

Toward a Complete Psychology

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A man, having looted a city, was trying to sell an exquisite rug, one of the spoils. "Who will give me 100 pieces of gold for this rug?" he cried throughout the town.

After the sale was completed, a comrade approached the seller, and asked, "Why did you not ask more for that priceless rug?"

"Is there any number higher than 100?" asked the seller.'

It is easy to smile over the mistake of our friend the rugseller. And yet, we are like him, for each day our own conceptions of what is possible limit our awareness and action. This story reflects a process common both to everyday life and to scientific endeavor. Conceptions often act as barriers to understanding; they may stand in the way of higher possibilities, as the number 100 here blocks higher numbers from view. To give an example: Once it was considered impossible for a man to run a mile in less than four minutes. The "four-minute mile" became a real barrier to many, as if effort of another order was required to run a mile in 3:59.99 instead of four minutes. Then one man broke this barrier, and quite soon many others were able to perform what was once considered impossible. We all seem to set limits on possibility and to work within these assumed limits.

A similar process limits ordinary consciousness. We screen out much of our surroundings because we do not believe that certain events occur. Once a friend unwittingly emphasized this to me by reversing an ordinary saying: "I'll see it when I believe it!" If an object or sensory input appears which does not fit our set of categories, we may ignore it. The psychologist Jerome Bruner and his associates carried out the following experiment, which demonstrated this phenomenon.

One of our shared societal assumptions concerns the suits of playing cards. Through years of experience, we have learned that spades and clubs are black, hearts and diamonds are red. Normally, each deck of cards we see confirms this assumption. Bruner asked his observers to look at some cards through a tachistoscope - a device which allows visual materials to be flashed on a screen for an exact, short time. Intermixed with the ordinary cards were several "anomalous" ones: a red ace of spades, a black four of hearts, for instance. Many of the observers in this experiment did not "see" the unusual cards as they were. Rather, they "corrected" them, and reported a red six of spades as a six of hearts. Assumptions can limit the contents of awareness. At one point in the experiment, it was suggested to the observers that, although hearts are usually red, such usualness does not logically imply that they will *always* be red. With this new input extending their category system, some observers were then quickly able to see what was in front of them.

Our "ordinary" assumptions about the nature of the world are generally useful to us. As we attempt to achieve a stable consciousness, we continuously "bet" about the nature of reality. We immediately assume that our rooms are "really" rectilinear, that a piece of coal is "really" black, that one person is intelligent, another aggressive. As Bruner's experiment and the preceding examples

suggest, our assumptive world is conservative. It is quite difficult for us to alter our assumptions even in the face of compelling new evidence. We pay the price of a certain conservatism and resistance to new input in order to gain a measure of stability in our personal consciousnesses.

Any community of people holds in common certain assumptions about reality. Our language itself is a set of common assumptions, shared for the convenience of easy discourse. "No one can run a mile in less than four minutes" was another. Each scientific community, of physicists, mathematicians, psychologists, or others, shares an additional set of implicit assumptions, called the *paradigm* by Thomas Kuhn. The paradigm is the shared conceptions of what is possible, the boundaries of acceptable inquiry, the limiting cases.

The working of the "scientific" paradigm is similar to the working of an individual's assumptions about reality. Personal categories are by their nature conservative of effort. Given our stable category system, we do not have to measure the walls on entering every new room to determine whether they are really rectilinear, or to inspect our friends at each meeting to determine whether they are really the same people we saw yesterday. Within science, a paradigm allows a similar stability of knowledge, again at the price of certain insensitivity to new input. If several researchers hold a paradigm in common this enables them to explore jointly one well-delimited area of inquiry and to coordinate effort. A shared paradigm allows them to communicate in a specialized language about an area as the residents of one town may have their own local phrases and local jokes.

The development of a successful paradigm, then, enables a scientific community to maintain and share criteria for the selection of problems which might be amenable to solution. It allows a number of "local road maps" to be drawn up, tested, and validated by many independent researchers. But there is a danger here: parochialism. Just as the residents of a certain community may become smug about their town and consider it the "only" place in the world, so the scientist working under a successful paradigm may begin to lose sight of any possibilities beyond his own particular set of assumptions.

