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**The Nature of Psychology: The Great Dilemmas**

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Research about the nature of psychology, its subject matter, its level of analysis, its scientific laws, its relationship with other disciplines, and its social relevance has been a matter of great concern and interest during the development of psychology. This problem can be analyzed in terms of the dilemmas of the psychological discipline, which have been choice points, crossroads, alternative decisions that bring psychologists face to face with the following issues: (a) the

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**Editor’s Note**

Rubén Ardila received the Award for Distinguished Contributions to the International Advancement of Psychology. Award winners are invited to deliver an award address at the APA’s annual convention. A version of this award address was delivered at the 115th annual meeting, held August 17–20, 2007, in San Francisco, California. Articles based on award addresses are reviewed, but they differ from unsolicited articles in that they are expressions of the winners’ reflections on their work and their views of the field.
subject matter of psychology: psyche, mind, or behavior?; (b) the role of scientific methodology: is psychology a natural science, a social/behavioral/human science, or a part of the humanities?; (c) the universality or particularity of scientific laws in psychology: are laws universal or culture-bound and contextual?; and (d) the balance between science and profession: is psychology a basic science, a socially relevant profession, or both?

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The nature of psychology has been the cause of great controversy throughout the centuries, ever since humanity began to be interested in the issues of the mind, human nature, behavior, psyche, and similar topics. Etymologically, psychology means the study of the psyche, the spirit, the mind, and the soul. This is how the classic philosophers and psychologists understood psychology.

During the “prescientific” era of psychology, before the establishment of Wundt’s laboratory in 1879, psychology was a field of speculation, an area of philosophy, a preoccupation of theologians, and a domain of great interest for the educated public (e.g., of the Enlightenment and rationalism). After the “official” birth of psychology as an experimental science, psychology was defined as the study of the functions of the mind, and many pioneers of psychology at the beginning of the 20th century, among them William James and John Dewey, defined it in this way. This expression implies that the mind is a thing or an entity because activities and functions were attributed to it.

It was necessary to wait until the behaviorist revolution of J. B. Watson (1913), which was preceded by several conceptions in the international context like those of Henri Piéron in France and José Ingenieros in Argentina. For them, psychology was the scientific study of behavior. This could refer to behavior as an expression of the mind, to the study of behavior as such, to the study of the relationships between behavior and the central nervous system, or to behavior and the environment. The definition of psychology as “the scientific study of behavior (and mind if any) of animals endowed with a nervous system that enables them to at least perceive and learn” (Bunge & Ardila, 1987, p. 27) is an expression of this form of conceptualizing psychology: as science, as a study of behavior, and assigning to the nervous system and learning an important role in the relationship of the organism with the environment.

The Subject Matter of Psychology: Psyche, Mind, or Behavior?

The subject matter of psychology was traditionally defined as the study of the Greek psyche, or the soul of the dualistic philosophers, or the mind of the philosophers and psychologists of the 19th century. In the philosophic conceptions of the psyche and the soul, there were variations, not a unitary point of view as sometimes is assumed. The Eastern philosophies Buddhism, Taoism, and Confucianism had conceptions of the mind and of psychism that were not in accord with Greek and Christian conceptualizations.

With the development of modern science, with Descartes, with Newton’s conceptualization of the universe, the study of the mind shifted from the field of philosophy to the field of science. In the work of the British empiricists and their followers in several countries of Europe, the possibility of an objective, empirical, scientific study of the mind was always considered.

Descartes has been pointed to as the first great psychologist of the modern age (R. I. Watson & Evans, 1991, p. 157). His mechanistic theory of the human body had great influence on the worldview of the Renaissance. He described the human body by analogy to the actions of clocks, mills, and similar machines. The functions of the body—such as breathing, digesting, sleeping, imagining, having appetites, and the pumping of the heart—are forms of motion that follow naturally from the arrangement of the component parts. The human body is a machine, like that of animals. But an important difference exists, and this is the human mind. The body and the mind interact with each other, which came to be known as interactionistic dualism. The soul is united with the body, which uses it as an instrument. The animal is an automaton, whereas human beings have minds.

This conceptualization has been labeled Descartes’s myth. It states that every human has a body and a mind, which can continue to exist and function after the death of the body. A human being has two lives, moves in two worlds—the external and the internal. A person possesses the perfect knowledge of the functioning of his or her mind but does not access to the internal life of others. Never is it possible to know the thoughts or the feelings of other persons. This is what Ryle (1949) called the dogma of the ghost in the machine.

The action of the mind, according to Descartes, is in-espatial, not accessible to public observation, not modified by matter. The mind is invisible, inaudible, without size or weight.

