as a representative example of the types of learning situations examined by psychologists.

In a typical avoidance conditioning situation a white rat is placed in one end of an oblong box. There is a barrier between the rat and the other end of the box. The end of the box that contains the rat is painted white while the other end is painted black (see Figure 1-2). If the rat does not jump over the barrier to the safe black side within a specified time period (say, 15 seconds) it is shocked. In other words, the rat has 15 seconds to make a particular response or it will be punished. Once shocked, the animal quickly jumps the barrier. No shock is ever given on the black side, but each time the rat is placed in the white end it has 15 seconds to jump before it is shocked. What happens as the rat has more and more experience in this situation? It learns to jump over the barrier as soon as it is placed in the white end. It never waits around long enough to be shocked, for it has learned an

Figure 1-2
Box with a barrier and an electric grid, used in avoidance conditioning.



avoidance response. The white end of the box becomes associated with the unpleasant shock so the rat clears out every time it is put there.

After the avoidance response has been well learned, we can unplug the apparatus so that no more shocks will be delivered. What happens then? The rat keeps right on jumping; it never waits around long enough to discover that the situation is no longer dangerous.

You may say, "Now I know a lot about rats and boxes, but does this have any relevance to human life?" The answer is yes. We all undergo avoidance conditioning without even knowing it. Remember, the essence of avoidance conditioning is that the animal is punished if it fails to make a response within a specified time period. School children, too, must complete their school assignments on time or they are punished. Most children respond the way the rat does. They learn to complete their assignments within the alloted time, and thereby avoid the punishment.

As another example of the value of avoidance conditioning in human life, consider Ivar Lovaas and his attempts to teach language to autistic children (Lovaas, Schaeffer, & Simmons, 1965). Autistic children are severely disturbed and almost never speak. Prior to the efforts made by Lovaas, few people had had any success at all in teaching these children to talk. Lovaas observed that these children were extremely withdrawn from other people, so it was not surprising that they had failed to learn language. It was as if there were a wall between them and the rest of the world. Lovaas concluded that these children could never learn to talk until their wall of social isolation was broken down. He decided that the first necessary step had to be the building of social behavior, and that language learning could then follow. He also concluded that avoidance conditioning procedures, patterned after the rat in the box, could be useful. Accordingly, he set up a situation like that depicted in Figure 1-3.

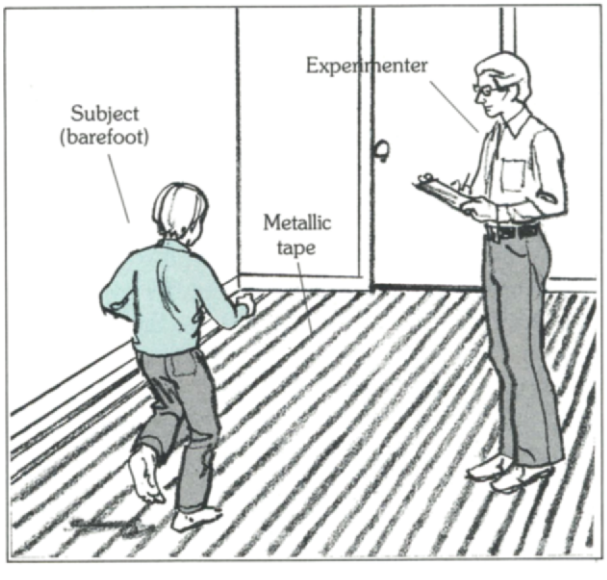


Figure 1-3
Conditioning social behavior in autistic children through the use of electric shock and avoidance conditioning. Current is sent through the metallic tape if the child fails to respond to the experimenter in a social manner.

The floor was covered with metallic tape through which a mild electrical current could be sent. The barefoot child was placed on one side of the room, and the experimenter on the other. If the child did not show a social response, such as approaching, smiling at, touching, or hugging the experimenter within a certain amount of time, he received a mild shock. Although the situation appears somewhat cruel, it led to a rapid increase in social activity. Lovaas reports that the children became more social and responsive to other people, not just in the experimental room, but elsewhere as well. The children also seemed happier, and became more responsive to later efforts to teach them language. In other words, the simple experimental situation developed with white rats in the laboratory appears to have helped reduce human suffering.

