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ABSTRACT

GRADES OR AGES: High School. SUBJECT MATTER: Anthropology. ORGANIZATION AND PHYSICAL APPEARANCE: The guide covers three units: 1) "The Study of Man"; 2) "Introduction to Physical Anthropology," including the process of evolution, descent and change in time, chronology of events, dawn of man, fossil man, race, and definitions of race; and 3) "Cultural Anthropology"--Asia, Africa, Polynesia, and Latin America. The guide is lithographed and spiral bound with a soft cover. OBJECTIVES AND ACTIVITIES: General objectives are set out at the beginning of the guide; detailed objectives and activities are listed for the activities in each unit. Included in the guide are reprints of articles, worksheets, transparency masters, charts and tables, and bibliographies. There is also a listing of the information services and embassies in the United States of members of the United Nations. STUDENT ASSESSMENT: None. (MBM)

A program for high school social studies

ANTHROPOLOGY

Bloomington Public Schools

Bloomington, Minnesota

1970

BLOOMINGTON PUBLIC SCHOOLS
INDEPENDENT SCHOOL DISTRICT NO. 271
BLOOMINGTON, MINNESOTA

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TABLE OF CONTENTS

INTRODUCTION

"The nature of men is always the same; it is their habits that separate them"

--Confucius

Each person is unique and yet, at the same time, similar to all other human beings. Man stands at a set of crossroads--one road leading back into his past, the other road connecting him with his contemporaries. Individuals tend to be more like those people who live within their own culture, and until recently it didn't matter if understanding and knowledge of others stopped at national boundaries. In today's world, however, for a multitude of reasons, it is extremely dangerous for this limited knowledge to exist. Ignorance of others tends to perpetuate ignorance of self; the search for understanding of others will lead to an understanding of self. By looking into the "windows of the world," to look at other cultures, our own reflection will be seen and, therefore our own culture will be better understood.

As Montaigne once wrote: "Nothing is so firmly believed as what is least known." It is the purpose of this course to "inform' and to "enlighten" so that we may "know ourselves".

General Postulates of Anthropology: (Pertti J. Pelto. The Study of Anthropology)

1. Culture is a total life way, not just a superficial set of customs. It largely shapes how man feels, behaves, and perceives as he adapts to his world.

2. Every cultural system is an interconnected series of ideas and patterns for behavior in which changes in one aspect generally lead to change in other segments of the system.

3. Every human cultural system is logical and coherent in its own terms, given the basic assumptions and knowledge available to the given community.

4. The customs and beliefs of peoples are often made more understandable by studying them in terms of the social interrelations among types of individual and group statuses and roles in social action.

5. The customs and beliefs of peoples are often made more understandable if we examine them from a combined psychological and cultural perspective.

6. Analysis of the implications of cultural behavior must take into account the explicit beliefs and intentions of the people involved; but analysis must also be made of the unnoticed, unintended, further consequences of particular acts and beliefs.

7. Study of practically any behaviors and beliefs among primitive peoples, no matter how unusual, is of direct relevance to understanding our own complex culture, for it appears that humans everywhere shape their beliefs and behavior in response to the same fundamental human problems.

8. Explanation of human behavior is essentially one-sided and incomplete unless information about man's biological, cultural, social, and psychological characteristics is taken into account, together with information about man's biophysical environment.

9. Although the peoples of the world may be roughly divided into different "races", or major groups, based on physical characteristics, there are no pure races, and probably never have been.

10. There is no undisputed evidence of significant differences in ability or intelligence among major racial groupings of the world.

11. Contrary to beliefs still widely held, individuals who are the products of racial "mixing" or inter-breeding, are frequently superior to their "pure-blooded" parents in strength, stature, and other characteristics.

12. Anthropologists have discovered no human biological characteristics that are unaffected by life experiences and environmental conditions. Conversely, no human characteristics of thought or action can be regarded as unaffected by genetically inherited biological factors.

13. Practically all the significant differences in behavior among human populations are understandable as learned cultural patterns rather than biologically inherited characteristics.

ANTHROPOLOGY

Anthropology is the study of man as a cultured animal, and the main concern of the discipline is the study of man's physiology, psychology, and environment. Anthropology has traditionally been divided into two broad areas--diachronic (historical) and synchronic (ethnographic). The course will follow these two areas with the emphasis being on the latter. It will begin with a review and study of human biological and cultural evolution with the end result hopefully being the assimilation of knowledge into a basic understanding of these processes as are reflected in the similarities and differences of man today. Because the personalities of all men are determined by heredity, environment, and culture, the anthropologist concerns himself with the repetitive processes in man's behavior and in the arrangement of these elements into patterns broadly classified as culture.

Objectives:

1. To examine the scope, methods and interests of physical and cultural anthropology.

2. To examine Man and Nature--the origins of life, precursors of and evolution of men, and the races of men. To provide a broad concept of human evolution and to establish an understanding and appreciation of the process of biological and cultural evolution.

3. To examine and catalogue a few of the divergent ways of living found among representative peoples around the world to obtain a better understanding of different cultures, and to gain a better understanding of man--his origins, development and social groupings within which he cooperates with others.

4. To obtain a workable knowledge of the theoretical frames of reference that anthropologists use in their attempt to explain human behavior.

5. To obtain a better understanding of man by becoming familiar with the adaptations man has made in different social and physical environments, and to obtain a deeper insight into the roots of cultural and racial prejudice, and to provide the student with a degree of relativity that will enable him to see through the barriers of prejudice which man has used to protect himself.

6. To deal with the cultures of other peoples not as quaint curiosities for our amusement, but as groups who have successfully adapted to their respective environments.

7. The end result should hopefully be <u>not</u> how much the student has learned about man in representative groups, but how much and more closely he feels related to the idea of the brotherhood of man.

Explanation of Limits and Definition of Terms

1. The investigation of prehistoric man ends with the urban revolution and invention of writing on the assumption that interested students will pursue this area by taking an elected course in World History.

Anthropology is the science of human similarities and differences.

2. Physical Anthropology -- a study of man as a Primate and his biological evolution; comparative study of man through evolution to *Homo sapiens*.

3. Cultural Anthropology -- the study of man in a cultural aspect- or the study of socially learned patterns of behavior.

4. The purpose of anthropology is to make people understand better what they are by:

   A. Investigating what they are not
   B. Investigating what they are
   C. Investigating what they use to be

All works with * before it are found in Jennings and Hoebel's, Readings in Anthropology, 2nd Edition, McGraw-Hill.

UNIT I THE STUDY OF MAN - INTRODUCTION TO ANTHROPOLOGY

This unit introduces the student to the two major branches of anthropology and the related fields that anthropologists rely on in their study of man. The interdisciplinary aspects of anthropology are, therefore, emphasized in the beginning (#1). This unit then expands into a discussion of the concept of culture (#2), and is followed by the introduction and definition of anthropological terms and concepts which will be used during the remainder of the course (#3).

Objectives	Activities	Resources
To introduce the student to anthropology.	Have discussion groups analyze the "culture" of the U.S. and compare it to other countries that they might be familiar with. Hopefully the student will realize that there is no one definite definition of cultural.	Salzmann, Anthropology, Chapters 1-3 Scudder, Thayer, "Environment and a Culture," Natural History, Vol. LXIX, No. 4 (April, 1960), pp. 6-17
Be able to use (rather than define or memorize) these words: Anthropology --Physical --Cultural Linguistics Archaeology Ethnology Culture Behavior Ethnocentric	Geographical and climatic features do not determine culture, but they might significantly limit the choice. Using atlases have the students try to predict the limitations. Introduces the skill of inference. Be familiar with terms and questions at end of each chapter in Salzmann.	Films Brown, Ina Corine, Understanding Other Cultures
To familiarize the student with the early anthropologists and the establishment of anthropology as a discipline.	Individual reports and/or by groups.	Kordines, Abraham and Preble, Edward, They Studied Man, Mentor, 1963

WHAT DO ANTHROPOLOGISTS DO?

by Sol Tax

It has been said that anthropology is what anthropologists do, and that anthropologists do what they please. While this may seem somewhat facetious, it does reflect some truth about the nature of the field. Anthropology seeks to reach insights into the nature of man that cannot be reached through other disciplines that study him. Therefore, anything related to man--including monkeys--is fair game for anthropologists.

How is anthropology different from other disciplines? There are at least two ways that a discipline can reach new insights. One is to study *material* not studied by other disciplines. Like every discipline, anthropology has always done this. But instead of finding a space between two others--as in the case of biochemistry--it skirts the edges of many. Since anthropology chooses the subject of mankind as a whole--including man biologically, socially, and culturally at all times everywhere--it appears to some as an academic garbage can which picks up odds and ends that other people do not want to study.

The other way to reach new insights is to study the material of other disciplines from a different point of view. Thus anthropologists may study the same material as geneticists, paleontologists, sociologists, or psychologists. But because they have a different frame of reference, they may arrive at useful new conclusions. Whether by chewing at the edges of other disciplines, or studying old material in a new frame of reference, or both, anthropologists have developed a substantial new body of knowledge.