The critiques of this dualistic conception—which corresponds, in general terms, to the usual conception of daily life that people in Western culture possess about the mind—came from many directions. Above all, they came from science, from physiology, from the newborn experimental psychology, and also from philosophy itself. It was pointed out that when we describe the internal actions of the mind of a person, we are referring to the reality of their open and external acts. The “mind” is not a place, not even in a metaphorical way. When we use “mental” adjectives to refer to people, we are describing what they do, not occult processes or what one supposes occurs in the flow of the conscience. We are describing people’s behavior.
Human beings are not machines run by spirits. The dogma of the ghost in the machine does not resist any deep neurological, psychological, or philosophical analysis. Therefore, what is the subject matter of psychology in light of these developments? The answer during the last century has been this: behavior—what organisms do, what appears on the outside. Psychology is the science of behavior, as many researchers before Watson (1913) declared but is an idea that had its main development in behaviorism.

The problem was to define what is understood as “behavior.” It exists in the whole universe. Planets, stars, galaxies, chemical elements, and animals behave. Psychology is fundamentally interested in the behavior of animals both human and nonhuman.

Psychology is not the only science interested in behavior. Actually, all sciences are. It is a fact that biological, social, cultural, economic, and political phenomena all have a behavioral foundation. This has given rise to the concept of the behavioral sciences, one of which is psychology, others being anthropology, sociology, economics, political science, linguistics, and so forth. In some contexts, the term social science is used, in others human sciences or behavioral sciences are favored.

The varied definitions of behavior have been showing more and more conceptual breadth—that is, including within this concept more aspects and factors that were not included before. In the APA Dictionary of Psychology (VandenBos, 2007), behavior is defined as “an organism’s activities in response to external or internal stimuli, including objectively observable activities, introspectively observable activities . . ., and unconscious processes” (p. 107).

Behavior is what organisms do or say. Behavior is action that affects the environment and changes the probability of repetition of such behavior. Behavior is the series of actions, cognitions, intentions, and procedures that are carried out by organisms endowed with nervous systems—not only human beings and apes but also all those organisms whose biological structure allows them to connect in an adaptive form to the environment, allows them to learn and modify their behavior based on experience. It is a process extremely linked to adaptation, to learning, to genetic predisposition, and to phylogenetic and ontogenetic evolution.

In all this lies the problem of the appropriate level of explanation for psychological phenomena: the problem of reductionism, the autonomy of psychology, its relationship with the neurosciences, biology, genetics, and evolution. These are issues that have had significant importance throughout the development of the discipline, from the British empiricists to the German experimentalists to the present day. Does psychology depend on biology? Is psychology only a biological science? Are the explanations based on neurosciences preferable to those based on the behavioral level? Or, to the contrary, does one learn more about the psychological phenomena by studying the social environment than by performing operations of microsurgery in people’s brains?

The influence of context in the natural sciences, of so-called natural philosophy, has been decisive in the development of the field of psychology. Psychology started as a “natural” science according to the contemporary terminology, although in the 21st century it is also a social science (or a behavioral science or a human science).

The Scientific Approach: Natural, Social, or Human Science?

Science is a way of looking at the world that possesses a series of features that differentiates it from other worldviews. It is obvious that it is not the only way of looking at the world, of tackling the problems, of knowing, or of being happy. It is one way among others. But it has changed our world; it has transformed society, the individual, values, and philosophy; and it is undoubtedly an achievement of tremendous importance in civilization.

Let’s also remember that science is relatively new, and that it is not as extended as we might think.

Historically, psychology chose the path of science. This discipline preferred to be close to biology, evolution, and physics, to look for laws in nature and not align itself with literature or ideologies or intuitive ways of looking at the world. It chose the route of verification, evidence, and reasoning, not the way of dogmas or ideologies.

Science comes from natural philosophy but, unlike philosophy, places the greatest emphasis on empirical data. In the final terms, the truth or falsity of a scientific statement is decided by direct observation or experimentation, not by the logical coherence of a line of reasoning. The datum that appears to favor science is replicable and abstract, and in many cases it has theoretical value.

Research is carried out within a theoretical framework, and without theory, investigation only produces massive inventories of unconnected data, facts with no meaning. Data collection is a part of the scientific enterprise, but it is only a limited part. Of course, the theories and models must fit the facts. The relative importance of fact and theory in a scientific discipline is a relevant topic of analysis, and this applies also to psychology.

