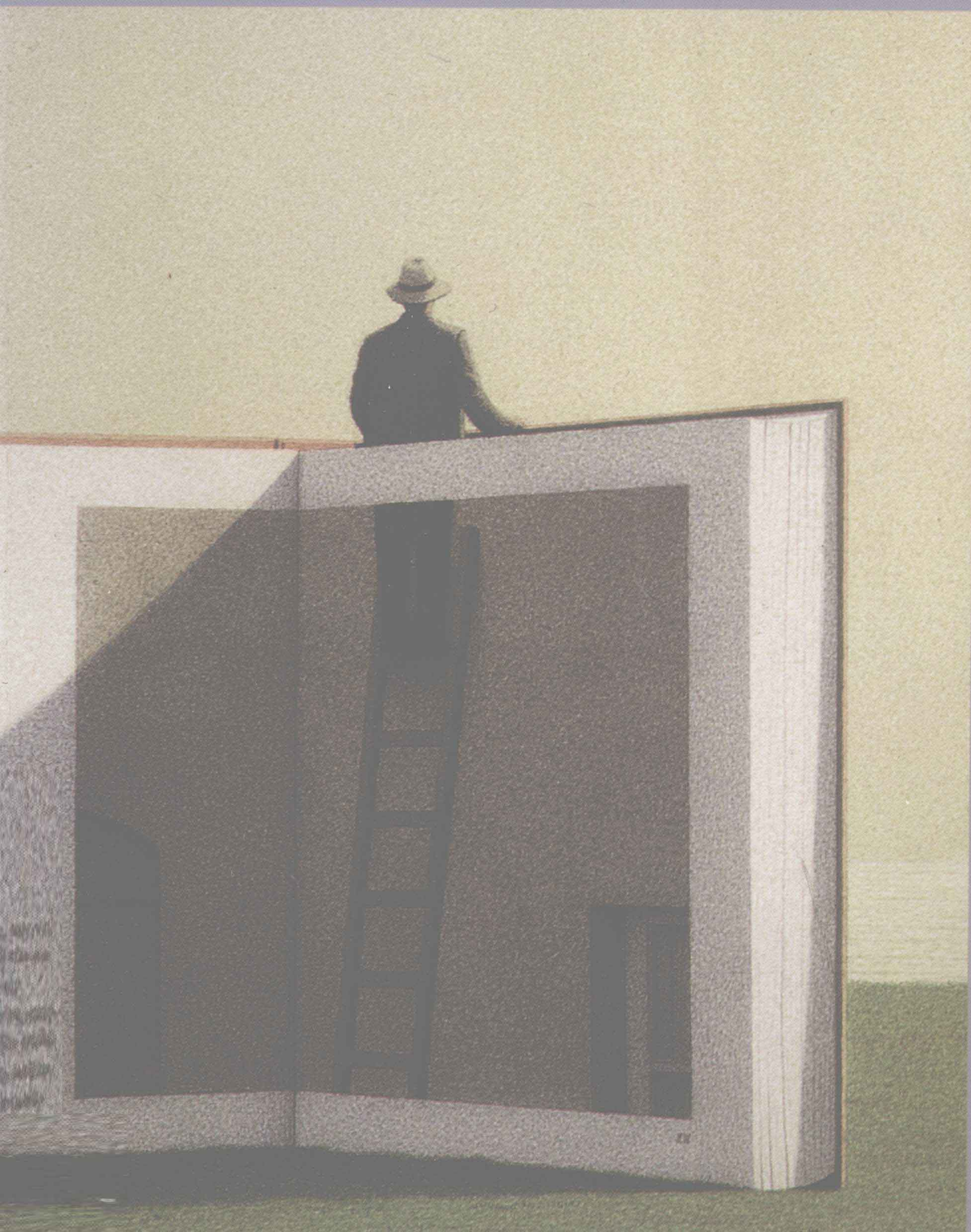
INTRODUCTION TO

PSYCHOLOGY

Larry Vandervert



DOING PSYCHOLOGY ON YOUR OWN

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PREFACE

Preparing to Understand and Use Your Psychology Textbook

What Is the Best Way to Learn About Psychology?

