

*Panorama  
of  
Psychology*

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*N. H. Pronko*



# *Panorama of Psychology*

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*To my sisters  
Mary, Anna, Donnie*

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# Preface

One of the main objectives of this book of readings and essays is to introduce the reader to the broad panorama of contemporary psychology by mapping out significant areas of research, major controversies, and traditional divisions of the field. Another objective is to allow the reader to encounter the challenges, surprises, insights, and ironies that enliven the landscape of psychology.

Can chickens play baseball? Do some songbirds have a Southern accent? Can average people be talked into giving severe electric shocks to helpless victims? Are geniuses born or made? Why do some monkeys wash their yams before eating them? Is a whole brain better than half a brain? What is a memory? Do people learn how to be mental patients? These questions—both the whimsical and the serious ones—are drawn from a few of the collected articles to suggest the wide range of human and animal behavior encompassed by contemporary psychology.

As in most introductions to psychology, this volume is addressed to perennial problems—heredity, development, learning, and so forth—thus suiting it for use as a textbook or set of supplementary readings in a course in introductory psychology. In form and content, however, this book is not at all conventional. In general, books of readings consist of highly technical journal articles, written by professionals for their professional colleagues. Their verbiage is often impenetrable, forbidding, and discouraging to the beginning student. Many of the details so important to the specialized worker are meaningless and boring to the uninitiated. To circumvent these problems, and, simultaneously, to extend the range of coverage, I departed from the common procedure of reproducing only entire articles from technical journals. Instead, wherever feasible, I excerpted, condensed,

and summarized. A few articles that are brief and interestingly written I quoted entirely.\* When articles were long, complicated and/or esoteric, I described them, or I rewrote them. In the latter instance, I sent my rewrite to the original author and obtained his approval.

Nor did I limit my selection to technical reports. In delineating fundamental problems, I drew from books as well as journals and from historical and journalistic and even personal documents. Also, I asked fellow psychologists to prepare certain articles specifically for this volume. Furthermore, the articles I selected unabashedly reflect the sometimes intimate relationships between psychology and sociology, biology, zoology, medicine, philosophy, and other disciplines. While most of the articles presented here concern recent theoretical, experimental, and clinical work, some are about older contributions which I feel were simply swamped out and thus neglected in the flood of recent research.

My own frankly admitted preference is for articles discussing raw data that show the variation so characteristic of behavior. However, I did not exclude articles that reflect advances along theoretical or philosophical lines. Although my theoretical preferences undoubtedly show in comments and conclusions and speculations, I have tried to challenge rather than indoctrinate readers, to invite them to develop their own positions and to enter into psychology's lively ongoing debates. It is for this general purpose that I chose to focus attention on areas where problems still abound.

If any guiding principle influenced the

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\*The sources of complete quoted articles and the sources of other extensive quotations are identified in footnotes and are also included in the list of references.

final selection of articles in *Panorama of Psychology*, it was a preference for items reflecting the tremendous potential manifested in the psychological domain. The reader will find illustrations of this sometimes surprising potential in several recent studies—for example, in studies of earliest infancy, in **naturalistic observations** of so-called wild animals, and in reports from the area of **psychotherapy**.\*

In preparing *Panorama of Psychology*, I also tried to keep in mind such well-founded criticisms of psychological jargon as these pungent observations offered by Robert B. MacLeod in a speech to American Psychological Association members in Los Angeles in 1964 (MacLeod, 1965).†

Do you really enjoy reading the psychological periodicals? Can you without blushing assign them to your students? If you can, my point is already made. Sociological jargon may be even worse than ours, and interestingly enough the linguists have recently been achieving a degree of unintelligibility which approaches genius, but among the books the average student is expected to read there are likely to be few that are written with less grace and clarity than are the books on psychology. Read William James again, if only to be reminded that literacy and good psychology are not incompatible [p. 349].

In addition to MacLeod's injunction, these remarks by Peter F. Woodford (1967) offered guidance:

All are agreed that the articles in our journals—even the journal with the highest standards—are, by and large, poorly written. Some of the worst are produced by the kind of author who consciously pretends to a “scientific scholarly”

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\*Terms printed in boldface type are defined in the glossary at the back of this volume.