In paradigmatic disciplines, researchers are dedicated to random fact gathering. Because no solid theoretical position separates wheat from chaff, all facts become equally important (Kuhn, 1970). In contrast, in paradigmatic disciplines, scientists are engaged in “puzzle-solving” research that closely follows theoretical dictates, the collective research effort is strongly coordinated, and the results are more cohesive and cumulative. Research programs (see Lakatos, 1978) that are recognized as contributions to scientific advancement tend to be much more coherent and focused.
Facts, facts, and more facts is what is needed in science—but facts collected within a theoretical framework and subject to falsifiability (Popper, 1963). No doubt falsifiability is an essential characteristic of any genuinely scientific hypothesis. And facts with no theoretical frame of reference are chaotic and unconnected. As a matter of fact, there is nothing as practical as a good theory, as Kurt Lewin said.

**Universal Laws or Contextual Laws?**

Psychology uses the scientific method, which is a set of procedures designed to establish general (universal) laws by collecting facts and evaluating theories that attempt to describe, explain, and predict phenomena. Scientific methods involve explicit and/or implicit theories. Hypotheses are made from such theories. Scientific method is the systematic and critical evaluation of hypotheses through objective, controlled, empirical investigations and conclusions, which are open to replication, public scrutiny, and analysis.

Scientific statements claim a high degree of universality, and scientific hypotheses and predictions are generally framed in such a way as to render them independent of a particular place, time, or scientist. This search for universality, generality, and timelessness is always relative, and it is a goal more than anything else. It is something that extends to all the sciences: the search for general universal laws that survive beyond time, space, culture, and the researcher or researcher who discover them.

In the behavioral or social sciences, there has been an insistence on the relevance of context, on the need of studying the phenomena within a culture. This is one of the goals of the behavioral sciences: to have universal laws and, at the same time, laws that are contextually relevant. Without a doubt it is a balance that is difficult to achieve! It is the balance between etic (universal) and emic (particular).

The etic–emic distinction was introduced in psychology by Berry (1969), and its basis is found in the study of language (phonetics and phonemics). In cross-cultural psychology, behaviors and ideas that are culture-general or universal are referred to as *etic*, whereas behaviors and ideas that are culture specific are referred to as *emic* (particular).

This distinction is found in the core of contemporary discussions about the universality of behavioral laws, of social life, of cognition, of human development along the life cycle, and of what is normal and abnormal. Do all organisms learn on the basis of the same principles? Do all the world’s children go through the same stages of cognitive development proposed by Piaget? Are the same explanations of work motivation valid in China, the United States, and Nigeria? Is the perception of visual illusions universal and identical in all cultures? Are males more aggressive than females in all contexts and in all societies? Can the stages of moral development proposed by Kohlberg be applied to all people, to past societies, and are they present in the same sequence in all contemporary cultures?

There are many more questions than answers. In this field, an international perspective, a global perspective can throw light on many of these psychological topics (see Stevens & Gielen, 2007). Without a doubt there are many behaviors, cognitions, and affections that *we share with all human beings* of the planet, of the past and the present, beyond the barriers of culture, history, genders, ages, ethnics, and social classes. Equally, there are many other characteristics that are specific to groups (individualistic cultures differ from collectivist cultures, men from women, the young from the old, the introverted from the extroverted). Also, some psychological aspects are *specific and unique* to a person. One specific individual is different from all other individuals, represents a unique combination: the uniqueness of each individual’s personality. We are universal human beings, also group members, and also unique individuals.

In the background lies the problem of psychological universals and the issue of human universals. Lonner (1980) proposed a seven-level structure to categorize concepts that may qualify as psychological universals: simple universals; variform universals; functional universals; diachronic universals; ethologically orientated universals; systematic behavioral universals; and cocktail-party universals features, which occur and are recognized across diverse cultures, although sometimes in different forms. Brown’s (1991) list of human universals is also relevant in this discussion.

Nevertheless, it is clear that the universals of human behavior do not explain all the variance. *Culture* is relevant, very central and focal in any explanation of human behavior. Culture has traditionally been defined as the human-made part of the environment (Herskovits, 1955), including both objective and subjective elements (Triandis, 1972). Culture may even be more relevant than so-called human nature in a comprehensive explanation of the human being and its behavior (see Blackler, 1983; Hofstede, 2001; Moghaddam, Taylor & Wright, 1993; Segall, Dasen, Berry, & Poortinga, 1990; Smith & Bond, 1993).

