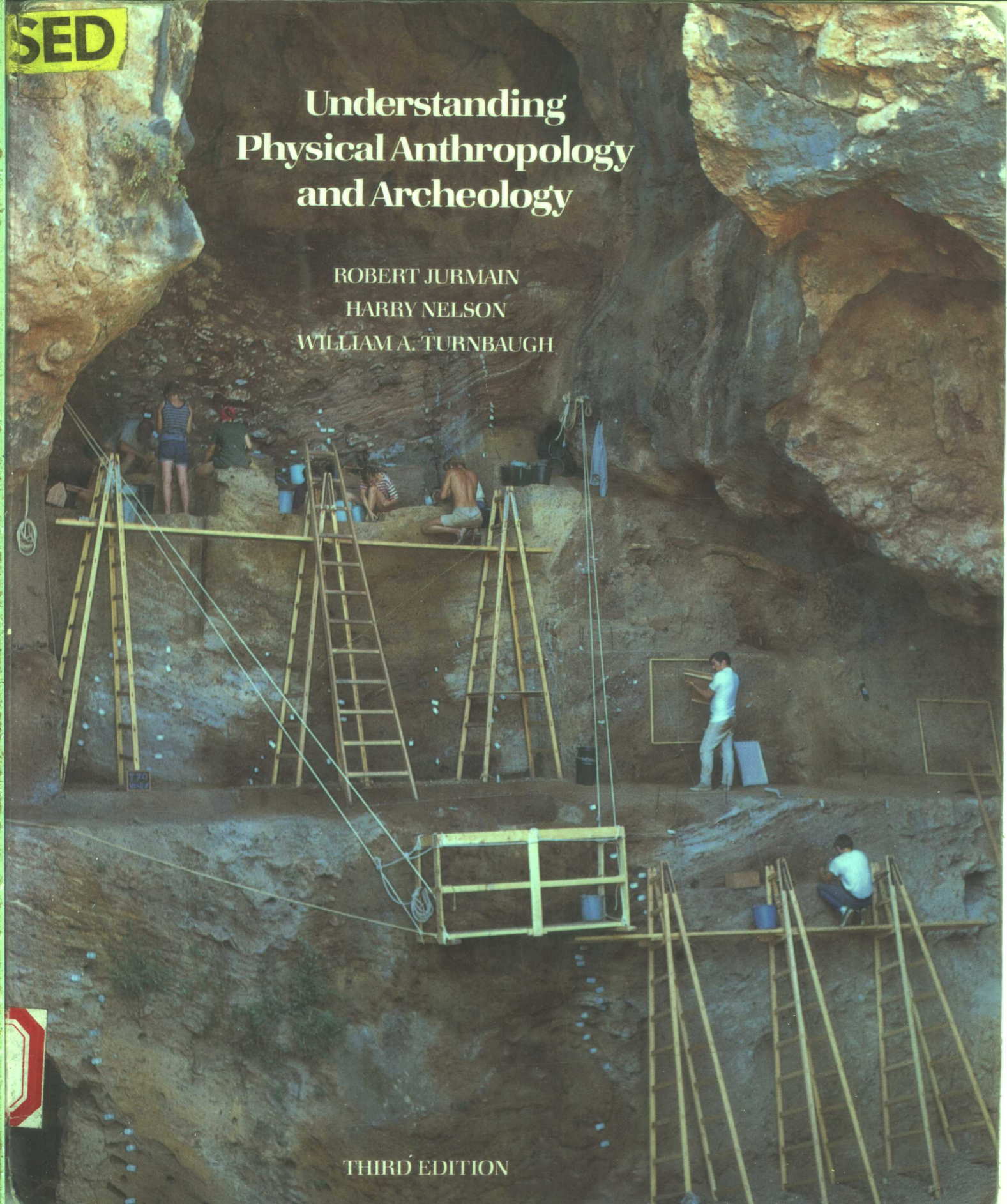


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# Understanding Physical Anthropology and Archeology

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THIRD EDITION

◇ THIRD EDITION

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# **Understanding Physical Anthropology and Archeology**

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## ◇ PREFACE

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Because physical anthropology and archeology are so closely interrelated, many instructors—rather than teach these subjects in two separate courses—prefer to teach a single course in human physical and behavioral evolution from this combined point of view. This textbook is intended to serve that purpose.

The text begins with physical anthropology, covering the topics of evolution, genetics, and primates. Since human evolution is best understood within the context of both organic and cultural evolution, archeology and paleoanthropology are integrated with materials on fossil hominids.

The study of human origins is a rapidly unfolding and often exciting pursuit. Since the second edition of this book was published (1984), new discoveries have come to light, especially in Africa. These new finds, and their resulting interpretations and controversies, are thus discussed at some length in this edition. Further discoveries will, no doubt, be made in the next few years. We hope the background students gain from this text, and the course of which it is a part, will enable them to better understand these finds.

In the first six chapters students are introduced to the discipline of anthropology, the biological basis of evolution, and a chronological overview of the evolutionary record. This material is followed by three chapters on primates, including living primates, primates as possible models of human behavior, and primate evolution.

Chapters 10 through 17 deal with the events of hominid evolution and the development and growth of culture. Paleoanthropological and archeological methods are discussed in Chapter 10. Chapters 11, 12, and 13 are devoted to early fossil and archeological finds and their interpretations (that is, Plio-Pleistocene material from Africa).

*H. erectus* and *H. sapiens* are discussed in similar fashion—both biologically and culturally. Archeological sites as well as fossil hominid sites are included in Chapters 14 and 15.