A New Emphasis in Introductory Psychology

Textbooks are starting points for much learning and thinking. Today psychologists know a great deal about how learning and thinking can be improved. What can psychology tell us about how to organize a textbook that would produce the greatest advancements in your knowledge?

We are beginning to understand that the human brain attempts to organize everything that comes its way into cognitive map-like representations of objects, relationships, and ideas.[1] The modeling process begins in a prehistoric part of the brain that helped creatures find their ways around in the world. This old part of the brain is called the *hippocampus,* and its mapping and modeling functions reach into the most advanced learning and thinking portions of the brain called the *cerebral cortex.* Figure 1 shows how the hippocampus reaches into the cerebral cortex of the brain.

In human beings, even the printed words you are now reading become organized in a model or map-like manner. Your brain does this because it is the most powerful way for it to learn and to think. A cognitive model or map integrates knowledge into a single, coherent, and complete picture. "Unconscious" cognitive processes also operate in this fashion. You will study evidence of both conscious and unconscious integrative processes in the chapters of this book.

[1]In all animals, including humans, the brain creates cognitive models of its surroundings in its complex neural networks. In the human cultural activity of science, as well as everyday activity, a variety of models with differing levels of complexity are involved in learning, thinking, and creativity. Children learn by playing with toys which are simple models of the things they represent. As we grow older we learn to think about complex relationships like the change of seasons through models of the earth's relationship to the sun. Brilliant scientists like Albert Einstein create symbolic mathematical models of the universe. It is our view that the quality of your learning, thinking, and creative work is dependent on the completeness and accuracy of the cognitive models you have acquired.

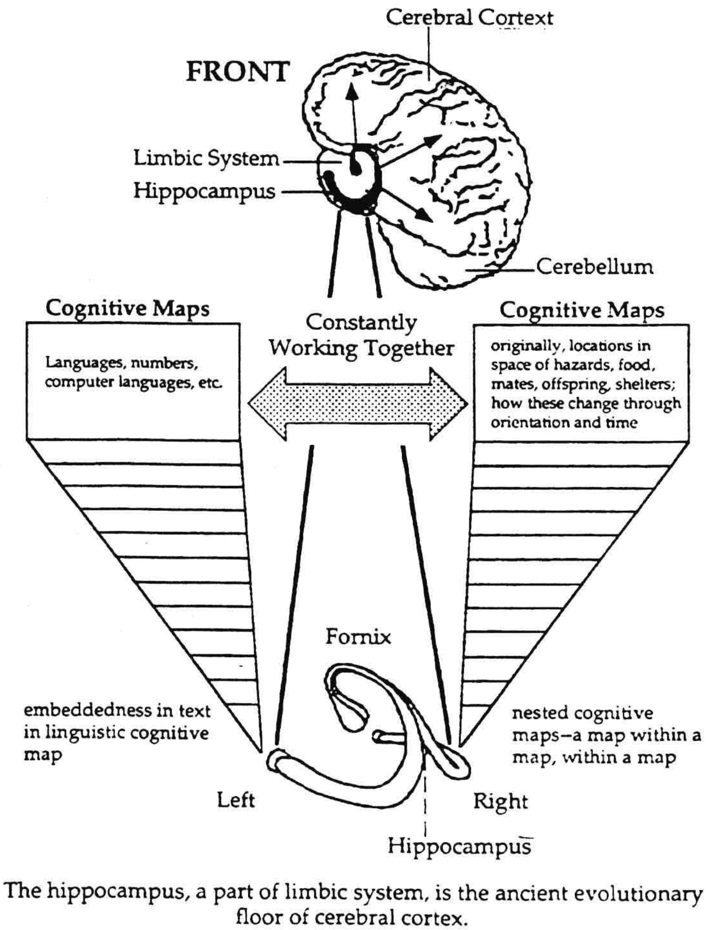

Figure 1 Your brain makes maps of everything you learn.