It should be pointed out that the study of the influence of culture on behavior, of the contextual limitations of scientific laws, of the different ways of studying the psychological processes based on local traditions has not been very popular in mainstream psychology (see Brock, 2006). The importance of contextualist historiography is only now beginning to be taken seriously. In fact, from its beginnings, modern psychology depended on the international exchange of organized knowledge and also on cultural (and geographic and linguistic) contexts. As Danziger (2006) noted, a different approach to the history of psychology... offers the possibility of another perspective on the question of the
Psychological science that searched in implicit and explicit ways to be universal and that insisted on there being one underlying psychological reality came up against the importance of culture in behavior, the role that context plays, and the great difficulty of specifying what is universal and what is culturally limited in the study of human behavior.

This delicate balance between the universal and the particular, between human nature and the influence of culture, between the etic and the emic is an unfinished task of psychology at the outset of the 21st century. This is something that is worrisome for the discipline, causes many problems, and is far from being solved in a satisfactory manner. It is one of the dilemmas of psychology today.

Another dilemma is the relationship between science and applications, between scientific research and profession, between the world of knowledge and social relevance.

**Basic Science or Applied Discipline?**

During a large part of its recent development, psychology has gone from being a laboratory science within the context of natural sciences, with an experimental methodology, to becoming a profession with different objectives from the sciences, with its own problems and with great interest in social relevance and the big social issues of the contemporary world.

If we compare what psychology was at the beginning of the 20th century with the current situation at the beginning of the 21st century, we find immense differences. At the beginning of the 20th century, psychology was very close to physics, biology, and physiology. It was deeply interested in its status as a science and in its academic positioning. The foundation of experimental laboratories, the creation of specialized scientific journals, and the rigor of its research were the center of its interest. Psychologists felt very proud to have emancipated themselves from philosophy (the “mother” of all sciences, but for psychology it was a “stepmother” rather than a real one). The participation in the American Association for the Advancement of Science; the fact that the main scientific journal of the world, *Science*, was edited by a psychologist, J. M. Cattell (1860–1944), who also was its owner and director for 50 years; and the necessity of achieving the status as “hard science” were focal points of interest for psychologists.

The more laboratories there were, the more publications on perception, learning, cognition, animal psychology, reflexes, and mind–brain relationships there were, the better the status of psychology.

Applications were not considered relevant (see Wundt, 1909), and in reality, psychology expressed little interest in them. It is relevant to indicate, however, that in 1920 the International Association of Applied Psychology was founded; that Hugo Münsterberg (1863–1916) was interested in what nowadays is called juridical psychology, industrial efficiency psychology, educational psychology, and even psychotherapy; that Lightner Witner (1867–1956) founded the first psychological clinic in 1896; and that John B. Weston (1878–1958) had worked in advertising and other applied fields. But these were pioneer efforts, almost always isolated and with little influence on the science of psychology. The mainstream of psychology was the experimental laboratory research, and the leaders of psychology almost always had a negative attitude toward applications.

The American Psychological Association (APA), the establishment of psychology, concentrated its emphasis on psychology as a laboratory science. The people interested in applications—a minority—felt themselves little represented by the APA, and they even came to found the American Association of Applied Psychology (AAAP) in 1937. The new association focused on clinical, consulting, educational, and industrial psychology. It was a growing minority that was increasingly important (see Hilgard, 1987). A fifth section, of military psychology, was added in 1944. During World War II, the applications of psychology and the sense of feeling useful and of contributing to the national effort had a lot of relevance (see Capshew, 1999). This led the APA to a reorganization, to modify its bylaws, and to recognize the diversity of the interests of psychologists, scientists, and/or professionals. After the reorganization of the APA, the AAAP dissolved in 1946. The integration of psychologists in the new APA was a recognition of the role of applied psychology.

These changes in the priorities of psychology continued throughout the 20th century. Psychologists were increasingly useful to society; they were more interested in social issues (e.g., discrimination based on race, gender, sexual orientation, age, culture); and they were more relevant for education, the world of work, health, peace and war, aggression and violence, and the solidarity between all human beings. The participation of psychologists in complex social and political matters, in the State, was increasingly visible. Within national planning teams concerned with big issues such as poverty, employment, prejudice, patterns of child rearing, life-cycle development, chronic diseases, child abuse and neglect, and social discrimination, the roles of psychologists were more and more relevant and taken into account. This occurred in the United States, in Western Europe, in Latin America, in Oceania, and even in Japan, China, India, and Africa. It was an important change of priorities, of directions. Psychology was increasingly concerned with applications and social relevance.