What is the substantive content of anthropology? Let us take a closer look at some areas that anthropologists find relevant to the study of man. Because man is the only animal with language, the study of speech and of languages is important to understanding what man is and how (evolutionally speaking) he got where he is. Since communication through language is essential to the maintenance of society and to the transmission of ideas from one generation to the next, the study of language is indeed central to the entire study of man.

Although chimpanzees and other animals may fashion and use very simple tools, man is uniquely a technologist. Studying man's tools is central to anthropology; but so is the study of art, games, music, dance, literature, and all other products of human invention.

Whether thought of as cultural inventions or social necessities, the variety of social relationships lies at the heart of anthropology. Tribes, chiefs, war, clans, classes, the family; the cycle of ritual with birth, puberty, marriage, and death are a few examples of such social relationships.

History is always anthropology. History and anthropology seek to investigate many of the same questions. When did man start wearing clothing and why? When and how did man drift into the Americas? Were the ancient civilizations developed independently in the Near East, the Far East, and

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in America? How has the function of religion changed in the last 7,000 years? Since the answers to many of these questions can be found in what man put down as he recorded his own history, studying history can also be studying anthropology.

Of course, psychology can help the anthropologists explain some of the behavior of man. Anthropologists as well as psychologists must ask how peoples differ and why--in their perceptions, their personalities, and the character of their cultures.

What are the different interests of anthropologists? "Anthropology studies a wide variety of topics; but, of course, anthropologists themselves are all specialized. Because they are specialized within a widely diversified field, they are generally very different from one another.

Anthropologists can be classified roughly into four major interest areas: physical anthropology, prehistoric archeology, cultural or social anthropology, and linguistics are the names most commonly employed.

Archeologists, linguists, and physical anthropologists often find their problems in far-off lands. However, it is more than just a matter of interest that has led the cultural anthropologist to study cultures other than his own. Cultural anthropologists must study cultures other than their own in order to insure their own scientific objectivity. Thus today, English, American, Japanese, and Indian anthropologists, among others, study one another's national character through field work in small communities and the evidences of their literary traditions.

Who employs anthropologists? Who is it that pays anthropologists to dig up fossil men or to study the music of American Indians? Universities are the largest employers of anthropologists. In the universities anthropologists teach and do research, with the research supported by grants from the government (in most countries) and private foundations (in some). Museums and research institutes are the second largest employers of anthropologists. In museums, anthropologists curate the collections, prepare the exhibits, and usually devote more time to research than is possible for university teachers.

Some anthropologists work as advisers to government (or to business or industry); but anthropology is almost wholly a scholarly profession. Universities and research institutes are themselves supported by governments (in some countries entirely); but unless they are actually working for a department of government administration, anthropologists tend to be free agents responsible in their research only to the academic community.

How are anthropologists alike? I have been using the word anthropology in its inclusive sense. In Northern and Eastern Europe, the word refers specifically to the biological aspects of the study of man. Ethnology and ethnography, philosophy and linguistics, archeology and prehistory are treated as separate disciplines. In most of the English-, French-, Spanish-, Portuguese-, and Italian-speaking countries--and in Asia and Africa generally--the prehistorians, ethnologists, linguists, and human biologists call themselves, and feel some kinship as, anthropologists.

This feeling of kinship dates back to at least 1839 when there was formed in Paris a society of scholars from many disciplines for the explicit purpose of gaining together an understanding of all aspects of man. The movement spread rapidly to London, New York, Moscow, and other capitals, so that soon there was a self-conscious international community whose goals and values separated it from any of the component disciplines from which its members had come (or to which they were still also attached). The anthropologists of today are those individuals who still maintain the spirit of this society and who communicate with the other individuals throughout the world who also are involved in its aims.

Anthropologists, wishing thus to construct a picture of the whole of man, cannot think of man as here and now: "here" is to be compared with a world of "theres," and "now" is the effect of complete history. Anthropologists cannot study man without considering both his biological limitations and capacities and the way these are qualified by his cultural environment. This was the new frame of reference that led to the unusual openness to all sources of knowledge that is characteristic of anthropology. In this especially, anthropology is unique.

Academic disciplines jealously guard their subject matters. Special languages develop strong boundaries, and intercommunications between related disciplines are often severely limited. The original anthropologists were people who were willing to cross these boundaries for a common purpose. Anyone who shared that purpose could be an anthropologist. Since this is still true, many anthropologists are also (for example) geneticists, geologists, anatomists, sociologists, psychologists, or musicologists who work with colleagues in their special disciplines, but are different from these colleagues because they also communicate with the main body of anthropologists and with the diverse specialists who share their interest in the broader study. These "dualists" serve the purpose of anthropology particularly well, bringing to it from related disciplines the newest relevant knowledge.

Anthropology is general, but anthropologists are all specialists; the generality is the product of their continuing intercommunication in an organic and changing network. Necessary to this result is the interest of anthropologists in other anthropologists. They are self-selected for mutual interest, since each is always free to retreat into his specialty alone.

By selection of profession also, anthropologists tend to be people who are interested in people. Since anthropology emphasizes the wholeness of man, this interest cannot be just remote and analytical. One who is interested in people is likely also to be interested in their welfare. Thus, it is not surprising that anthropologists tend to become involved in social issues, especially those which relate to native peoples. In fact, the first anthropologists' society was formed through the efforts of an English "Society for the Protection of Aborigines."

However, an anthropologist can also defeat his purpose by becoming too involved with people. There is the extreme case of the young anthropologist who becomes so immersed in the culture of the group he studies that he becomes a member of the tribe, no longer able--or perhaps willing--to contribute what he learns to the common pool of anthropological information.

The more general experience is only a loss of objectivity which threatens the usefulness of his data unless he has the benefit of continuing contact with other anthropologists. The anthropologist is left straddling a strange fence. He must become involved enough with the people he studies so that he can be sure that he understands them, but not so much that he cannot. Anthropologists must be both scientists and humanists, and yet neither completely scientists nor humanists.

Because of the diversity in the subject matter, anthropologists are people who have a high tolerance for a variety of tools and subjects. And even then, if they are to encompass all of their subject matter at once, they must be able to live with some ambiguity in their conclusions. It is simply impossible to look at all the minute details and to perceive the scope of the whole at the same time.

Like all disciplines, anthropology has its jargon. However, this jargon is not so "tight" in most anthropology as it is in many other disciplines. This looseness, or ambiguity, makes for openness; but it also makes anthropology perhaps less of a science. While cumulative or systematic progress in the field is thus slowed, fatal intellectual blood clots are kept from clogging the interdisciplinary flow.

How do anthropologists work? Almost every anthropologist, however general his interests, usually--when he is engaged in a research--works on a particular problem. The method he uses to arrive at a solution depends upon the topic of research he chooses. Sometimes the anthropologist works in the laboratory or the library. More characteristically he works in the field.

The original anthropologists, exploring a distant territory to which a scientist might not soon return, did a very diversified kind of research. They made physical observations and measurements of the people, recorded the language, and studied all aspects of material and non-material culture.

Even now in places where people, cultures, and languages are rapidly changing or disappearing (due to so-called "modernization") anthropologists hurriedly salvage as much data from the area as possible. But most research now is oriented to very specific problems within human biology, prehistory, ethnography, or linguistics, or bridges two or three of these.

When the anthropologist goes to the field, he brings with him the generalized type of knowledge characteristic of his discipline. As quickly as possible, he appraises the whole culture in which his problem is set, then begins to test particular hypotheses for which the field situation is especially suited. A "field season" lasts anywhere from three months to two years and the anthropologist tends to return again and again to his people, and to maintain contact between field trips through correspondence.

The anthropologist in the field must apply the knowledge of any of the disciplines--geology, botany, medicine, psychology, and any others that become relevant.

No matter what his problem, an anthropologist needs mainly to learn from people; so the anthropologist's main concern in field work is developing

rapport with a community of complete strangers of an alien culture, who have no interest in being disturbed for a purpose not their own, or even within their understanding. If the anthropologist is wise, he accepts the role of the ignorant person he is, and enlists the interest that the parent or the teacher has in the innocent child excited to learn.

Since the outsiders previously encountered by the community were probably less educated and more arrogant, the anthropologist may be a refreshing change. Whether administrators, teachers, employers, business people, or even missionaries, these outsiders usually have tried to get the local people to do or be what they do not wish. The anthropologist, however, respects them, learns from them, and puts his knowledge of the outside world at their disposal. The anthropologist makes his way in a strange culture, not by "tricks of the trade" but by falling into some slot where both he and the natives are comfortable. His "slot" might be in a small social circle, but it is genuine.

It is both harder and easier to study a human group than, say, a troop of baboons; but the general principle is the same. The successful anthropologist hopes to do as well as Dr. Phyllis Jay, who made her way into the social life of a band of monkeys in India, and wound up second from the bottom in the group's pecking order.