Over the long run, Lovaas's efforts to develop normal language usage in these children were not entirely successful. Although they became much more sociable, the children remained deficient in their use of language after long periods of treatment.

Obviously, this experiment is an extreme example. Many psychologists would prefer not to conduct such an experiment, feeling that the ends do not always justify the means. As a whole, psychology is becoming more and more aware of the rights of the subject in an experimental setting, and is policing itself more and more heavily with respect to the ethical and moral issues involved in the use of human subjects. As a result, many experiments that might yield valuable information are simply not conducted because they violate the subject's right to be protected from risk.

MEMORY

The field of memory is closely related to that of learning. When we study memory we focus upon *what happens to learned responses after we stop practicing them*. Do they simply fade away as time passes, in a decaylike process? Is our ability to remember one set of materials affected by our learning of other materials? Are things that we learn somehow stored within us forever, and merely unavailable at any given moment rather than permanently lost? Do we remember things for short periods of time in the same way that we remember things for long periods of time, or is there a difference between short-term memory and long-term memory? Researchers are seeking the answers to these and other questions, as we will see in Chapter 6.

Several different theories of memory also are discussed in Chapter 6. One approach (Postman & Underwood, 1973), called the interference approach, argues that if we learn one set of materials, then our ability to remember those materials will be disrupted by other learning that we engage in. For example, if you are given the phone number 983-2167, and asked to remember it, you won't have too much trouble. But if, after you have learned 983-2167, you are also asked to learn 987-6126, 827-1672, 679-3812, and 283-9176 and *then* asked to recall that first phone number, you will probably have trouble doing so.

Another approach to memory conceives of the human as an information processing system. The overall memory event is considered to begin with the coding of incoming information, followed by storage of that coded information, and ending with retrieval and utilization of that information.

Still another approach to memory emphasizes the importance of our wishes, needs, and desires in determining what we will and will not remember. For example, we all know that if something is important to us, or we are very interested in it, we have little trouble remembering it. On the other hand, we are all capable of forgetting appointments that are boring or uninteresting to us. As you can see from these examples, the field of memory is extremely active at present, with a number of theories seeking to explain both the overall process and its various aspects.

COGNITION

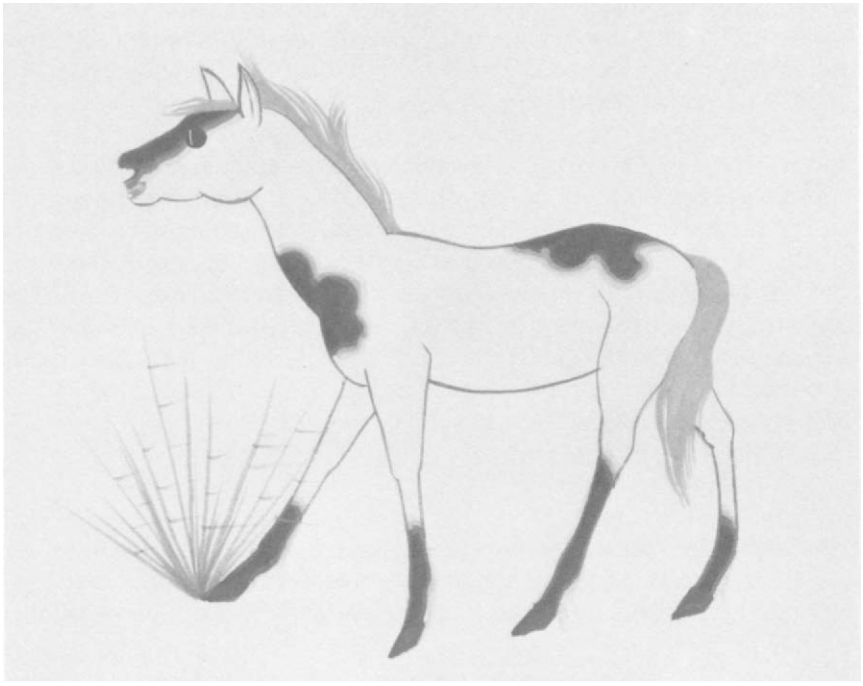
The field of cognitive psychology covers such complex mental activities as *language use, thinking, problem solving, reasoning,* and *imagining.* In short, cognitive psychologists are interested in higher-order mental activities. They want to understand the complex, unseen mental events that we normally call thinking.