Psychology began as the science of consciousness, developing as a synthesis of natural philosophy and nineteenth-century science. One of its earliest practitioners, Gustav Fechner invented the method of "psychophysics" in an attempt to correlate mental and physical events. Research on consciousness proceeded in the nineteenth century, spearheaded by a group at Cornell University under E. B. Titchener. This group sought evidence on consciousness through "introspection." In their research strategy, the observer attempted to analyze the contents of his personal consciousness and to compare his analysis with that of others, but the observers did not often find much agreement. To remedy this lack of a common ground, the introspectionists found it necessary to limit their field of inquiry. In the act of introspection it became "forbidden" for an observer to report seeing "a book," for example. He was only allowed to report seeing a brown object, of a certain size and shape. This and other limitations soon led to a sterility in the contents of psychology. Controversies of only academic import (in the worst sense of the term) arose, due to the limitations placed on inquiry. One, for instance, concerned whether "thoughts without images" could or could not occur. The concerns of psychologists drifted further and further away from the original ones. Soon their questions were of interest only to themselves, and it was evident that this paradigm was more of a restriction than an aid.

John Watson opened the gates once again with his suggestion that psychology could study action, which was, after all, verifiable and testable. This paradigm change allowed psychologists to study relevant problems once more. For instance, Watson could include such phenomena as personality in his textbook, while Titchener could not. This movement, which came to be called *Behaviorism*, soon swept psychology. It was "objective" and "scientific," and encouraged the study of major problems that had been left out of the introspective paradigm. Behaviorism stimulated an unusual amount of productive research, especially in the realms of learning and of the motivation of behavior. But a similar problem arose with this approach: the scope of inquiry within psychology soon became unduly narrowed to processes which were amenable to solution by behavioristic methods. Psychologists began to ignore and even deny the existence of phenomena which did not fit into the dominant scheme. "Consciousness" itself was ignored in research for many years; some even denied that it existed. There was here an almost fatal confusion of "behaviorism as a useful tool" with "behaviorism as the total extent of knowledge." "Objective" factual knowledge was emphasized, to the exclusion of any question not subject to a verbal, logical answer. The *reductio ad absurdum* of this position was that of the "Logical Positivists," who maintained that any question not amenable to a perfectly logical answer should *not even be asked*.

This entire process, of course, parallels the workings of ordinary consciousness. We stabilize around a set of concepts (about cards, friends, the speed one can run) and hold them dear until we are overwhelmed by new evidence. Then our conceptions change once more, to include new possibilities (a red ace of spades, for instance). Similarly, scientific knowledge progresses by a complementary functioning of paradigm build-up and paradigm change. A successful paradigm serves to create stable, conservative knowledge within the scientific community, until the restrictions of the paradigm become too great and it proves to limit research unduly.

Science as a mode of knowing involves a limitation on inquiry. The essence of a good experiment is successful exclusion. One factor may be manipulated while a very few other processes are measured. If, for example, we want to study the response of cells in the brain to visual stimuli, we would be considered mad if we also monitor the blood flow to the feet, the temperature of the room, the phase of the moon, the growth rate of mushrooms outside, or any one of the millions of available possibilities. But, in psychology of late, the limitations of the successful behavioristic paradigm have proven to outweigh the advances. To give one example, until recently psychologists have tended to ignore some evidence (from sources as diverse as Yoga and animal experiments) that man is capable of a high degree of self-mastery of his internal physiology. Further, we have not incorporated evidence that the linear, verbal-intellectual mode of knowing is not the only mode available to man.

It is incomplete to hold that knowledge is exclusively rational. Even scientific inquiry, that most rational and logical of our pursuits, could not proceed without the presence of another type of knowledge. As an example, two scientific researchers may meet and discuss their ideas. Perhaps an experiment will emerge, to be written up in a journal and still later in a textbook. Those writings are generally as orderly and well-reasoned as the scientist can make them. The entire process, however, is not exclusively linear and rational. Scientific investigators act on personal knowledge, biases, hunches, intuition. It is the genius of the scientific method that the a-rational thought becomes translated into the rational mode and made explicit, so that others can follow it.

The rational, verbal mode is primarily a method of communication. Experimental reports are made as explicit and logical as possible, so that any qualified reader can repeat the procedure. But this method of communication should not be misunderstood as implying that the experiment was in a linear and rational manner. We leave the scruffy aspects of our thought, the hunches, the insights, out of public scientific writing. And yet without these wonderings, these "night-time" questions, we probably would not do science at all. A researcher may spend time thinking "What is the most important experiment to do?" or "How does this damn thing work?" and, after much more of such scratching about, may try performing an experiment which will aid his understanding. But the reliance on verbal rationality has caused many to feel that it is the only way in which knowledge is gained, a conception that writers of text books often reinforce.

The scope of psychology as it has been defined in texts, in the teaching of psychology, and in the bulk of research reports, has been unduly limited to one special case of man, one special method of study, one special manner in which consciousness can operate. Just as John Watson found it necessary to alter the paradigm of the introspectionists in order to open up inquiry, so we are faced with a similar situation today, a need to return to a psychology whose scope was well-stated by William James: "Our normal waking consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the filmiest of screens, there lie potential forms of consciousness entirely different."