The romance of field work, however, is only the visible part of the iceberg; the other eight-ninths is hard clerical labor, with mapping and digging tools; card indexes and long rolls of paper for genealogies and charts; notebooks and copying and calculating; and doing most things the hard way. The second season in any location, however, gives the anthropologist all of the pleasure of homecoming to old friends. He returns with clearer knowledge of what tools to bring to solve problems which he can now foresee.

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UNIT II INTRODUCTION TO PHYSICAL ANTHROPOLOGY (4-8)

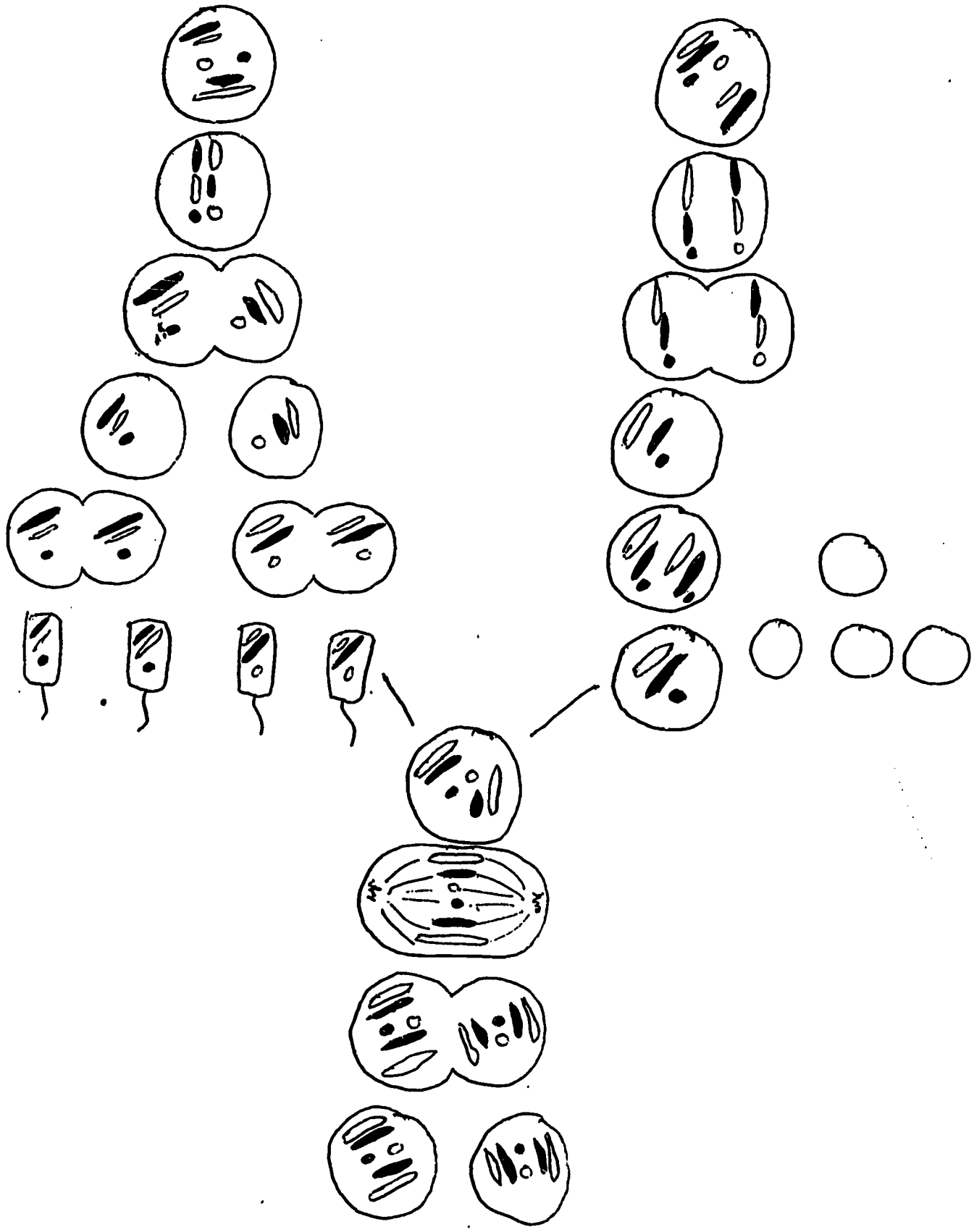
This unit places its main emphasis on the biological origins and development of man. Emphasis should be placed on the theories of the origin of life (#4)* and the various theories of evolution and genetics (#5) as the basic foundations for the discussion of human evolution. Man's relationship to the other primates and the emergence of the various hominids in Africa and Asia (#6) are examined, and are followed by the subsequent evolutionary steps of "man" to the eventual emergence of Homo sapiens (#7). After establishing the evolution of man, the concepts of race should be dealt with.

Objectives	Activities	Resources
To familiarize the student with the process of evolution	"The Origin of Life"	Salzmann, Anthropology, Chapter 4
To introduce the ideas of comparative anatomy and human evolution	Show film - Beginnings of Vertebrate Life	IMC - Film F9003 - Beginnings of Vertebrate Life
To allow the student to see that as man evolved physically, he was also evolving culturally (re. stone cultures)	"Nature's Progress Toward Man" Have the student familiarize himself with the scientific classification of man.	Salzmann, Chapter 5 Filmstrip FS-560-St - The Story of Fossils K
To use the basic fundamentals of genetics and heredity to explain the evolutionary process.	Genetics and Heredity - Do exercise on Mechanisms of Heredity; terms and study questions (2-1 to 2-6)	Genetics and Heredity, Exercise 2-1 to 2-6 Filmstrip FS-575.11-He - "Heredity - The Mechanism o Inheritance K

*Refers to chapters in Salzmann

WORKSHEET - Mechanisms of Heredity

Label the diagrams showing: egg and sperm producing cells; sperm, egg, and polar bodies; chromosomes; zygote; reduction division or meiosis; mitosis. (2-1 → 2-6)



WORKSHEET - Mechanisms of Heredity

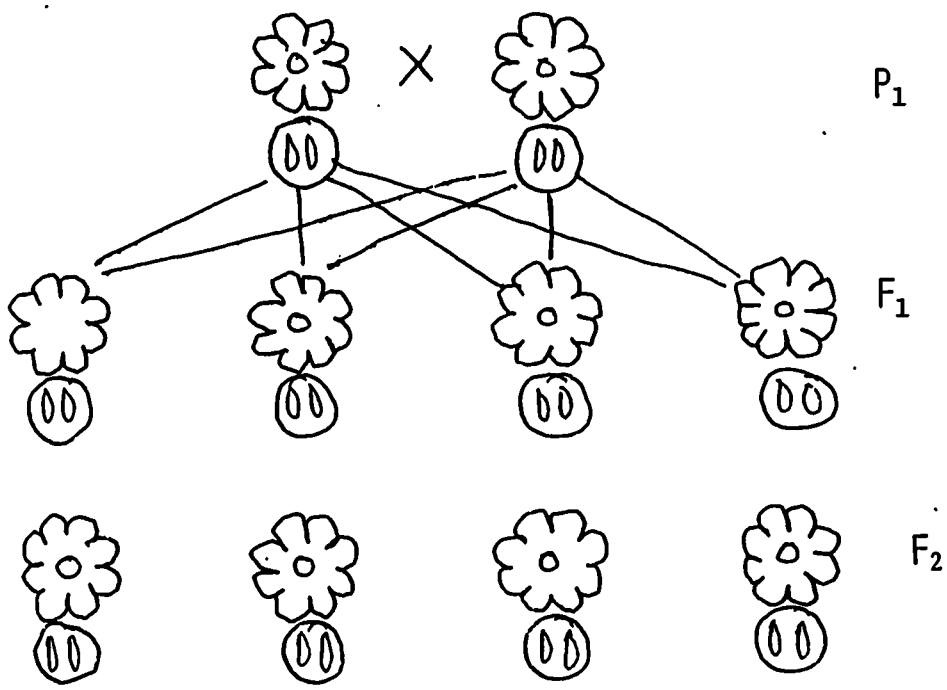


DIAGRAM A

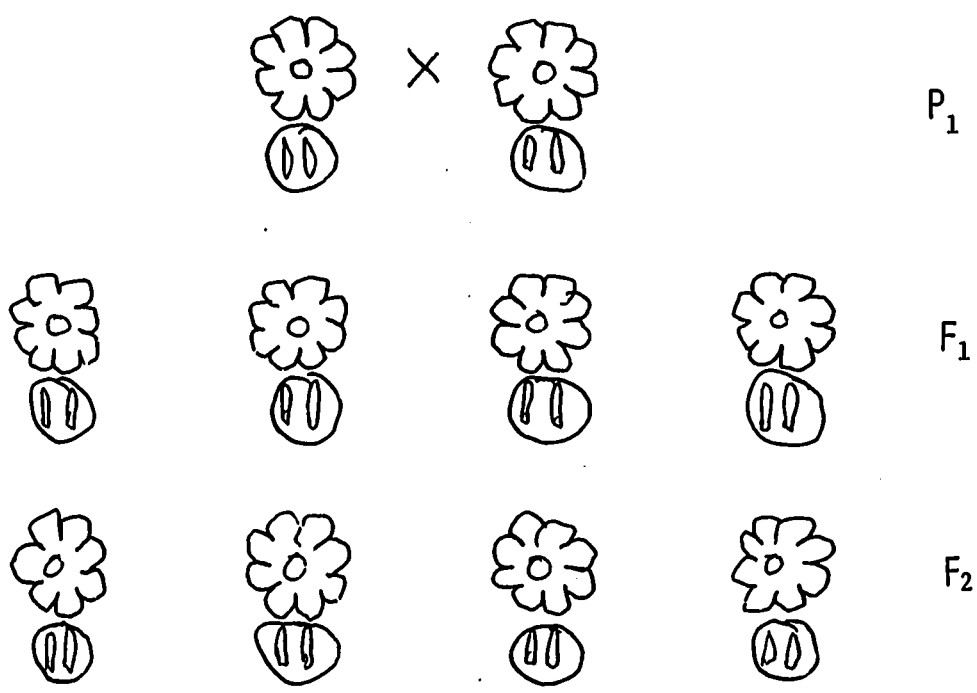


DIAGRAM B

Instructions:

1. Color and label Diagram A to show the resultant hybrids in a cross of homozygous red and homozygous white flowers. Red is dominant in this case. Show the resultant phenotypes and label the genotypes.

2. Do the same for Diagram B where conditions do not vary except that there is incomplete (pink) dominance.

Define: Homozygous, heterozygous, phenotype, genotype, dominant, recessive.

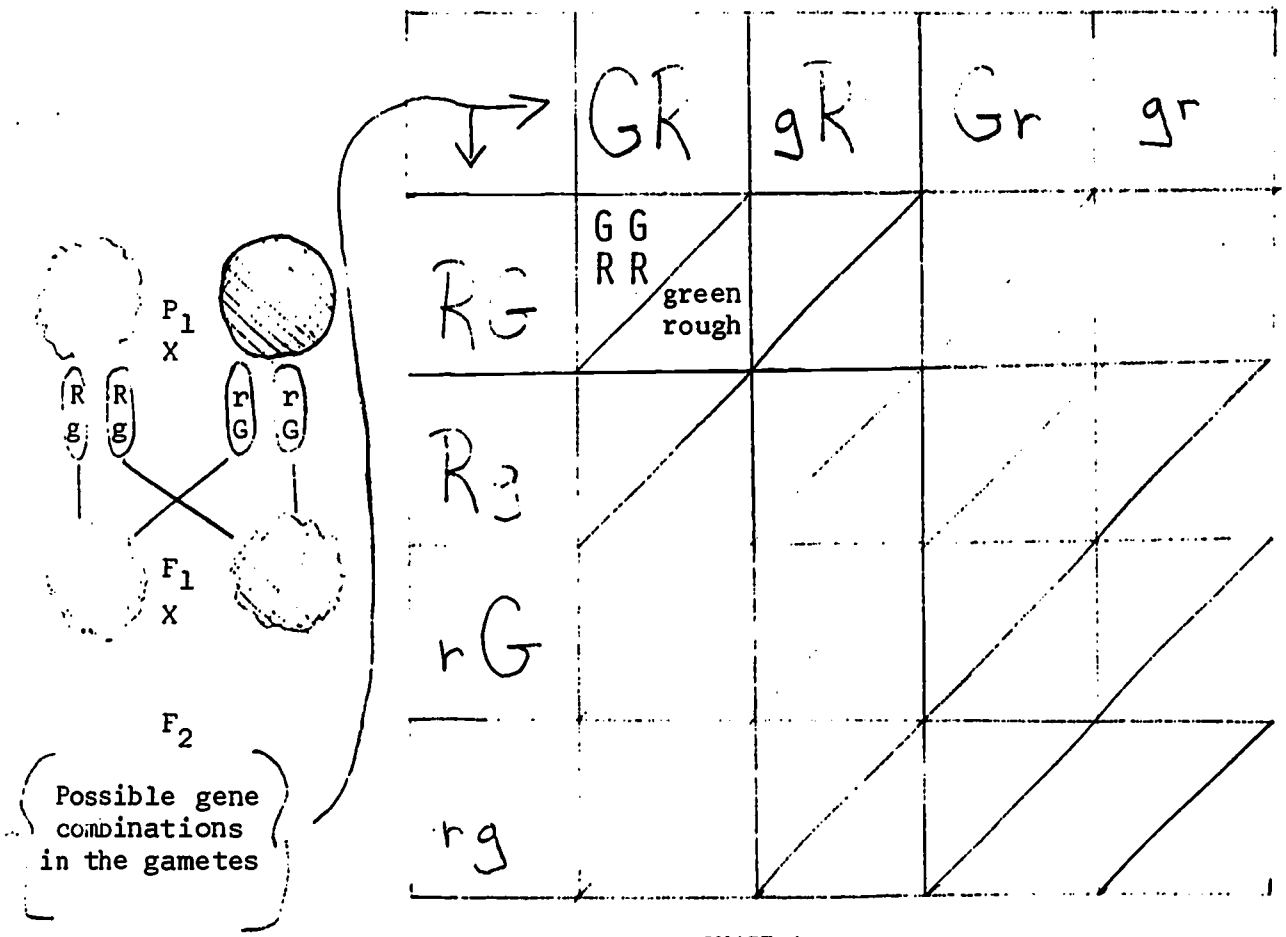


CHART A

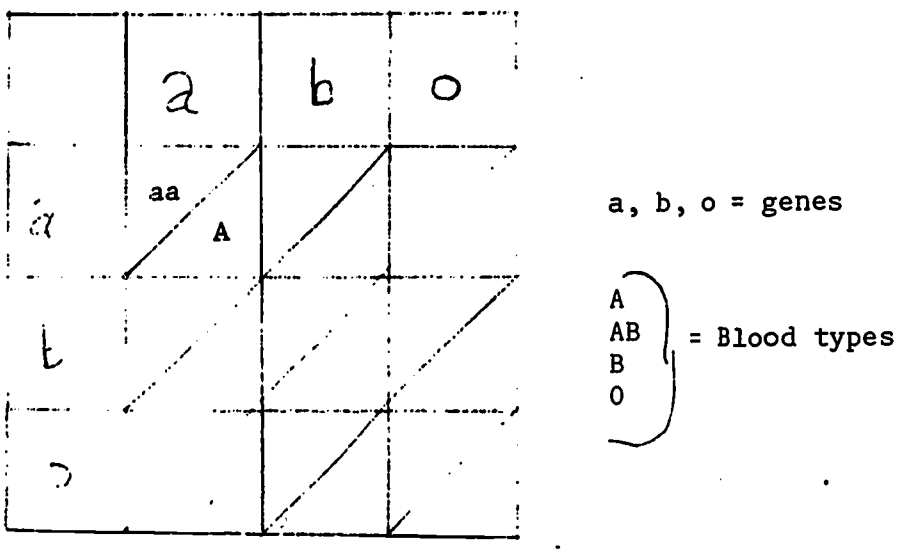


CHART B

Instructions:

1. Fill in Chart A showing phenotype and genotype resulting from each possible combination of genes. Put the genotype in the upper left of each square and the phenotype in the lower right, as in the example given.

2. Chart B demonstrates the inheritance of human blood types. Three genes are present, A, B, and O. Genes A and B are dominant over O, but neither is dominant over the other. Show the possible genotypes and phenotypes in the same manner as in Chart A.

Descent and Change in Time

Objectives	Activities	Resources
Evolution is descent with modification or change through time.	Show films: DNA: Molecule of Heredity Laws of Heredity	IMC - Films F3085 - DNA: Molecule of Heredity F3087 - Laws of Heredity
Evidence of evolution can be obtained in two ways: a. Indirect evidence--ecology, comparative anatomy, embryology, trace formation. b. Direct evidence involves the examination of fossils.	Exercise on Geologic Time (1-1 to 1-2) Have students discuss the role of glaciers on evolution. Film	Exercise 1-1 to 1-2 IMC - Film F3049 - Evidence for the Ice Age
	Natural Selection	Coon, Carleton S. and Thomas, Charles C., "Adaptive Changes in the Human Body", Races: A Study of the Race Formation in Man, pp. 36-45, 1950

GEOLOGIC TIME WORKSHEET

Instruction:

1. Place the following geologic terms on the tracing chart. The order of the Epochs should be memorized. (1-1 → 1-2)

a. Eras: Cenozoic, Mesozoic, Archeozoic, Paleozoic, Protoerozoic

b. Periods: Cenozoic, Devonian, Silurian, Cambrian, Permian, Mississippian, Ordovician, Jurassic, Triassic, Cretaceous

c. Epochs: Eocene, Paleocene, Pleistocene, Miocene, Recent, Pliocene, Oligocene

(NOTE: Not in order!)