With the appearance of anatomically modern human beings, the growth of culture becomes the major topic of the next two chapters. In Chapter 16 the origins of domestication and urbanism in the Old World are discussed and, likewise, New World prehistory is presented in Chapter 17. The last chapter—the conclusion—briefly presents an interpretation and summary of human physical and cultural evolution.

We have aimed our textbook mainly at those students with little background in the biological or physical sciences. We have, therefore, restricted use of technical and professional jargon. When such terms become necessary, a running glossary in the margin of the text (in addition to the alphabetical glossary at the back of the book) defines unfamiliar terms. Also, we have made a definite effort to maintain a writing style that is completely comprehensible and not at all condescending to beginning students.

To help understand the more complex concepts and events, an abundance of diagrams, line drawings, charts, maps, and photographs have been added. Today's students are accustomed to visual presentations, and this kind of material is indeed helpful in grasping new facts and concepts.

As a further study aid incorporated into this edition, we have divided those materials enclosed in boxes: In boxes that are tinted blue are topical subjects placed there for general interest; in untinted boxes are included materials we consider more central to physical anthropology and archeology.

The authors wish to express their appreciation to Clyde Perlee, our editor at West Publishing Company; Janet Bollow, the text designer; Stuart Kenter for copy editing; Wayne Fogle, John Yellen, Milford Wolpoff and Loring Brace for assistance with photographs; and to Lynn Kilgore and Sandy Nelson for help with proofing and indexing. And, finally, to all our students who have helped us see physical anthropology and archeology through their eyes.

Robert Jurmain  
Harry Nelson  
William Turnbaugh

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**Introduction**

## ◇ ISSUE Fact, Fantasy, and Anthropology

At the beginning of each chapter throughout this book you will find brief discussions of an assortment of contemporary issues. Some of these—for example, the existence and implications of such phenomena as Bigfoot, extraterrestrials, and frozen Neandertals—may seem too bizarre to be discussed in a scholarly textbook. However, scientists and scholars cannot make these issues disappear by ignoring them. Some-

one in the scientific community must deal with them, hopefully in a rational way. This task often falls to the physical anthropologist.

Since the public is concerned about these topics, we shall address them. You may not always agree with our conclusions (you may notice, by the way, that our own personal biases occasionally emerge), but to induce you to agree or disagree with us is not the point. What you should

do, is think seriously and rationally about these issues. In light of all the bizarre and ridiculous claims floating around today in pseudoscientific guise, you will do best by adopting the cautious "show me" approach attributed to inhabitants of Missouri. Without hard evidence no distinction may be made among fiction, fantasy, and fact. Judge for yourself!



## ◇ CHAPTER ONE

### ◇ What Is Anthropology?

**Anthropology** is the study of human beings. As a scientific discipline, anthropology is concerned with all aspects of humankind: social behavior, language, attitudes, values, personality, government, kinship, history, prehistory, art, illness, healing, religion, economics, technology, and clothing, to name just a few. Furthermore, anthropology is concerned with such biological aspects of humans as body build, pigmentation, blood types and other biochemical traits, our ancestry and ancestors, and the evolutionary processes involved in our physical development.

Anthropology, therefore, is a **holistic** science, with the entire gamut of humankind as the focus of study. Other disciplines that deal with people—sociology, psychology, economics, political science, history, and others—tend to specialize in single aspects of human activity. Economists, for example, study the production, distribution, and consumption of goods; the market system; and systems of exchange; but they would rarely consider the effect of religion or kinship on the economic system. Anthropology, however, takes a broader, holistic approach and considers the findings of all academic fields pertaining to humans; in fact, anything associated with humankind is considered within the scope of our discipline.

The division of anthropology into two\* broad categories—cultural and physical—illustrates its breadth. Cultural anthropology, often divided into *sociocultural anthropology*, *archeology*, and *linguistics*, is involved with the culture of peoples, both past and present. The sociocultural anthropologist concentrates on the culture of existing peoples, traditionally focusing on the less technologically complex societies of the world. Studying, say, the Yurok, a California Indian society, the sociocultural anthropologist would not restrict investigation to clothing, food, and religious practices, but would include the entire range of Yurok behavior.

An archeologist would be concerned with the same society through attempting to reconstruct its ancient culture. By studying the artifacts obtained by excavation, the archeologist could learn the kinds of food the Yurok once gathered, hunted, and ate; what kinds of tools and weapons they made and used; what sort of housing they had erected and clothing they had worn; how they disposed of the dead and, perhaps, their attitudes toward death; what goods they traded with neighbors, etc. The archeologist would, in a sense, do what the sociocultural anthropologist does, but data would come mainly from artifacts rather than from informants and actual observation of the people.

As a focus of culture, the linguist would take the description and history of language. Anthropological linguistics is considered a part of cultural anthropology because language is such an integral part of culture. Language is

#### **Anthropology**

anthropos: man  
logos: science or study of

#### **Holism**

Viewing the whole in terms of an integrated system; cultural and ecological systems as wholes.

#### **Archeology**

(ar-kee-ol'-o-jee)

arche: beginning, ancient  
logos: discourse, science or study of  
The study of material things (artifacts) of past human life and activities; reconstruction of culture of peoples no longer in existence.

#### **Culture**

The set of rules, standards, and norms shared by members of a human society; transmitted by learning, and responsible for the behavior of those members. The human adaptive strategy for survival.

#### **Artifact**

artis: art  
fact: make  
Any object made or modified by humans.

\*Anthropology is sometimes divided into four branches: physical anthropology, cultural anthropology, archeology, and linguistics.