The positions that psychologists took, as a whole or in part, in relation to political matters and “hot” issues, received criticism (see Wright & Cummings, 2005), justified or not, but nevertheless criticism that was echoed in the community. Such criticism is recent and has to do with...
defining whether psychology as an area of knowledge can and/or should take politically sided positions or whether this should be left to the individual psychologist as a citizen, not to the discipline as a whole. Also, it has to do with the important political implications that the scientific discoveries have. Can science be politically neutral? Or, on the contrary, should it commit itself to an ideology, to a philosophy, and to a political side? Is this a concern of the scientist as a person or of the discipline as a whole?

At the end of the 1980s, organized psychology, whose most influential voice in the developed world is the APA, received criticism for turning “too professional” and neglecting the scientific aspects. It was said that the APA was at that moment a “guild,” almost a “trade union,” that was concerned with the rights of professionals, their promotion, improving the position of the profession of psychologist in the complex society of the 20th century, and not with what our “founding fathers” (and founding mothers) had sought.

Psychology was a solidly established profession, with juridical backing, with laws that defined its functions, and with a clear relationship with other disciplines. These were the priorities and interests of psychology: to be a highly recognized and respected profession—like medicine, engineering, and law—not so much a science as physics, chemistry, or biology, which was what psychology’s pioneers had sought for it to be. The group of scientists within the APA—inefficient, prestigious, with status and visibility—was not satisfied with that direction of organized psychology, which prioritized the profession and not the science (according to them).

They sought to reorganize the APA into a different entity, a type of federation or assembly, with fields, areas that gave science the central role that it should have in psychology. This reorganization of the APA finally was not accepted, despite the efforts of many influential psychologists. The consequence was that the scientists created another association (the American Psychological Society, which in 2006 changed its name and became the Association for Psychological Science [APS]).

The APS assumed the function of being psychology’s voice as a science, keeping applications in a second place. The APA, supposedly, was a professional association for which scientific matters were secondary. These positions were not correct in either of the two cases, there were just stereotypes, and without a doubt APA had science as its backbone, although the professional aspect and its complex matters in a modern society with multiple economic and political interests was very relevant. The new APS also did not neglect applied aspects, but its priority was psychology as a science. It is important to point out that the majority of the members of APS continued being members of APA, belonging to the two most important associations of psychologists.

But it is interesting to note that the position of APA–APS in 1997 was similar to the position of APA–AAAP in 1937. However, it was in the opposite order. In the first case, APA was accused of being “too scientific” and very little interested in applications; in the second, it was accused of being “very little scientific” and too much applied.

If we compare psychology at the beginning of the 20th century and psychology at the beginning of the 21st century, we find important differences. A century ago, psychology was a small discipline, centered on science, very committed to gaining status as a science. At the beginning of the 21st century, it is a discipline with over half a million professionals all over the world; concerned with its status as an area of practice; and very committed to its place in society, to its functions as a helping profession, health profession, and socially relevant profession but not so much concerned with science, research, or theories (the macrotheories are out of fashion). The training model is scientist–professional, but the grand majority of the psychologists have the professional part as their priority.

I am sure that the founders of the psychological discipline such as Wundt, Fechner, James, Ebbinghaus, Pavlov, Köhler, Washburn, Piéron, and Krüger would feel very strange at the International Congresses of Psychology (organized by the International Union of Psychological Science), at the International Congresses of Applied Psychology, or at the conventions of the APA. They would not understand why so much interest is placed in matters of professional areas; professional roles; salaries; Medicare and Medicaid; and issues of race, gender, culture, sexual orientation, equality of opportunities, training, professional ethics, globalization, and aging. And they would not understand why so little interest is expressed in the scientific status of psychology; in the measure of subjective experiences in the laboratory; in theories of color, the unwelt of animals, the migration of birds and of salmon, the stream of consciousness . . .

Conclusions

The great dilemmas of psychology are related to its nature; to its field of study; to its subject matter, methodology, underlying philosophy, applications, and professionalization; and to its insertion in complex industrialized multicultural societies. The dilemmas also have to do with internationalization and globalization, the society of knowledge, and the perspectives of the changing and flexible world of our present time. It is a fact that at present, we need international psychology more (Cole, 2006), and we need a unified psychology (Ardila, 2002, 2006) that enables us to give integrated, articulated, coherent answers to the challenges of today’s world from the perspective of science (natural, behavioral, social, human) and the profession, to face some challenges that Wilhelm Wundt and William James could not have anticipated. But I am sure that they and their many successors would have been up to the challenges, equal to the tasks in such a way that contemporary
society would be proud of the contributions that psychology can make to today’s world and the world of the future. A very decisive point is to recognize that we do not have all the answers and that, in some cases, we have only begun to formulate the questions. As a famous Spanish singer said, “Caminante no hay camino; se hace camino al andar” (Traveler, there is no path. The path is made by walking).

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