†Each speech, article, or book cited by author and publication date (e.g., “MacLeod, 1965”) is fully identified in an alphabetical list at the back of this volume. References follow the style of the *Publication Manual of the American Psychological Association*, 1967 Revision.

style. He takes what should be lively, inspiring, and beautiful and, in an attempt to make it seem dignified, chokes it to death with stately abstract nouns. Next, in the name of scientific impartiality, he fits it with a complete set of passive constructions to drain away any remaining life's blood or excitement; then he embalms the remains in molasses of polysyllable, wraps the corpse in an impenetrable veil of vogue words, and buries the stiff old mummy with much pomp and circumstance in the most distinguished journal that will take it. Considered either as a piece of scholarly work or as a vehicle of communication, the product is appalling [p. 743].

I scarcely hoped to achieve a model of stylistic elegance in the present work, nor did I expect to attain the level of excellence and charm found in William James's writings. I did however try to be constantly aware of my purpose, which was to prepare materials designed for reading by non-professionals. Although some jargon and stilted language may have insidiously crept into the following pages, I trust that they are not present in large enough amount to do injury to what should be, at least according to Woodford's standard, “lively, inspiring, and beautiful.”

*Acknowledgements* The writing of a book is a set of interpersonal relations, the most prominent of which, at least, should be noted. First, I am indebted to Bonnie Fitzwater and Charles T. Hendrix of Brooks/Cole Publishing Company for their early espousal and enthusiastic encouragement of the book even when it was in its primitive, amorphous state. And for his perspicuous editing, which transformed the original manuscript into its present improved form, an expression of appreciation is hereby tendered to Robert Mann.

For a reduction of my teaching duties and for their general facilitation of a

research environment at Wichita State University, I am indebted to David Herman, Chairman of the Department of Psychology; Kelley Sowards, Dean of the College of Liberal Arts; and to former President Emory Lindquist. I also want to express appreciation to my colleague Grant Kenyon, with whom I have had a fleeting, though fruitful trade of books, articles, and concepts. I have also enjoyed sharpening my ideas in fierce but friendly debate with another colleague, Robert Borresen. And I thank Robert W. Eichinger of the University of Minnesota, Robert Grissom of San Francisco State College, and Edward L. Walker of the University of Michigan for their most helpful comments on the manuscript.

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Above all, I must express a sense of deep gratitude to my wife, Geraldine Allbritten Pronko, for her sustained encouragement, moral support, her loyalty, her generous indulgence of what has been labeled a scholarly pursuit and, even more, for her innumerable helps in preparing the manuscript, proofing, indexing, and many other services which summated to a near collaboration.

N. H. Pronko

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# Some slants, perspectives, and basic considerations

Some of our most important beliefs about man and his development have changed or are in the process of changing [Hunt, 1964, p. 209].

It seems logical for the first chapter of a book to provide a broad introduction to its subject matter. That is the purpose of the following selections, which discuss science and psychology in broad terms.

The first article makes the basic point that science is a form of concrete human activity and is essentially a way of accurately observing and thinking about various happenings. In order to evoke flexibility in the reader's attitude toward some of the newer concepts presented here, we consider several sources of resistance to their examination. Because everyone is molded by his age, we then consider how limiting

are the silent assumptions and intellectual straightjackets of various periods of history. It is easy for us today to think of the earth as a satellite of a relatively small star in the Milky Way galaxy. People have not always found it so.

Not all psychologists are content with the approaches and procedures of the past, for psychology is an active field, one in a state of ferment. For example, the disagreement between the strict **laboratorian** and the **field observer** is reflected in the next two selections, which discuss how psychology should be studied.

Finally, we consider, more specifically, the nature of **scientific method** as applied to our own subject matter and contrast it with nonscientific procedures.

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*Science is a human  
enterprise*

1

**Science** is too often treated as a sacred cow, something set apart from the broad spectrum of human activities. We gain a clearer understanding of science when we realize that scientists are not entirely unlike bridge builders, farmers, accountants, or salesmen.

