



**GLEITMAN**

**Psychology**

SECOND EDITION

# Psychology

Second Edition

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To three who taught me:

Edward Chace Tolman, to cherish intellectual passion

Hans Wallach, to recognize intellectual power

Lila Ruth Gleitman, to admire intellectual elegance

# Preface

This is a revised version of my book *Psychology*. One reason for the revision is the obvious fact that like any other science, psychology advances and develops and a text must necessarily keep pace with the field. Another reason is the response to colleagues and students who used the text and whose suggestions prompted a number of changes, including a separate section on development.

## THE OVERALL AIM: COHESION IN A DIVERSE FIELD

Before describing these changes, let me briefly review what has not changed: my original aims. In writing *Psychology*, I sought to present the field in all its diversity while yet conveying the sense in which it is a coherent intellectual enterprise. In pursuit of this goal, I did the following:

1. To present the different sub-areas of psychology, I organized the book around five main questions: How do humans (and where relevant, animals) act, how do they know, how do they interact, how do they develop, and how do they differ from each other?
2. To provide some intellectual cohesion, I considered each topic against the backdrop of one or two major ideas that could serve as an organizing and unifying framework. Thus the chapter on the biological bases of behavior opens with Descartes's conception of the organism as a machine, and the next chapter treats various aspects of motivated behavior as manifestations of negative feedback. To relate the material across chapters, I used several overarching themes. For example, the various chapters that deal with cognition (Sensory Processes, Perception,

Memory, Thinking, and Language) all involve variations on the twin controversies of nature versus nurture and psychological atomism versus organization.

3. In many cases, the attempt at integration required taking a step backward to look at psychology's intellectual history, for a number of the field's endeavors are hard to explain unless one points to the paths that led up to them. Why did Thorndike study cats in puzzle boxes? Why did his conclusions have such an important effect on American psychology? Why were they challenged by Köhler and Tolman? It still pays to take a serious look at the work of such pioneers before turning to the present. Much as a river's water is clearer when it is taken from its source, so issues which have become more and more complex as detail has piled upon detail become more plain and evident when traced back to their origin.

## GENERAL ORGANIZATION

The most obvious difference between this and the previous edition is the inclusion of an entire part on development. In the previous edition, I had concentrated on two complementary forms of explanation in psychology—one centering on mechanism, which tries to understand how something works; another focusing on function, which tries to explain what something is good for. By adding a developmental section, I now give greater emphasis to a third approach to explanation which asks how various psychological phenomena came into being. I had previously dealt with such developmental issues by considering them separately in the context of such topics as thinking, language, and personality. In the new edition, the developmental aspects of these areas are expanded and brought together under one intellectual roof.

Most other revisions are best described within an outline of the overall structure of the book. After an introductory chapter, the book is divided into five parts that reflect the perspectives from which most psychological phenomena can be regarded: Action, Cognition, Social Behavior, Development, and Individual Differences. In brief outline, they cover the following topics:

### Part I: Action

This part focuses on overt behavior and its physiological basis. It begins by considering the biological underpinnings of human and animal action, leading to a discussion of the nervous system and its operation (Chapter 2) and some phenomena of motivation (Chapter 3). It then asks how organisms can modify their behavior to adapt to new circumstances, a topic which leads to a discussion of classical and instrumental conditioning and modern behavior theory (Chapter 4).

In Chapter 2 (*Biological Bases of Behavior*), there is now a greater stress on neurotransmitter processes, including work on endorphins. The organization in Chapter 3 (*Motivation*) has been simplified and includes a discussion of some recent approaches to the study of obesity as well as a new section on food selection. Chapter 4 (*Learning*) now merges what were formerly two chapters on learning into one. In this new chapter, the organization has been simplified, with a greater



stress on more recent approaches (e.g., contingency) and applications of behavior theory in clinical settings (e.g., behavior therapy, behavioral medicine).

## **Part II: Cognition**

This part deals with knowledge and how it is gained and used. We begin by asking how the senses provide us with information about the world outside (Chapter 5), and how this information is organized and interpreted to lead to the perception of objects and events (Chapter 6). Further questions concern the way this knowledge is stored in memory and retrieved when needed (Chapter 7), the way it is organized through thinking (Chapter 8), and the way knowledge is communicated to others through the medium of language (Chapter 9).

Many of the changes in this part reflect a greater concern with recent information-processing approaches. In Chapter 5 (*Sensory Processes*) the organization has been simplified by eliminating a chapter appendix on signal-detection theory and incorporating its most important parts within the chapter. Chapter 6 (*Perception*) gives more prominence to the theories of James J. Gibson and now has a new section on perception as problem solving. Chapter 7 (*Memory*) covers a number of new approaches (e.g., encoding specificity, the workbench conception of short-term memory, memory reconstruction as exemplified by studies of hypnosis in the courtroom). Chapter 8 (*Thinking*) includes new material on spatial thinking, reasoning, and a discussion of some of Tversky and Kahneman's analyses of decision making. The material on cognitive development has been expanded and moved into the Development section. Chapter 9 (*Language*), written by Lila Gleitman and myself, has been simplified but is augmented by discussions of new approaches to the way language is processed by both speaker and listener. The material on language acquisition is now dealt with in the Development section.

## **Part III: Social Behavior**

This part concerns our interactions with others. It begins with a discussion of built-in social tendencies in humans and animals, a topic to which ethology and evolutionary theory have made major contributions (Chapter 10). It proceeds by considering the complex way in which adult humans interpret and cope with social situations, a subject which is the main concern of modern social psychology (Chapter 11). It then turns to the first influential attempt to understand how childhood affects human socialization by considering Freud and psychoanalytic concepts (Chapter 12), thus paving the way for the discussion of modern approaches to social development taken up in the new section on Development.