2. Fill in the chart after the words "Age of" with the following: man, mammals, fishes, reptiles, invertebrates.

3. Under "Characteristic life forms" place the following in appropriate places:

first birds

age of dinosaurs

reptiles dominant

modern insects develop

first chordates

first spiders

fishes widespread

first Amphibians

insects become common

apes widespread in Old World

modern order of mammals appear

Amphibians dominant

dinosaurs extinct

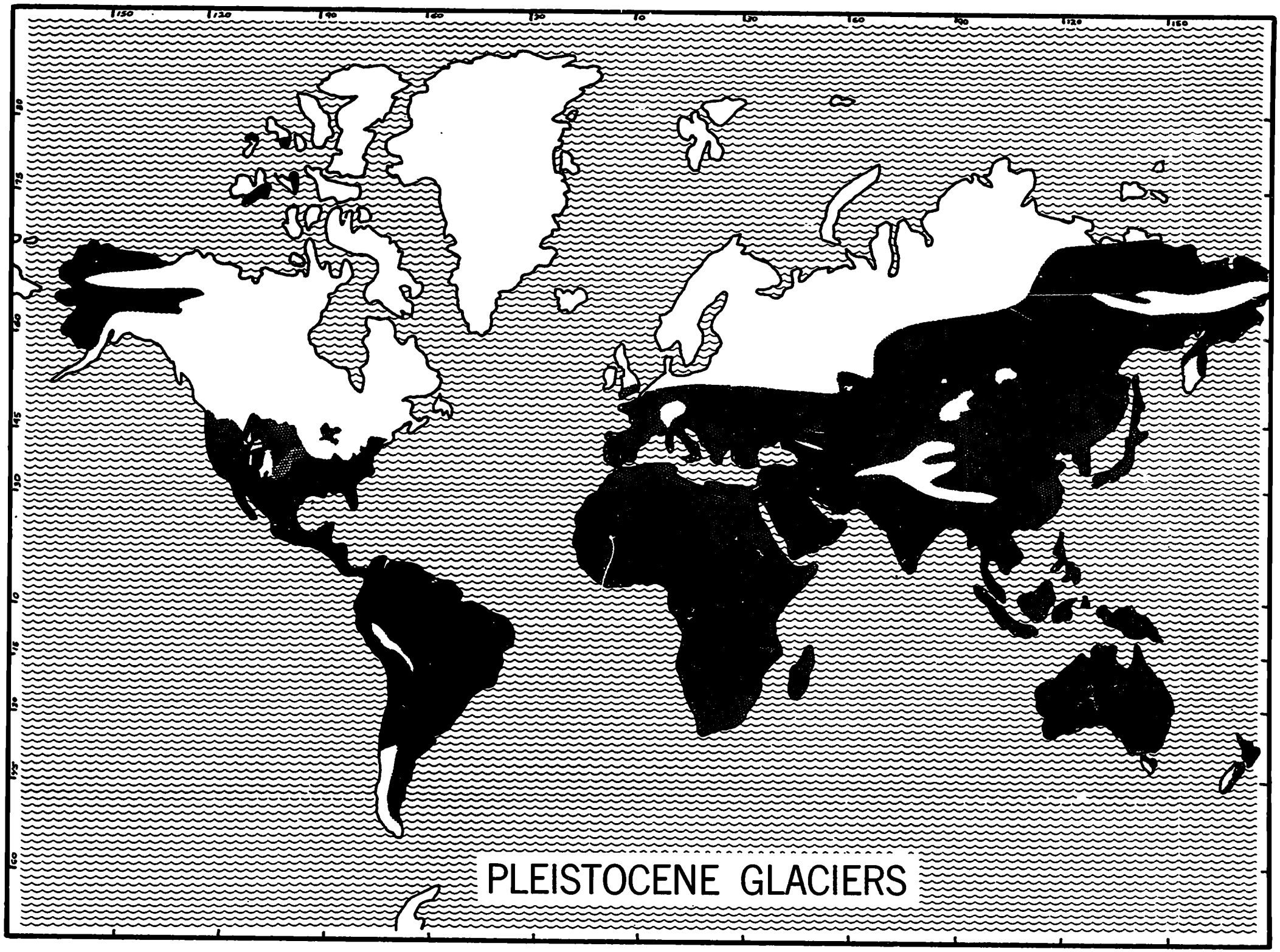
modern man and animals

period of glaciers

rapid evolution of man

ERA	PERIOD	EPOCH	"AGE OF"	CHARACTERISTIC LIFE FORMS

Tracing Chart



TRANSPARENCY

CHRONOLOGY FOR OLD WORLD PREHISTORY

Years Ago		Geological Chronology	Fossil Men	Cultural Chronology		
1,400 B.C.	HOLOCENE	Modern Times		Iron Age	Iron Tools	Urban Societies
3,000 B.C.				Bronze Age	Bronze Tools	
				Neolithic	Polished stone tools	Neolithic Cultures Food production replaces hunting and gathering
6,000 B.C.				Meso-lithic	Microliths	Mesolithic Cultures Man spreads throughout the world
8,000 B.C.	UPPER PLEISTOCENE	4th Glaciation	Homo sapiens sapiens	Upper Paleo-lithic	Blade tools	Upper Paleolithic Cultures
40,000 B.C.			Homo sapiens neanderthalensis	Middle Paleo-lithic		Mousterian Culture
		3rd Interglacial	Homo sapiens spaelus			
190,000 B.C.	MIDDLE PLEISTOCENE	3rd Glaciation				Levalloisian
		2nd Interglacial			Acheulean	
480,000 B.C.	LOWER PLEISTOCENE	2nd Glaciation	Homo erectus pekinensis	Lower Paleo-lithic		Clactonian
		1st Interglacial	Homo erectus erectus		Abbevillean	Chopper Tools (Asia)
		1st Glaciation			Oldowan Pebble Tool (Africa)	
one million or more yrs. B.C.			Australo-pithecus		CORE TOOL TRADITIONS	FLAKE TOOL TRADITIONS

NOTE: Vertical dimension is not to scale

TRANSPARENCY 22

EUROPEAN CLIMATE AND ANIMAL LIFE DURING THE PLEISTOCENE AND HOLOCENE

Paleontological Chronology	Geological Chronology	Typical Animals
HOLOCENE 10,000 years ago	HOLOCENE EPOCH (Modern Times)	Modern animals in present ranges.
UPPER PLEISTOCENE 190,000 years ago	4th Glaciation (Wurm)	Woolly mammoth and rhinoceros, bison, great ox and musk ox, horse, cave bear, artic fox, and other artic animals
	3rd Interglacial	Hippopotamus, straight tusked elephant, brown bear, beaver, lion, leopard, red deer, giant elk.
MIDDLE PLEISTOCENE 480,000 years ago	3rd Glaciation (Riss)	Wooly mammoth and rhinoceros, bison, reindeer, musk ox, other arctic animals.
	2nd Interglacial	Macaque monkey, rhinoceros, deer, first straight tusked elephant, great ox, bison, modern species of horse.
	2nd Glaciation (Mindel)	Artic animals
LOWER PLEISTOCENE One million or more	1st Interglacial	Macaque monkey, sabre-toothed cat, elephant, two types of rhinoceros, red deer, hippopotamus.
	1st Glaciation (Gunz)	Arctic animals
	Preglacial (Villafranchian)	Macaque monkey, great sabre-toothed cat, mastodon. First of the true elephants. First of the true horses.

NOTE: This chart is intended as a rough approximation only. Local conditions caused considerable differences in climate and in plant and animal life.