Obviously, they have set a difficult task for themselves. It's one thing to study something like avoidance conditioning, which can be done without reference to what goes on "inside the head." But what if you want to study something like a "mental image"? Mental images do exist. For example, think of a horse three inches tall. Whatever you are experiencing as you think of this creature is a mental image. It is a real event, but extremely difficult to measure and define. For example, can we be sure two people ever experience the same image? We can't. If we ask 400 people to think of tiny horses we will have 400 different horse images to contend with. And yet, cognitive psychologists believe these internal, relatively unmeasurable events are important, and they want to understand them.

Progress is being made, in spite of the obvious difficulties. For instance, researchers have shown that certain kinds of learning can be improved if we invent visual images for the elements we are trying to learn (Bower, 1972; Dempster & Rohwer, 1974). If we want to remember that *Horse* is to be paired with *Orange* it helps to think up some active visual image involving the two, such as a horse eating an orange, or a person painting the horse orange. Our ability to remember the pair *Horse–Orange* will be better if we have a visual image than if we have no image at all.

Others (*e.g.,* Paivio, 1971) have observed that it is easier to develop visual images for concrete words such as house, table, and sun, than for abstract words such as justice, appealing, and obtuse, and that both our thinking and our behavior are affected by this fact.

As we will see in Chapter 7, imagery is not the only topic that interests cognitive psychologists. But it is an example of their concern for internal, unseen, mental events that occur "within our minds." Cognitive psychology is obviously closely aligned with the fields of



One person's image of a horse three inches tall. Was your mental image anything like this?

perception, learning, and memory. Like these other fields, it has grown increasingly popular in recent years.

MOTIVATION

When psychologists speak of motivation they are referring to whatever it is that energizes, directs, activates, and arouses us. They are interested in drives, motives, needs, wants, and wishes. An example will help here. Suppose two children complete a spelling test. One child scores 80% correct, while the other scores 40% correct. Can we conclude that the first child knew more words? No. We must consider the children's *motives* before we come to any conclusion. It might turn out that the second child knew all the words, but was not motivated to write them down during the examination. The child may not have cared, may have been rebelling, or may have been too sleepy. The first child, on the other hand, may have known only 80% of the words, but may have been so motivated to do well that all of the known words were recorded. Thus our conclusions about how much the children knew must take into account their motives as well as their knowledge.

Some motivation psychologists focus upon basic biological drives such as *hunger, thirst,* and *sexuality.* Others focus upon complex, perhaps acquired human motives such as the *need to achieve,* the *need to be with other people,* and the *need for power.* Thus, motivation psychologists address a wide range of concerns—and they certainly end up asking themselves some difficult questions. For example, there is a rare and poorly understood disorder called *anorexia nervosa* that tends to strike young, intelligent women from well-to-do families.

These women virtually stop eating. They refuse all efforts to get them to eat; they lose weight, become weak, and, if not force fed, they may die of starvation (Duncan, 1973). The motivation psychologist wants to know why this occurs. No one is yet sure of the answer, but several possibilities have been offered. Some argue that the disorder has some physiological or chemical basis. Others have concluded that the disorder is psychological in origin. They feel the reaction may be brought on by intensely disturbing events in the girl's life, such as the loss of a loved one, or extreme separation. Other researchers note that a history of overconcern with obesity often precedes this reaction. Whatever the final explanation of this disorder may be, it shows that motivation psychologists address complex problems that can be of considerable practical concern. Chapters 9 and 11 examine several of these problems in some detail.

EMOTION

The field of emotion is closely related to that of motivation. Emotions are characterized as *intense, relatively uncontrollable feelings that affect our behavior.* They tend to be either positive (joy, bliss, love) or

Motivation and emotion during a horse race in Kenya. People who have bet on losers stare glumly at the disappointing scene or look away, drained of interest. Only the potential winners stay glued to their field glasses, straining to catch the finish.

negative (anger, hate, disgust). Either kind of emotion can affect our behavior significantly–in other words, emotions can act as motives. If we are extremely angry, for example, and attack someone either physically or verbally, then we say we are motivated by anger. Because of this considerable overlap between emotion and motivation, the two topics are often treated together. We will consider emotions in some detail in Chapter 10, and then discuss some practical matters concerning the control of everyday motives and emotions in Chapter 11.