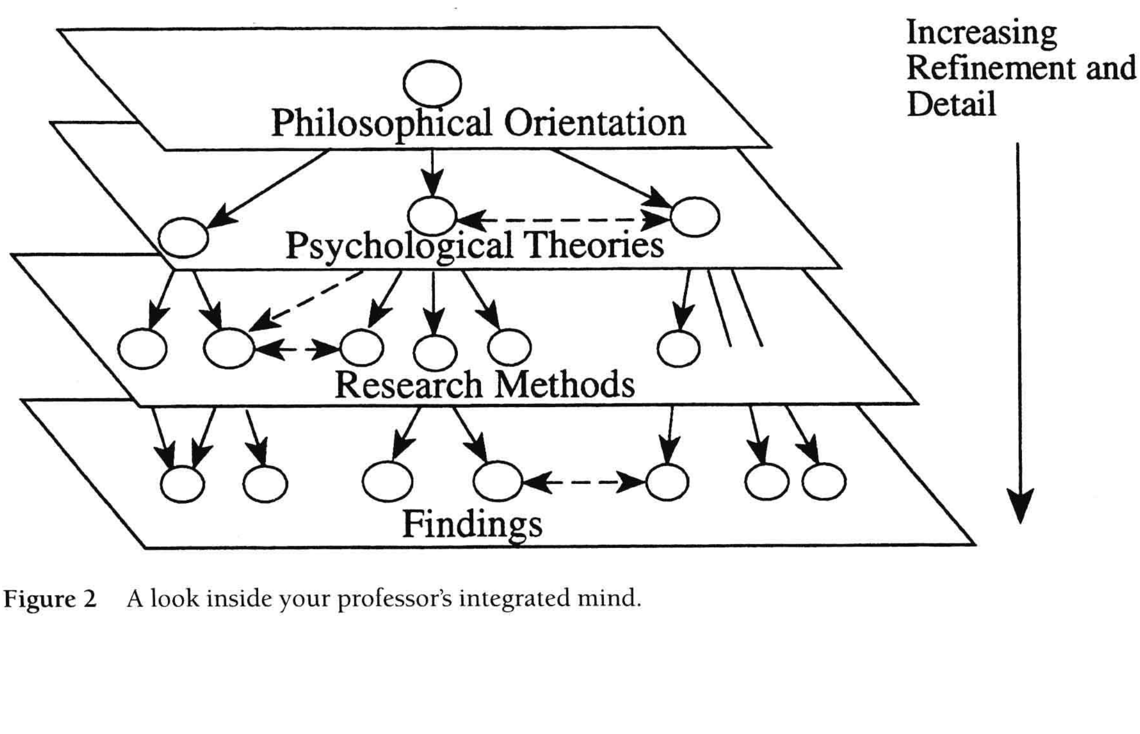

Figure 2 A look inside your professor's integrated mind.

Why Is Science So Powerful? The Maps of Psychology: Theories, Research Methods, and Data

It has often been pointed out that theories are like maps. Theories are explanatory frameworks very much like maps that provide powerful guidance to help us find our way while learning new ideas, and guiding our thinking about complex topics. For example, Sigmund Freud's theory about dreams and the unconscious mind provides an integrative picture that helps us make sense of the fascinating "territory" of our dreams.

Psychological researchers who study how knowledge becomes organized by the brain have discovered that "experts" like your psychology professor have acquired a framework of knowledge that is different from that of students. Figure 2 illustrates in a simple way how the theories of psychology are part of a large, interrelated system of knowledge that consists of clear relationships among four levels of ideas, procedures, and findings.

The four levels of knowledge are like four maps stacked on top of one another with each lower one having increased detail. Your professor is an expert who has clear, well-organized models and map-like understandings of the many theories in psychology and their related methods and data.