TRANSPARENCY

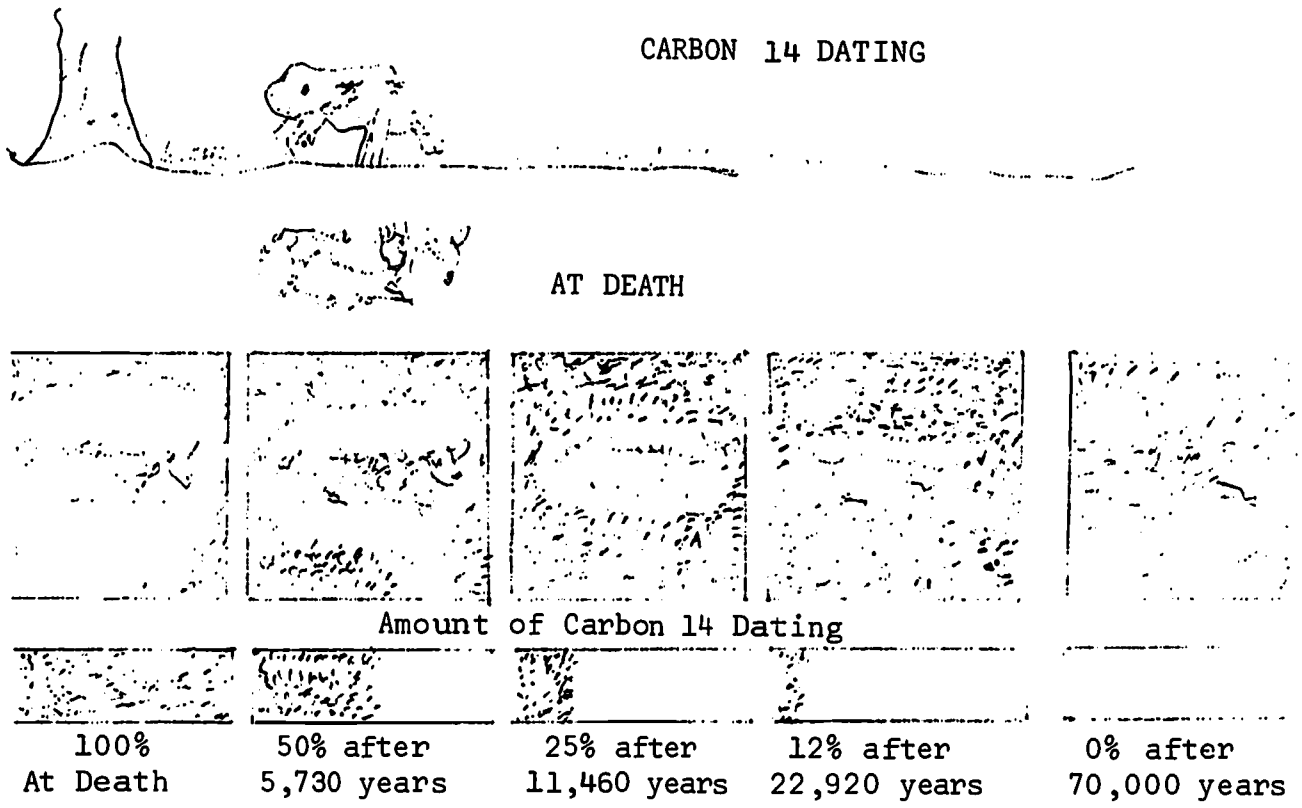
Chronology of Events

Objectives	Activities	Resources
To illustrate the importance of determining chronology of events.	From the following list students should become familiar with the various dating methods: Astronomical Dating Carbon-14 (radiocarbon) Dendrochronology Fluorine Test Glacial varue sequence Magnetic dating Obsidian hydration (weathering) Pollen analysis (Palyhology) Potassium--argon Seriation Stratigraphy	Salzmann, Chapter 6 Merbs, Charles F., Dating, National Anthropological Project Goodall, Jane van Lawick, "My Friends the Wild Chimpanzees", National Geographic Book
Man, apes, and monkeys all evolved from the same unspecialized mammal. To show that man isn't the only "maker of tools"	Exercise 9-2	Goodall, Jane, "My Life Among Wild Chimpanzees", National Geographic, Vol. 124, No. 2, (August, 1963), pp. 272-308 Book - Naked Ape Time-life series - The Primates
	Library research (classroom) on the social behavior of subhuman primates	Goodall, Jane, "My Friends the Wild Chimps", National Geographic
	Show film: Miss Goodall and the Wild Chimpanzees Questions: 1) How do different primates act as members of a group? 2) Is there communication? 3) Should man be reappraised and redefined?	Film Miss Goodall and the Wild Chimpanzees (50 minutes)

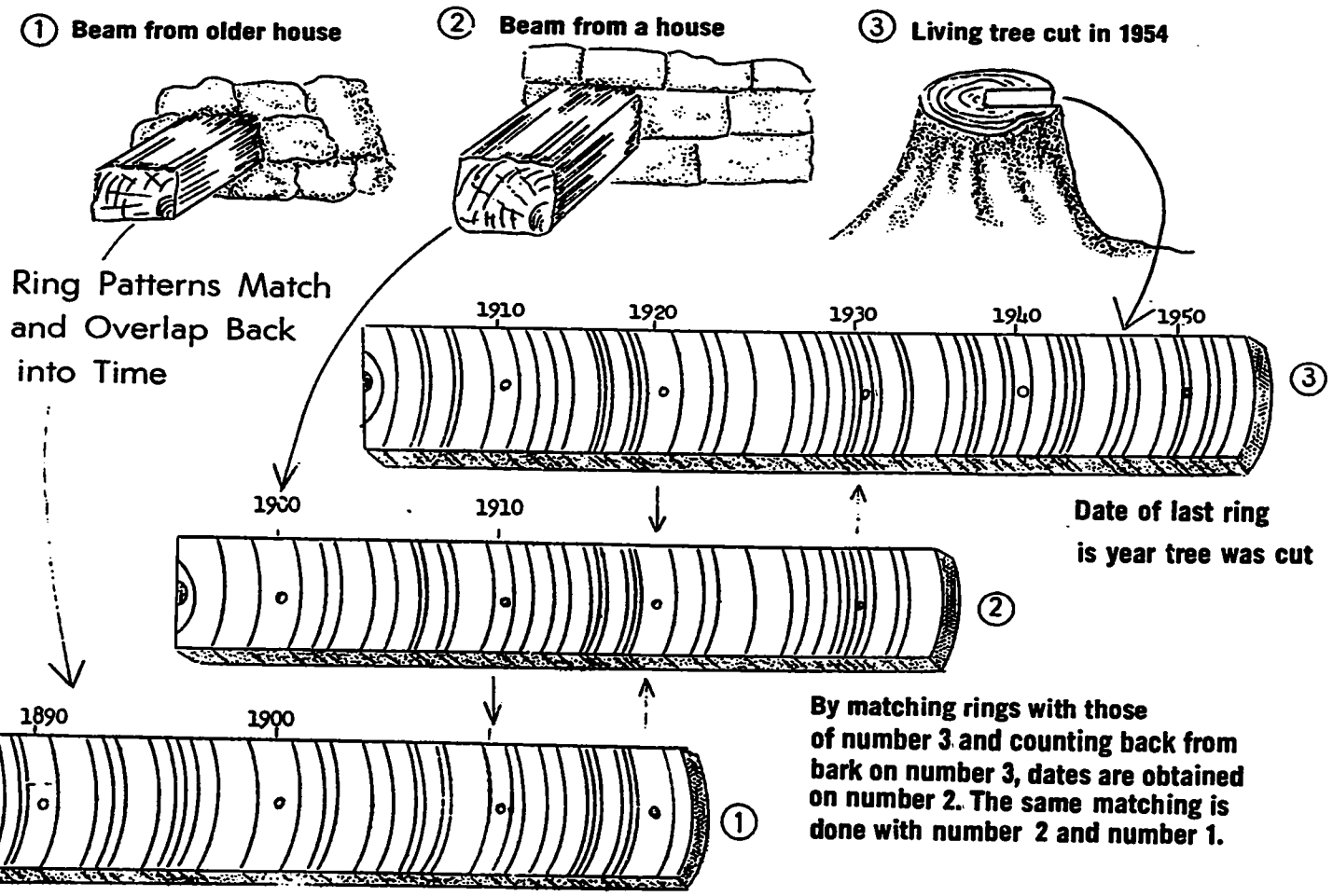
Carbon 14 dating is used more often for absolute dating than any other method. This can be used to tell the age of organic material. All living things, plants or animals, contain some of the element carbon. All living things also contain radioactive carbon, which we call Carbon 14. We know the amounts of this radioactive carbon in living plants and animals. We can measure the amount in dead organic material. The difference in these amounts tells the archeologist how old the material is. The older the material, the less the amount of radioactive carbon there is. If the organic materials is older than 70,000 years, the Carbon 14 dating method cannot be used.

Carbon 14 dating was used on the Dead Sea Scrolls by testing the radioactive carbon in the parchment (organic material of dead animal skin) which was wrapped around the scrolls. The date of these scrolls is A. D. 40.

Charcoal found at Stonehenge, England, is dated at 1500 B. C. Sandals found in Newberry Crater, Oregon, are 7000 B. C. Remains of roasted animals found in Russell Cave, Alabama, are 7,000 B. C. All of these are organic materials which have been tested using the Carbon 14 method.



DENDROCHRONOLOGY - TREE RING DATING



TRANSPARENCY

OVERHEAD AND WORKSHEET

	Kinds of data needed	Effective time range	Application	Limitations
Radio-carbon Dating				
Fluorine Dating				
Dendro-chronology				
Pollen Analysis				
Terrace Sequence Dating				

DATING METHODS
(9-2)

Dawn of Man

Objectives	Activities	Resources
To gain an appreciation of the evolutionary process that eventually led to "man".	Class work on sequential discoveries of early man.	Van Lawick - Goodall, Jane, "New Discoveries Among Africa's Chimpanzees", National Geographic, Vol. 128, No. 6 (Dec. 1965)
	Show film: Dr. Leakey and the Dawn of Man	Film: Dr. Leakey and the Dawn of Man (50 minutes)
		Tobias, Phillip. "Early Man in East Africa", Science, Vol. 149, No. 3679, 1965, pp. 22-33
		Time-Life - Evolution
		Clark, J. Desmond, "Early Man in Africa", Scientific American, Vol. 199, No. 1, (July, 1958), pp. 76-83
		Leakey, L. S. B., "Finding the Worlds Earliest Man", National Geographic, Vol. 118, No. 3 (September, 1960), pp. 420-35
		Payne, Melvin M., "The Leakeys of Africa: Family in Search of Prehistoric Man," National Geographic, Vol. 127, No. 2, (February, 1965), pp. 194-231.
		Payne, Melvin M., "Preserving the Treasures of Olduvai Gorge," National Geographic, Vol. 130, No. 5, (November, 1966) pp. 700-09.