DEVELOPMENT

Developmental psychologists are concerned with human growth and the factors that affect that growth. Therefore, they also study the interaction of physical growth and experience. We are what we are partly because of our genetic makeup, but our experiences also affect what we are. Developmental psychologists want to understand how these two factors influence our development, both separately and together.

Until recently, developmental psychologists focused on the development of the child. But now they are beginning to look at the entire *life span,* from prenatal events to death. They are concerned with all aspects of development. For example, they study development of *language, thinking, emotion, social behavior,* and *physical capacities.* They also consider, in their study of aging, factors such as memory loss, menopause, "identity crises," despair versus hope, and physical decline.

Like psychologists in other areas, developmental psychologists ask some very intriguing questions. For example, are love and affection necessary for normal *physical* growth? In other words, can physical growth be retarded if the child does not receive his or her share of love? The surprising answer appears to be yes. Lytt Gardner (1972) has described cases of what is called *deprivation dwarfism.* Children raised without love and affection can become stunted physically. They tend to be small and underweight. The growth of their bones is actually retarded, and resembles that of younger children. Deprivation dwarfism, in short, is a dramatic example of the interaction of physical growth and emotional experience. Developmental psychology studies many crucial interactions of this sort, as Chapters 12 and 13 show.

PERSONALITY

Personality psychologists study how we differ from one another. They look for the individual patterns of behavior that make each of us unique. They wouldn't be interested in the fact that you are sitting or lying down as you read this text. That's the way most everyone reads. But if you read each page five times and memorize every key word, or if you remember concepts by associating them with musical tones, that unique behavior would be of interest to personality psychologists because it sets you apart from other people. Generally speaking, personality psychologists explore the *development* of personality, the

functioning of personality, personality *change,* and the *abnormal* personality.

There are many different approaches to understanding personality. Some feel personality is best viewed as learned behavior. For example, we may have an aggressive personality because being aggressive has paid off in the past. Freudian psychologists believe personality is best understood in terms of the conflicts that arise among our desires, our reason, and our conscience. Still others feel the best way to think about personality is to locate an individual on a series of personality dimensions. For example, each of us falls somewhere between being completely friendly and completely unfriendly. We also fall somewhere along dimensions of honesty, fearfulness, aggressiveness, and so on. If we can determine which of the many thousands of possible personality traits are the most important, and can locate an individual on those dimensions, then these personality psychologists feel we can develop a clear picture, or *profile,* of the individual's personality. As we will see in Chapter 14, no single approach to personality has found a definitive way to develop a personality profile, but each approach has helped to clarify some part of the puzzle of human uniqueness and diversity.

ASSESSMENT

The field of assessment is closely related to that of personality. In this area psychologists are interested in *assessing personality, achievement, and ability differences.* Psychologists have developed tests and measures for almost every conceivable ability, and for many different forms of achievement. There are tests for intelligence, anxiety, creativity, musical ability, clerical aptitude, scholastic achievement, fearfulness, dominance, shyness, internal versus external control, prejudice, and sexuality. You name it, and psychologists have a test for it. But not all of these tests and measures are valid. Many of them remain experimental and of dubious worth.

In Chapters 15 and 16, we shall explore the ins and outs of such measurement. For now, let us look at a sample test. The Remote Associates Test, developed by Sarnoff Mednick and Sharon Halpern (1959), is designed to assess creativity. Mednick has defined creativity as the ability to bring remote elements into new and useful combinations. Their test, sometimes referred to as the RAT, is supposed to measure this ability. Table 1-1 contains some of the items from this test. Try them. They are fairly difficult. After seeing these items, many people complain that they do not seem to have anything to do with what they think of as creativity. This illustrates an important point concerning testing. The test items do not necessarily have to have what is called ***face validity***. That is, they do not necessarily have to *seem* appropriate, as long as they have ***predictive validity***. Predictive validity refers to the ability of the test to *predict behavior.* Thus, if people that score high on the RAT also do creative things, such as write music, novels, or scientific papers, then we can say that the test is valid. If it predicts behavior we can use it, even if the items don't seem appropriate.

Table 1-1 **Sample Items from the Remote Associates Test of Creativity Developed by Mednick & Halpern (1959). The Subject's Task Is to Find a Fourth Word That Is Related to All Three Words in an Item.**

1) cookies sixteen heart	_____*
2) poke go molasses	_____*
3) surprise line birthday	_____*
4) base snow dance	_____*

* Answers (1. sweet, 2. slow, 3. party, 4. ball)

In our chapters on assessment we shall consider a number of different personality, aptitude, and achievement measures, particularly intelligence tests. We shall also consider some of the legitimate uses, and some of the abuses, of these tests in the world outside the laboratory.