There have been several changes in this section. Chapter 10 (*The Biological Bases of Social Behavior*) includes an expanded section on biological altruism. In addition, most of the material on infant attachment has been moved to become part of the new Development section. Compared to its counterpart in the first edition, Chapter 11 (*Social Psychology*) has a greater coverage of such topics as attitudes and attitude change, attribution processes, attraction, and recent work on the nature of emotions.

## Part IV: Development

This entire section is new, though as already mentioned, many of its components were drawn from discussions formerly distributed through separate parts of the book. In writing this section, my aim was the same as that which prompted my work throughout the entire book: to find some intellectual cohesion in a sprawling field. Toward this end, Chapter 13 (*General Issues in Development*) sketches the historical background, outlines some conceptual issues that run through many of the subtopics of the field, and then tries to exemplify these issues by discussing physical and motor development. Chapter 14 (*Cognitive Development: Thought*) takes up the child's mental growth, beginning with the work of Jean Piaget, and then considering more recent and quite different approaches, including some influenced by Gibsonian perception theory, and some based on an information-processing analysis of cognition. Chapter 15 (*Cognitive Development: Language*), written by Lila Gleitman and myself, and takes up language development. Chapter 16 (*Social Development*) discusses social growth and development, considering such topics as attachment, theories of socialization, sex roles, moral development, and adult development.

## Part V: Individual Differences

This part begins with a chapter on mental testing in general and intelligence testing in particular (Chapter 17), and then turns to various issues in personality assessment (Chapter 18). It continues by looking at several varieties of psychopathology and asking how they arise (Chapter 19), and concludes by examining various methods of treatment and therapy (Chapter 20).

Chapter 17 (*Intelligence*) now includes a section on recent attempts to understand differences in intelligence-test performance in information-processing terms. Chapter 18 (*Personality*) includes a discussion of recent developments in the trait-situationism debate. Chapter 19 (*Psychopathology*) has been modified to reflect the new diagnostic taxonomy and nomenclature of DSM-III, and it describes some of the reasons that prompted the change from the old diagnostic manual.

## THE READER AND THE BOOK

It is sometimes said that students in the introductory course want to learn about things that are relevant to themselves and to their own lives. But why should this be a problem? When you come right down to it, there is something odd about the idea that psychology is *not* relevant to anyone's particular life history—specialist and nonspecialist alike. Psychology deals with the nature of human experience and behavior, about the hows and whys of what we do, think, and feel. Everyone has perceived, learned, remembered and forgotten, has been angry and afraid and been in love, has given in to group pressure and been independent. In short, everyone has experienced most of the phenomena that psychology tries to explain. This being so, psychology cannot fail to be relevant.

It surely is relevant, but its relevance has to be pointed out. I've tried to do so



by a liberal use of examples from ordinary experience and a frequent resort to metaphors of one kind or another, in the hope that in so doing I would show the direct relation of many psychological phenomena to the reader's own life.

In these attempts, the most important guide has been my own experience as a classroom teacher. There is little doubt that one of the best ways of learning something is to teach it, for in trying to explain to others, you first have to clarify it to yourself. This holds for the subject matter of every course I have ever taught, but most especially for the introductory course. Students in an advanced course will come at you with tough and searching questions; they want to know about the evidence that bears on a theory of, say, color vision or language acquisition, and about how that evidence was obtained. But students in an introductory course ask the toughest question of all. They ask why anyone would ever want to know about color vision (or language acquisition or whatever) in the first place. And they also ask what any one topic has to do with any other. They ask such questions because they—unlike the advanced students—have not as yet accepted the premises of the field. They wonder whether the emperor is really wearing clothes. As a result, they made me ask myself afresh what the field of psychology is all about—what the emperor's clothes are really like when you look at them more closely.

This book as well as its predecessor grew out of my attempts to answer such questions over the years in which I taught the introductory course, to answer them not only to satisfy the students but also to satisfy myself.

## SUPPLEMENTARY MATERIALS

To help serve the needs of students, instructors, and teaching assistants, several supplementary materials are available with this text.

### 1. *For the student:*

There is a complete *Study Guide* for students, prepared by two of my colleagues and collaborators, John Jonides of the University of Michigan and Paul Rozin of the University of Pennsylvania. This *Study Guide*, a revised version of the guide the same authors wrote for the first edition of *Psychology*, should prove very useful to students who want some help and guidance in mastering the material in the text. Moreover, for every chapter, it provides experiments and observational studies that the students can carry out on their own to get some first-hand experience with psychology's subject matter.

### 2. *For the instructor:*

There is an *Instructor's Manual*, prepared by Christine Massey and Hilary Schmidt of the University of Pennsylvania, Alan Silberberg of the American University, and myself, which offers specific suggestions for every textbook chapter, including discussion topics as well as demonstrations and experiments that are described in detail for easy classroom use. The manual also includes an annotated film and media guide prepared by James B. Maas of Cornell University.

John Jonides of the University of Michigan and I have prepared a *Test Item File* with the help of Susan Scanlon of Indiana University, Harvey Weingarten of

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McMaster University, and Tibor Palfi of Syracuse University, which includes questions for all chapters and the statistical appendix. This *Test Item File* is also available on computer tape. Among other features, the computer program allows the instructor to include his or her own questions.

# Acknowledgments

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H. G.

Merion, Pennsylvania  
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