Objectives	Activities	Resources
Forces of Evolution are: --selection (natural and social) --genetic drift --gene pools --mutation --mixture	Sequence of man Oreopithecus Homo sapiens Study closely the individual discoveries of anthropologists (Dart, Broom, Robinson, etc...)	Simons, Elwyn L., "The Earliest Apes," Scientific American, Vol. 217, No. 6, (Dec., 1967), pp. 28-35 Salzmann, Chapter 7 Ardrey, Robert, African Genesis 3M - Transparencies Anthropology #1 - Prehistoric Man - cat. #321 Dethlefsen, Edwin, Form and Function: Comparative Anatomy in the Study of Human Evolution, Project Social Studies Howells, William W., Dart, Broom, and the Australopithecines, Project Social Studies Loring, C., Cultural-Biological Interactions in Human Evolution, Project Social Studies

BECOMING HUMAN: A GLANCE AT PREHISTORY

by Edwin S. Kethlefsen

Many different kinds of specialists contribute their knowledge to our understanding of the evolutionary history. The geologist may identify an ancient shoreline that allows an archeologist to interpret the meaning of a shell heap on a mountainside. The physicist may provide radiocarbon or potassium-argon dates. The anthropologist interested in teeth may discover from wear patterns that ancient people actually ate far less meat than other archeological remains imply. Then there are geneticist-anthropologists who investigate such matters as gene flow and cultural selection in modern populations in the hope of discovering prinicples that may help to interpret ancient populations. And so on.

SOME BIOLOGY: How Species are "Made"

Man is a primate. His closest relations are the anthropoid apes--gorillas, chimps, orangutans, and gibbons. Somewhat more distant relatives are the families of monkeys. The primates share their exclusive place in mammaldom by virtue of the fact that they, in all their various forms, have evolved from a single ancestral species that lived somewhere in the very distant past, 60,000,000 or more years ago. This common ancestor was a small, squirrel-like, probably nocturnal creature that led a retiring life in dense brush and trees, ever alert for fear of filling the belly of some predatory reptile.

Life in the trees must have been highly successful, for over the millions of years that ensued that one species branched into many in adaptation to particular arboreal or semi-arboreal niches. As climate changed here and there, and with it other aspects of environment, new species were constantly evolved out of old ones.

Those species which were not adaptable to environmental changes became extinct. The process is still going on, and it applies to the human species as well as to all others. All species are thus "experimental" in the sense that some "fail" and become extinct and some "succeed" and continue to evolve into different descendant forms.

Most of us tend to think of the human species as maintaining a genetic status quo--as being biologically unchanging, but this is not the case. All human populations are continuously undergoing genetic change. It takes innumerable generations for such a change to become visible, or to spread through a whole population, and so the ongoing process of evolutionary change is imperceptible. Until an earlier form has changed appreciably toward becoming a new form, the change is not "visible." Only in fossils from across the ages do we see some of the "steps" in the genetic development of man--that is, his evolution.

We think of the changes we see as "steps" only because the relatively few fossils we have can often be assigned points in time separated by enormous intervals. Thus the paleontologist can observe differences between one fossil and another and can say with reasonable assurance, "This species evolved into that one, and so on up to this species which lives today."

But such a statement does not accurately reflect the *continuity* of evolutionary change. What of all the generations that live chronologically between the two "species"--all the might-have-been-fossils, the one-living forms of which we have found no relics? If we had all these to look at, we could not determine when one "species" ended and the next began. To put the statement in its simplest form, *the naming of chronologically ordered, related species is entirely arbitrary.* For an analogy, we might think of chronological classification as a staircase but of the actual continuity of evolutionary change as a moving escalator.

I belabor this point about paleontological taxonomy because people often feel impelled to pin down some date for which it can be said, "This is when *humanity* began." The problem is obvious. If we look at morphology alone as represented by fossils (and, until the paleolithic--a period which we shall define a little later--that is all we have to look at), we can identify some elements of "humanity" in the "first" little prosimian ever to skitter about an Eocene wood lot. With the exception of some noteworthy "giant steps," the "human" physique has been evolving at a more or less constantly accelerating rate ever since.

But man's uniqueness as a species is related more to his behavior than to his shape, although form and function are very much involved with one another, as we shall see. So let us use the following definition for "Man": *Man is the only primate which, by means of natural selection, became and continues to become progressively more dependent for his continued existence upon, first, tools and, second, linguistic communication.* While it may well be that tools in the form of warfare might lead to our ultimate extinction, it is certainly true that without tools the human species would very soon be extinguished.

The human species, then, is a unique aggregation of highly communicative, tool-dependent primates. If we consider the question "How did this uniqueness come about?" we may be in a better position to establish a "date" for the beginning of humanity or the human kind.

Some Characteristics Common to Apes and Men

Anatomically, the modern apes and man are brachiators, although some of them, especially man, do not brachiate very much. The term "brachiation" refers to style of locomotion characterized by hanging vertically with the arms and swinging or moving hand-over-hand. Anatomically it involves a fore-and-aft flattening of the chest and broadening of the shoulders, increasing sturdiness of the spinal column, and development of relatively long arms, with the shoulder socket aimed outward and slightly upward (rather than downward and forward as in monkeys). Adaptations for brachiation probably appeared sometime during the Pliocene, the name assigned to a geological period beginning approximately 12,000,000 years ago and ending something over 2,000,000 years ago. Out nearest relatives must have taken their separate evolutionary paths during or before the Pliocene, because by the beginning of the Pleistocene, over 2,000,000 years ago, the human die was cast. Let us take a few moments to review the phases of primate evolution in terms of cause and effect. To do so is to some extent speculative, but not unreasonably so.

Primate evolution seems to have begun in the Eocene period, roughly 60,000,000 years ago, when our earliest primate ancestors took to the trees. These small-brained little quadrupeds lacked stereoscopic vision (a necessity for making

fine judgments of distance). They had well developed snouts inherited from their earlier terrestrial life, where detecting odors was more important than it was in trees. And they possessed hands and feet that were capable of grasping branches. Their rather small size and the shapes of their extremities, plus absence of and the shapes of their extremities, plus absence of competitors for the arboreal habitat, were about the only advantages these prosimians had in the trees.

In the ensuing period of primate evolution, beginning about 40,000,000 years ago, the early forms of apes developed. They were small to medium-sized quadrupeds, differing from prosimians in that their eyes were directed forward, facilitating the delicate judgments of distance necessary for leaping safely from one limb to another. It was no longer quite so necessary to see to the sides, since predators were far fewer in the trees than on the ground. At the same time vision became more acute and its necessarily greater nervous control usurped some of that portion of the brain formerly devoted to sensing odors. The face became wider to accommodate the eyes in the front of the head rather than at the sides, and the snout became shorter. Safer locomotion was afforded by more sensitive and more prehensile hands and feet, and the consequent proliferation of nerve endings increased the brain size. As the body became larger, claws were less useful and gave way to flattened nails which could provide support for the fingertips when used for gripping.

Ability to hang and swing by the arms characterizes a later ape phase. Since these animals did not need branches to walk upon, but only to hang from, they were free either to travel about in the more slender branches of trees, where even monekys could not safely go, or to attain a larger size while staying where they were. One advantage of being larger is that there are fewer enemies to threaten existence.

By the Pliocene, then, say 10,000,000 years ago, the various arboreal niches had become occupied not only by prosimians, but by monkeys in great profusion and by apes, and competition for food was no doubt strong in the trees. Then changes in climate caused forests to shrink and give way to grasslands, making primate competition for survival even more intense. The odds of surviving a return to life on the ground were favorable only for the larger primates, those best able to defend themselves--and some of the largest primates were brachiators.

Grasses are mostly indigestible for primates, except for the tender parts between roots and leaves. Baboons are about the only primates able to live off this kind of land, and they have to spend most of their waking hours working at getting enough to eat. They also have a particularly strong social organization, apparently important for defense against predators.

Getting On Our Feet

There must have been a very good reason for a brachiating quadrupedal primate to evolve into an upright, exclusively bipedal ground-dweller. The rather widely accepted belief is that natural selection for tool-using ability led to the anatomical adaptations congenial to bipedal movement. In other words the increasing importance of tool-using to the creatures' way of life required that their hands be freed from locomotive duty.