In performing research, we are often unaware of the full effect of our tools, be they physical instruments or doctrines such as behaviorism. We often imagine that tools, like sensory organs, serve exclusively to extend awareness, but in fact we are wrong. Both serve to limit as well as extend. Abraham Maslow, commenting on the effects of a strict behaviorism in psychology, said, "If the only tool you have is a hammer, you tend to treat everything as if it were a nail," A corrective needs to be applied, one which can open up the scope of psychological inquiry to the relevant questions once again. Even if all the "simple" questions cannot be fully answered at the moment by available methods, the perspective will not be lost. Part of this change involves the explicit recognition that, all too often, the method of psychology has itself become the goal; this confusion has led, in the past 60 years, to a "radical underestimation" of the possibilities, to use Jacob Needleman's phrase.

Contemporary psychology has just recently progressed beyond such a limited conception as is exemplified by our rug seller. A new and extended conception of man is beginning to emerge, one which includes many capacities beyond the "normal" limits.

There are many recent developments that have begun to extend the scope of psychology. Psychologists are people of their culture, and our particular culture is in the midst of profound change. There exists a "counter-cultural" community opposed to Science, and exhibiting a tremendous distaste for rational thought and its products - logic, machines, computers, technology. And, although science ought not summarily to abandon the tools that have been so brilliantly developed in the past century, this radical distaste does result from a certain excess within the scientific community and within modern psychology as well. Some aspect of the complementary mode of knowledge, which is a-rational, nonlinear, and personal in nature, could be incorporated

into a more complete psychology, both on a personal and on a scientific level.

A second input comes from the widespread interest in consciousness-altering drugs, such as the psychedelics. These drugs have experientially demonstrated to many, as they did to William James, that ordinary consciousness is not the only way in which consciousness can operate.

Perhaps much more importantly, many "esoteric" disciplines have become available and popular in the United States in recent years. They range from the merely bizarre and degenerate to the accumulated work of thousands of years of personal investigation into the problems of psychology. These more-developed traditions include Zen Buddhism, the Buddhism of Tibet, Sufism, and some aspects of Yoga. These disciplines have not yet been fully integrated into the West, although involvement with them has already shown many people that consciousness can be extended into areas beyond those defined as the current limits of contemporary psychology.

In concert with a shift in cultural interest, as more and more sophisticated research tools are developed, new areas of investigation open up to "legitimate" science. A purely descriptive, behavioristic approach is no longer the sole option available to experimental psychologists. For instance, electro-physiology researchers are able to detect subtle changes in brain and eye activity during sleep which signal the advent of dreaming. With this technological development, dreams can be researched objectively. Then, scientific psychology is able to admit the study of dreams, once that most private and "mentalist" of phenomena, into the main current of science.

The problem, though, goes deeper. Many in this culture have observed that the contents of science have become extremely overrefined, more and more difficult for the general public to understand, more and more remote from their concerns, more and more specialized and abstract. In psychology, the attempt at methodological refinement these last sixty years has caused us to discard much of essential importance. Consider the process of refining wheat. Refined wheat is much more easily packaged and stored than whole. Refined wheat does not spoil as quickly as whole wheat. But refined wheat has lost much of the nutritional value of whole wheat - its essence. In psychology we, too, have discarded much of the essence – consciousness - in the process of refining the methods.

I think it now necessary to restore our psychological endeavors to completeness. However, awareness of this necessity has been lacking in some recent efforts. The position of many involved in conventional scientific investigation is depicted in a famous story.

Several blind men attempt to investigate an elephant. One who has the trunk says, "It is long and soft and emits air."

Another, holding the legs, says, "It is massive, cylindrical, and hard." Another, touching the skin, "It is rough and scaly."

All are misinformed. All generalize from partial knowledge.

For a psychology of consciousness, the major import of this story should be to make us recognize clearly that more than one way of knowing is possible. Each person standing at one part of the elephant can make his own limited, analytic assessment of the situation, but we do not obtain an elephant by adding "scaly," "long and soft," "massive and cylindrical" together in any conceivable proportion. Without the development of an over-all perspective, we remain lost in our individual investigations. Such a perspective is a province of another mode of knowledge, and cannot be

achieved in the same way that individual parts are explored. It does not arise out of a linear sum of independent observations.