On the other hand, because of traditional testing procedures, beginning students of psychology tend to acquire only *unrelated* collections of what are called "routes." A **route** is a fixed, inflexible way of getting from one place to another. In the case of learning and thinking, a route is a fixed, inflexible way of solving problems—*especially in solving new problems never before encountered.* (Psychologists and teachers often call the ability to solve new kinds of problems "critical thinking.") While the brain organizes even routes into mini-map structures, they are fragmented and usually unrelated to one another. They therefore are of limited use and can lead to a great deal of confusion. For example, let's say you're in the city of New York for the first time, and you ask a passerby how to get to the Empire State building. You are given the following route:

Go down this street until you get to the fourth traffic light. Then take a left and go until you come to the cathedral; take a right and go about a mile.

What happens if you forget *any* portion of the route? What happens if you encounter road construction halfway along the way that detours you off in the opposite direction? You'll probably become lost all over again! Have you ever felt that way during an exam? While routes like the one described above are useful in special, limited situations that occur on the spur-of-the-moment, they are very inefficient for learning and thinking **critically** about any **new** situation or any **overall** situation.[2] How many routes could be described for the entire city of New York? Zillions! However, if you had a single, one-page map (or, perhaps, an architectural model) of the city, it would show you all of the possible routes at a glance—you need never get lost no matter what might happen. Are you beginning to get the picture?

How Can You Learn to Think Like a Scientist? Psychology: An Integrative Introduction

Taking all of the foregoing ideas into consideration, I have organized the chapters of this textbook in a new way. Each of the chapters is organized in an integrative fashion—much like you saw illustrated in Figure 2. As you learn and think about psychology, you will learn to organize its ideas and applications in a similar integrative fashion. You will be learning to **think** like a scientist while you are learning science. You will **not** be asked simply to memorize a bunch of easily forgotten, nearly meaningless, and unrelated facts (routes) about psychology.

[2]In many college exams students are tested in terms of routes they have learned. Nearly all multiple-choice, true/false, and essay exams require students to learn and memorize mostly unrelated routes of knowledge. This situation is unfortunate because it actually tends to move the students away from the professor's map-like organization of knowledge that has been formed on the basis of many years of education and experience.

At the same time each of the chapters is organized so that it is very compatible with the time-honored SQ3R study method. You may be familiar with this powerful approach to study. The SQ3R study method is quite similar to the organization of scientific knowledge that you see depicted in Figure 2. It encourages you to develop map-like cognitive models in whatever you study. In fact, this is why the SQ3R method works so well. In many ways it is nearly as powerful a method as scientific method itself.

How Does SQ3R Help You Develop Cognitive Models of Psychology?

Briefly, SQ3R means that study should **always** start with a **S**urvey of the material at hand. This is the way a scientist begins study. Then **Q**uestions about the material are posed. An easy way to generate questions is to simply turn the chapter headings into questions. Headings can be turned into questions either by you or by the textbook. Sometimes it is helpful to have textbook authors pose the questions, because they know exactly what they want you to learn and can choose the appropriate questions carefully. Scientists, too, ask questions to be answered, and they are guided in their choice of questions mostly by their theories. ***R***eading, then becomes an ***active search*** for answers. In science, too, reading and researching is a constant search for answers and connections. ***R***eciting is a time for self-assessment on the section of the chapter you have just completed. It is ***not*** a time for regurgitating the text as it is written. Reciting is an opportunity for you to formulate and mull over in your own terms what you have learned. Put ideas into your own words, think of everyday examples that are familiar to you, and draw diagrams or pictures to show how subpoints are related. Recitation, although scientists don't call it by that name, is critical in science.[3] It is the time when the scientist reflects on what has been learned, and implications and connections are sought. ***R***eview is the time to bring it all together in a bird's-eye view. In addition to reviewing everything from the steps above, this is the time to seek a sense of the overall organization of the chapter.

Larry Vandervert
September, 1999

[3]After extensive reading scientists mull over and reflect on what they have been studying and learning. This helps organize new material with what they already know. It is a critical period for the scientist, because it often leads to discovery and invention.

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