Fundamentally, scientists begin their work by observing gases, liquids, solids, or single organisms or groups of them. Scientists select the particular objects or data that they choose to study and then compare, classify, measure, and think about them. The results are principles, laws, **theories**, and **hypotheses**—"behavioral

products" in the same sense as the automobiles or furniture produced by a factory worker, the profits of management, or the compositions of a musician. All are the consequence of people's doing, observing, thinking, and reporting their results to others.

If science can be regarded as one of many kinds of work, we should not be surprised to find that scientists are in many respects similar to other workers. In fact, we should expect them to have ambitions, sensitivities, prejudices, ethics, and morals not unlike those of butchers, bakers, and

candlestick makers. Some welcome progress and change; others are conservative or even reactionary.

### *Scientists as objects of psychological study*

As living organisms, scientists can be studied by the biologist in so far as they manifest the common characteristics of living things, such as digestion, reproduction, and irritability. However, they are also appropriate subjects for psychological investigation while they are observing, classifying, measuring, and speculating about whatever data they study as scientists.

In the following discussion, we will be concerned specifically with the way scientists respond to scientific changes in their own fields. For example, are they open-minded and tolerant of new discoveries, procedures, and theories? Opposition to scientific progress by the church and other institutions and groups is well known; astronomy, geology, biology, medicine, and psychology have all suffered from condemnation or suppression. But how have the sciences fared at the hands of their own members? This theme is explored in the following brief discussion of a paper by Dr. Bernard Barber, who has worked in the sociology of science. For our purposes, he is a scientist of scientists.

### *"Resistance by scientists to scientific discovery"\**

The heading above is the title of an essay by Barber which examines how

scientists themselves react to their colleagues' findings and theoretical contributions. While Barber's whole paper is worthy of careful study, I intend to select only enough aspects and portions to bear out the point that science is not a capital S entity, pure and ideal, but as human an activity as any other. The full realization of this point should equip us for a more alert and sophisticated study of **psychology**.

Understandably, Barber (1960, p. 36) considers it strange that scientists have not made a systematic analysis of scientists' own resistance to scientific progress. Of course, sporadic observations have been noted here and there. Barber tells how the famous physicist, Max Planck, suffered at the hands of his professors when he suggested new ideas on thermodynamics, ideas that were accepted much later. The embittering experience caused Planck (1949) to remark that

a new scientific truth does not triumph by convincing its opponents and making them see the light, but rather because its opponents eventually die and a new generation grows up that is familiar with it [pp. 33-34].

One of Planck's opponents was the distinguished nineteenth-century physicist and physiologist, Helmholtz, who had himself met with resistance and expressed his feelings to Faraday, the British physicist and chemist, still another victim of the dogmatists. Helmholtz declared that the great benefactors of mankind cannot expect to be properly appreciated in their lifetime. He also felt that the length of time it takes for new concepts to be accepted is proportional to their originality (Barber, 1960, p. 37). Semmelweis, the Viennese physician who tried to convince his medical colleagues to scrub their hands before attending women in childbirth, was ridiculed, ostracized, and punished cruelly for

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\*Quoted material is from Bernard Barber, "Resistance by Scientists to Scientific Discovery," *Scientific Manpower Bulletin*, 1960, pp. 36-47.

his suggestion. Today, of course, his recommendation is standard delivery-room and operating-room procedure. Such clear examples of scientific resistance to change piqued Barber's curiosity. How could it be explained? Barber found part of the answer in the human conditions surrounding the act of discovery; these he divided into cultural and social conditions. Let us examine each briefly.

#### *Cultural sources of resistance*

Among the cultural sources of resistance to scientific discovery, Barber (p. 39) includes substantive scientific concepts and theories, methodological conceptions, and religious ideas.

#### *Substantive concepts and theories*

Tradition tends to perpetuate the familiar way of thinking about things. Once a theory is established, it is difficult to dislodge. Copernicus, considered the founder of modern astronomy, was savagely attacked by the astronomers of his time, who ignored his discoveries in favor of reality as they knew it. An example closer to our own time concerns Pasteur's discovery of fermentation as a biological process. Pasteur was contemptuously hooted down by scientists who had been taught that fermentation was chemical in nature.