SOCIAL

The area of social psychology is closely linked to those of personality and development. Social psychologists focus on the effects that people have on one another. Because we develop, for the most part, among other people, and because our personalities are heavily affected by those around us, it is often difficult to maintain a clear distinction between social and the other areas. In any case, social psychologists focus upon *people* as stimuli, and deemphasize other aspects of the environment.

Through the years, the topics that have been of greatest importance within the field of social psychology have shifted somewhat. Popular topics have included *attitude formation and change, conformity, persuasion, liking, race prejudice, aggression, desegregation, intergroup conflict,* and the measurement of *public opinion.* More and more often, social psychologists are being asked to help solve the problems of society at large.

Two examples of social psychological research should suffice at this point. First, there is the question of conformity to group pressure. In a classic demonstration of the power of group pressure, Solomon Asch (1956) ran many experiments of the following sort. Eight subjects are seated in a semicircle before a screen (see Figure 1-4). The subjects are informed that the experiment involves a test of their ability to judge the lengths of lines. Three lines, labeled A, B, and C, are projected on the screen. B is the shortest line. Unknown to the true subject, seated in the last seat, the other seven "subjects" are in league with the experimenter, and have been instructed to answer incorrectly. The experimenter then asks each "subject" which line is the shortest, with the true subject responding last. Each confederate, in turn, says "C," rather than "B." Asch and others have found that the unfortunate individual at the end of the line will often succumb to

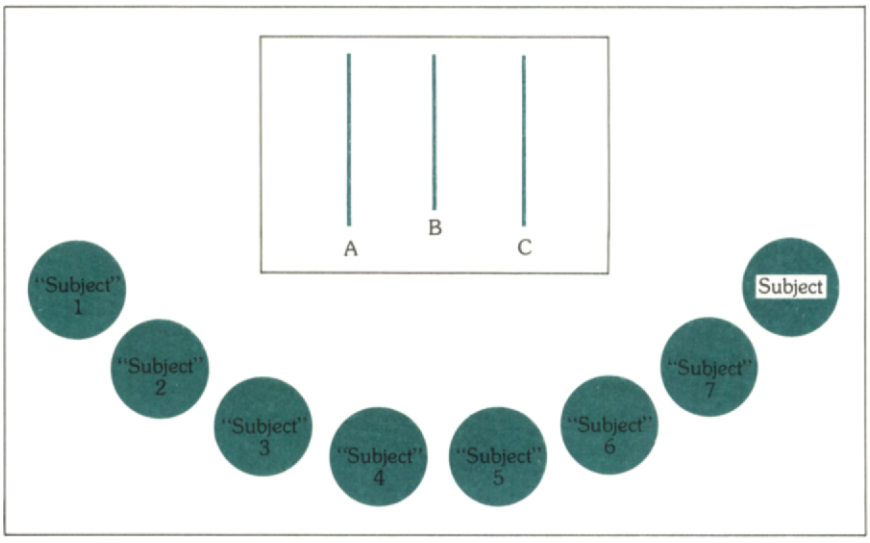


Figure 1-4
Asch's social influence study. Individuals, from left to right, are asked to indicate which of the three projected lines is shortest. Unknown to the one true subject, all the other individuals are in league with the experimenter. All the "subjects" say C is shortest. The true subject is faced with having to go against the majority, or else report falsely.

the social pressure and say "C," too. When asked why they said "C" most people will say they couldn't stand the pressure and embarrassment of being "different" and "standing out" in the group. In our chapters on social psychology we will discuss even more dramatic examples of conformity.

As we noted earlier, this type of experiment, involving deception and stress, is presently under careful scrutiny within the field of psychology. Many psychologists feel this type of procedure is no longer acceptable. Twenty years ago such experiments were commonplace. But now, with a heightened sense of the rights of the subject and the responsibility of the experimenter to protect those rights, fewer and fewer experiments involving deception and stress are being conducted.