The intent of this book is to document the existence in man of two major modes of consciousness: one is analytic, the other holistic. The first is analogous to the process of viewing the individual parts of the elephant, the second to viewing the whole animal. They are complementary; both have their functions. Another way to convey the dichotomy is to point to the difference between the "rational" and "intuitive" sides of man. In our intellectual history, we have separated these two modes of knowing into separate areas of specialization, into Science and Religion, for example. Those who use one approach have rarely commended with the other. With the breakup of organized religion as a major cultural force, science has become the dominant influence in our culture. It is natural, then, that the textbook ideal of scientific knowledge has become a dominant mode of knowledge within our culture. This mode is largely analytic, verbal, linear, and rational.

We deemphasize and even devalue the a-rational, non-verbal modes of consciousness. Education consists predominantly of "reading 'ritin', and 'rithmetic," and we are taught precious little about our emotions, our bodies, our intuitive capabilities. A strict emphasis on verbal intellectual knowledge has screened out much of what is or could be legitimate for study in contemporary psychology—"esoteric" systems of meditation are much misunderstood; the existence of "nonordinary realities" is not studied because they do not fit into the dominant paradigm, and neither, of course, do phenomena named "paranormal." Yet there are reports in popular and scientific circles of "paranormal" capacities—of yogis learning to control their hearts and metabolism, for instance, or of telepathy during dreams. These have not yet been fully explored, just as our friend at the beginning of the chapter is not able to conceive and use a number higher than 100.

Suppose there were two completely independent groups of investigators; one group (scientists) works exclusively during the day, the other (the mysterious "esoteric" psychologists) works exclusively at night, neither communicating well with the other. If those who work at night look up and see the faint starlight in the sky, and concentrate on the movements of the stars, they may produce documents which predict the positions of the stars at any given time, but these writings will be totally incomprehensible to someone who experiences only daylight. The brilliance of the sun obscures the subtle light of the stars from view.

A modern scientific psychologist may read in an obscure esoteric book about the existence of these "points of subtle light" and attempt to locate them, by his usual means of investigation - during the daytime. No matter how open and honest the investigator, and how dutiful his observations, he will be simply unable to find the "subtle light" in the brilliance of the day. The failure of many, scientific investigators to locate the "subtle light" will only strengthen their conviction that the "stars" do not exist. The methods of science, then, have largely focused on one mode of knowing - identified with daytime. Contemporary science has developed methodology and discovered laws which are valid, and which have proven essential to the development of our civilization, but which may be only a special case, as, say, Newtonian mechanics is to Einsteinian.

As the esoteric disciplines of other cultures become accessible to the West, they emerge as *psychologies* which have specialized in that inward, receptive space of the "night." Their often-misunderstood techniques are exercises designed to alter the human nervous system, in an

analogous manner to turning off the brilliant light of the day until the faint stars are perceptible.

Until quite recently, communication between the two types of psychology has been very limited. Western science has tended to ignore, and even to deny, the existence of these "faint signals," since they are not visible under normal observation conditions. On the other side, certain "mystics," and others of the esoteric traditions, have compounded the problem by labeling ordinary consciousness an "illusion" - which it may be to him who never enters the daylight. Then, of course, each side has its inevitable internal arguments, and overconcern with local color and methodology, be it commitment to a maze-learning experiment with all its rituals, or a particular kind of meditation exercise with all its ritual and stylized behavior.

Communication has begun to open up in our culture, so that it now appears that neither view is complete; the day is incomplete without the night. Each is a special case with its own laws.

This book is an attempt to redress the balance, to begin to integrate the rational and intuitive approaches to knowing, and to consider the essential complementarity of these two modes of consciousness as they are manifest in science in general, in psychology in particular, and within each person psychologically and physiologically. A growing body of evidence demonstrates that each person has two major modes of consciousness available, one linear and rational, one a-rational and intuitive.

Our highest creative achievements are the products of the complementary functioning of the two modes. Our intuitive knowledge is never explicit, never precise in the scientific sense. It is only when the intellect can begin to process the intuitive leaps, to explain and "translate" the intuition into operational and functional knowledge that scientific understanding becomes complete. It is the function of the verbal-scientific intellect to fit the intuition into the linear mode, so that ideas may be explicitly tested and communicated in the scientific manner. The linear, rational mode is not the only way in which we understand, but it is a way in which we can clarify and communicate that which we understand.

Current psychology is undergoing the first stirrings of a synthesis of the two modes. These may form the beginning of a more complete science of human consciousness, with an extended conception of our own capabilities. This "new" conception of possibility is the ancient one of the traditional, esoteric psychologies, but it is beginning to be combined with the methods and technology of contemporary science.

It is time, once again, to open up psychology as a discipline, to return to its primary business - an examination of conscious experience, with the new tools which have been so painstakingly developed during this past century. It would be premature to try to delimit, or quantitatively define, this new area. Rather, it is a time to redefine psychology itself and, once again, to extend the boundaries of our own possibilities.

For further reading

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