#### *Methodological sources of resistance*

Whichever model has become established as a way of studying or interpreting phenomena will tend to be accepted over new ones. Subsequent chapters will demonstrate competing models in psychological inquiry. Now, however, it will suffice to mention a few examples from other disciplines. The discovery of the planet

Neptune was rejected by astronomers of the last century. Why? Because the discovery was made on the basis of mathematical calculations, which the astronomers of that period distrusted. (Today, in psychology, mathematical models are quite popular.) Principles of heredity, as worked out by the Austrian monk and botanist, Gregor Mendel, were ignored in 1865 because botanists of that era were anti-mathematical. When his work was finally rediscovered in 1900, 16 years after his death, botanists had become promathematical and praised his work highly. Other methodological sources of resistance may result from preferences for experimentation over naturalistic observation. The huge successes of the laboratory in physics and chemistry have made it a powerful model for those psychologists who tend to look disparagingly at the **clinician** or the social psychologist, working, as each must, outside the laboratory. Some scientists are antitheoretical, preferring to "do something" in the laboratory. In this connection it is interesting to point out the high status of the theoretical physicist, who may regard the laboratory worker as a mere technician and tester of his theories. Einstein was one of the elite theoreticians.

#### *Religious resistance of scientists*

Briefly, "all during the first half of the nineteenth century, resistance to discovery in geology persisted among scientists for religious reasons [p. 43]." The problem was not one of religion versus science but one of religion in science. Darwin's work was obviously resisted by organized religion, but several famous *scientists* opposed his theory of evolution on religious rather than on scientific grounds. Barber points out that physics and biology have accommodated themselves to religion fairly success-



fully. But “there is perhaps another story to be told for the resistance from religious ideas among scientists to discoveries in the social and psychological sciences [p. 43]. . . .” To Barber’s statement I would add that the conflict in the latter instance is inevitable because human data, in particular, are embedded in a matrix of religious, ethical, moral, political, economic, and philosophical variables.

### *Social sources of resistance*

*Resistance due to the relative standing of the discoverer* In addition to the commonly shared ideas that discourage innovation, there are sources of resistance that involve the interaction of scientist versus scientist. As in other human enterprises, some scientists belong to the Establishment. Prestige and power operate here as elsewhere. As Barber puts it: “. . . sometimes, when discoveries are made by those of lower standing in science, they are resisted by those of higher standing partly because of the authority that higher position provides [p. 43].” Barber relates an incident from the life of Thomas H. Huxley, who was once thwarted when he submitted an original and significant paper to a scientific journal. The editor of the journal in question was considered the authority in the field; therefore “the young upstart’s” ideas had no chance of publication. Mendel’s mistreatment was also partly due to his inferior position in the hierarchy of botanists.

*Resistance due to the prevailing pattern of specialization* Anyone from another field who attempts to contribute to a specialized field is likely to be treated as an outsider. When Helmholtz announced his theory of the conservation of energy,

it was resisted, partly at least, because, working as he did in physiology and anatomy, he was not considered a bona-fide physicist. The physicists resented the “young medical man [p. 45].” Conversely, medical specialists have a long history of resisting scientific innovations from “the outside.” Pasteur’s attempt to have his germ theory accepted was violently resisted by medical men of his time (Barber, p. 45).

*Scientific organizations may resist innovations in science* When someone joins a board of directors of a scientific organization or becomes an associate editor of a scientific journal, he attains a new status. He becomes a member of an “in” group. He may feel subtly pressured to protect established values and views against “outsiders.”

*Rival “schools” provide opposition to discovery* Barber quotes Huxley, who noted only 2 years before his death:

“Authorities,” “disciples,” and “schools” are the curse of science; and do more to interfere with the work of the scientific spirit than all its enemies [Barber, p. 46].

A contemporary example from the life sciences concerns the crisis precipitated by the quarrel between **molecular** versus **classical biology**. In psychology we shall encounter “**reductionists**” versus “**the hollow-organism**” theorists, clinicians versus behaviorists and Jungians. Sometimes schools tend to guard their reputations and prestige at the expense of their objectivity.

*Older scientists generally resist younger scientists* As they get older, scientists are more apt to attain positions of higher status, power, and prestige. As a consequence, they may be more liable to become in-