Another area of social research has to do with *attribution,* or our tendency to make assumptions about why other people behave the way they do. Many different kinds of results have been obtained in the course of attribution research. For example, ***stereotypes,*** or the tendency to attribute certain characteristics to whole groups of people, have been found to be influential. Thus we all feel we "know" what fraternity members, professional wrestlers, used car salespersons, and Irish poets are like. We attribute certain motives and characteristics to individuals fitting these categories without ever considering what that particular individual is like.

Another interesting effect is called ***attribution error*** (Ross, Bierbrauer, & Polly, 1974). This refers to our tendency to underestimate the impact a situation can have on our behavior. Upon hearing of a case of child abuse, or stealing, or murder we often say, "I would never do that." But, in reality, if we found ourselves in desperate circumstances we might well resort to behavior we never thought possible. We overestimate our ability to control our own behavior, and underestimate the impact of the situation upon us.

ABNORMAL

People in the field of abnormal psychology are interested in defining, researching, and understanding abnormal behavior. This area focuses upon a wide range of problems, including the various forms of mental illness, criminal behavior, drug addiction, and conflict within families and among friends. Over the years, mental illness has proved to be surprisingly difficult to define. However, most psychologists distinguish between ***neurosis***, a less severe form of emotional disturbance, and ***psychosis***, the more extreme variety commonly known as insanity. In our chapters on abnormal psychology and psychotherapy we will take a close look at the issues and problems to be found within this intriguing field.

CLINICAL AND COUNSELING

Clinical psychologists are by far the most numerous type of psychologist. More than a third of all psychologists call themselves clinical psychologists, with an additional 10% falling under the heading of counseling psychologists.

Clinical psychologists are closely aligned with the field of abnormal psychology. They are interested in the *diagnosis, treatment,* and *understanding* of a wide range of emotional and behavioral problems. They address themselves to the problems of mental illness in all its forms; to criminal activity, mental retardation, drug addiction, and to less serious problems of adjustment. Basically, clinical psychologists are interested in helping individuals. They are in an *applied* area of psychology—that is, they deal with real emotional problems occurring in everyday life, outside the laboratory.

Clinical psychologists may be in private practice, in a university position, or in some sort of mental health clinic. They may also work in prisons and private or public mental institutions. We will explore their therapeutic methods and their concerns in Chapters 17 and 18.

The concerns of the counseling psychologist are similar to those of the clinical psychologist, except that the counseling psychologist focuses upon the problems of high school and university students.

SCHOOL

School psychologists are closely related to counseling psychologists. They differ in that they work at the elementary school level rather than with high school or university students. School psychologists focus upon the social and educational development of elementary school children, and work closely with both parents and teachers in their efforts to stimulate and guide successful development.

INDUSTRIAL AND ENVIRONMENTAL

Traditionally, industrial psychologists have been concerned with human problems within the industrial setting. Thus, they have been concerned with such things as *employer–employee relationships,*

A clinical psychologist at work. In order to help troubled individuals, clinical psychologists may practice in hospitals, prisons, private offices, clinics, schools and colleges, or even in the streets.

morale, productivity, testing and selection of employees, and the development of more *efficient machinery*.

But recent years have witnessed the development of a new sort of psychologist; the environmental psychologist. These specialists are concerned with the larger problems of an expanding industrial society and their effects upon the quality of the life we live. For example, environmental psychologists address the problem of *pollution* in all its forms, including air, noise, and water pollution. They are concerned with the problems of *urban living* and *overcrowding*. They seek to plan, with the help of other social scientists, new ways of dealing with these evolving problems.

PERCENTAGES: WHO DOES WHAT?

Boneau and Cuca (1974) mailed questionnaires to the 35,361 members of the American Psychological Association (APA) in 1972. The questionnaire asked these psychologists what their area of specialization was. The responses indicated that some 36% of the psychologists described themselves as specializing in clinical psychology. Approximately 12% labeled themselves as counseling psychologists. Some 10% fell into the category of experimental psychology, including such "hard" areas as physiological, perception, learning, memory, and cognition. Eleven percent described themselves as either personality, developmental, or social psychologists. School and educational psychology accounted for another 15%, while industrial and miscellaneous accounted for the last 15%.

Obviously, there is a lot of overlap in such responses. For example, a clinical psychologist might indicate that her specialty is personality, clinical, counseling, or even experimental, depending upon exactly what she is doing and how she wants to be recognized. In other words, these percentages can only give us a rough idea, because many psy-