If an animal that doesn't eat grass is obliged to live in grasslands, how does it survive? There are roots and fruits of various other plants, lizards, snakes, birds' eggs, and, above all, there are the animals that *do* eat grass--from mice to elephants. It is not difficult to conjecture that a vertically oriented brachiator forced to live on the ground might find a stick handy for digging up roots, for knocking down a succulent bunny for lunch, or even for fending off a lion. Various uses of a stick, once discovered, would become very important skills to learn, and a stick can be much more effectively used from an erect posture. Perhaps at this point we might begin to speak of specifically human origins.

Better stick-wielding and/or stone-throwing could make more meat available--concentrated food in meal-size packages. Then the shortened "working hours" would allow time for thinking about better tools and hunting methods. Better tools, better hunting methods, and better defense would all be facilitated by improvements in social organization and communication; improved cooperation would be ever more productive and, therefore, desirable. But we're getting ahead of ourselves.

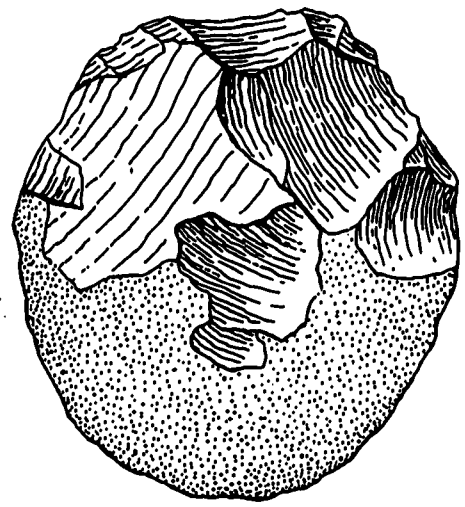
Becoming Human

The Significance of Language. While it is true that material tools are the only tangible proof we have of the cultural development of early man, we think that they may have been less important evolutionary determinants than were the "tools" of language and social organization. For without the development of language-dependent *traditions*--mental "templates" that could be transmitted from one person to another by means of the spoken word--tool use and invention could only have remained at a very low level.

Probably the early use of tools led to a biocultural feedback complex that involved in particular the development of spoken language. Selection for linguistic ability was, in turn, a decisive factor in the evolution of the human brain. An accompanying development was the evolution of forms of social organization that were increasingly language-dependent. The correlations of changes in anatomy with changes in behavior are probably a lot more complex for man's evolution than for the evolution of any other animal. At least they seem harder to prove, especially with respect to the skull.

To ask which influenced brain size more decisively, tool use or language, is a purely academic question. The earliest direct evidence that any spoken language existed goes back to only a few thousand years B. C. However, by inference we can be quite certain that men have spoken coherently with one another for a very much longer time.

The Significance of Tools. Even though the gradually increasing complexity and variety of man's tools may not have been *directly* responsible for the increase in size of the human brain, the tools are material evidence that provides a good index for inferring the rate of development of those non-material, cultural factors that *were* responsible. Let us examine briefly some of the skeletal evidence for the biological evolution of man and also some of the material evidence of his cultural evolution.



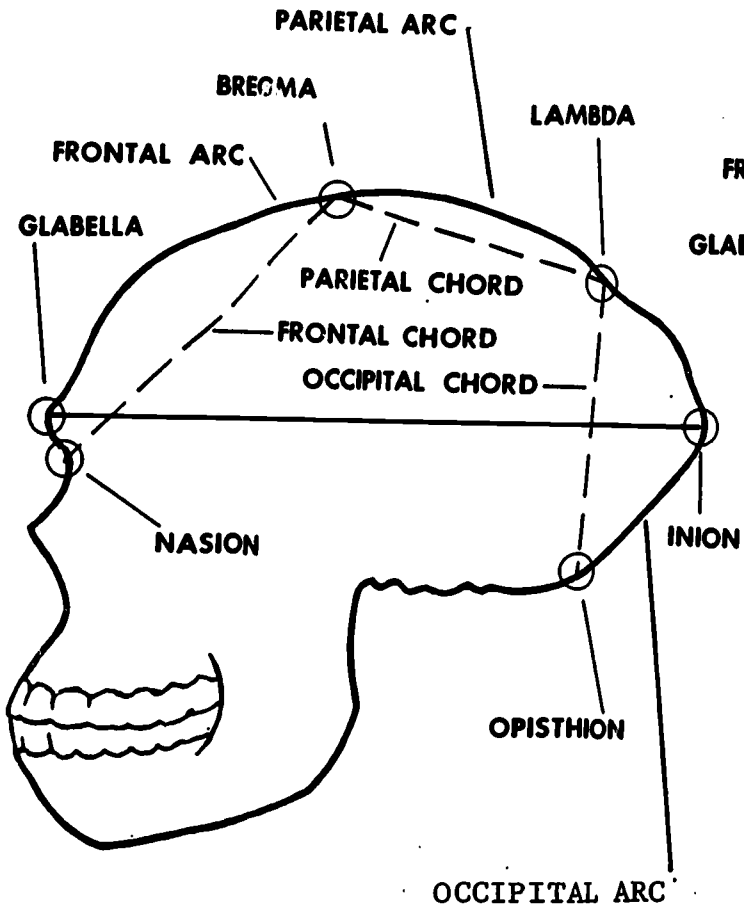
Tool type: Pebble tool (core)
Date: From more than 1,000,000 B. C. until 700,000 B. C., perhaps later in some places
Range: Almost all of the Old World's temperate, subtropical, and tropical areas: Africa, China, Europe

The oldest regularly patterned stone tools that have been found were made during the early Pleistocene. These tools represent a technological tradition developed at least 2,000,000 years ago. They are extremely crude, being merely pebbles or cobbles with a few flakes knocked off to provide a sharp edge. It is because they are all *fashioned in the same way*, and probably for more or less similar ends, that we can speak of them as the earliest evidence of "culture"--of *ideas* shared by a social group.

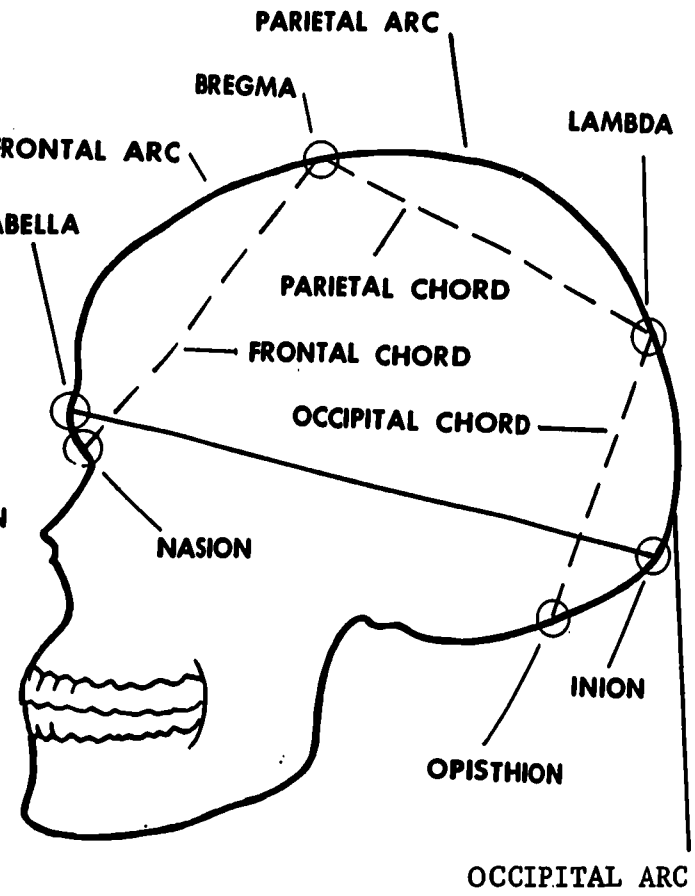
The early Pleistocene creatures in South and East Africa to whom we attribute this first tool tradition are referred to as Australopithecines, but perhaps not all the varieties of Australopiths made stone tools. The skeletal evidence indicates that they all walked erect, though perhaps not quite as comfortably as does modern man. Their skulls had higher foreheads than those of chimpanzees and were more balanced atop the spinal column than positioned in front of it. The jaws were broad and relatively short, with large but "human-looking" teeth. The absence of well developed canine teeth--the "tearing tools" of other primates--suggests that all the australopithecines had been experimenting successfully with manual tools for some time.

How long these "proto-men" were using tools before they began to leave behind any artifacts recognizable as such to us is a question of considerable importance. No doubt unrecognizable or perishable tools such as animal jaws and other bones, unworked stones, or artifacts made of plant materials or animal soft parts were in use from a much earlier time. Even today we have so-called "stone-age" societies whose material tools are so limited or perishable that, had the people become extinct before we knew of them, an archeologist would be hard put to reconstruct their way of life from the visible relics which might have remained.

Ancestral and Non-ancestral Tool-users. While it was said above that all the Australopithecines were probably tool-users, on the grounds that they moved bipedally and that their canines were reduced in size, this is not meant to



HOMO ERECTUS



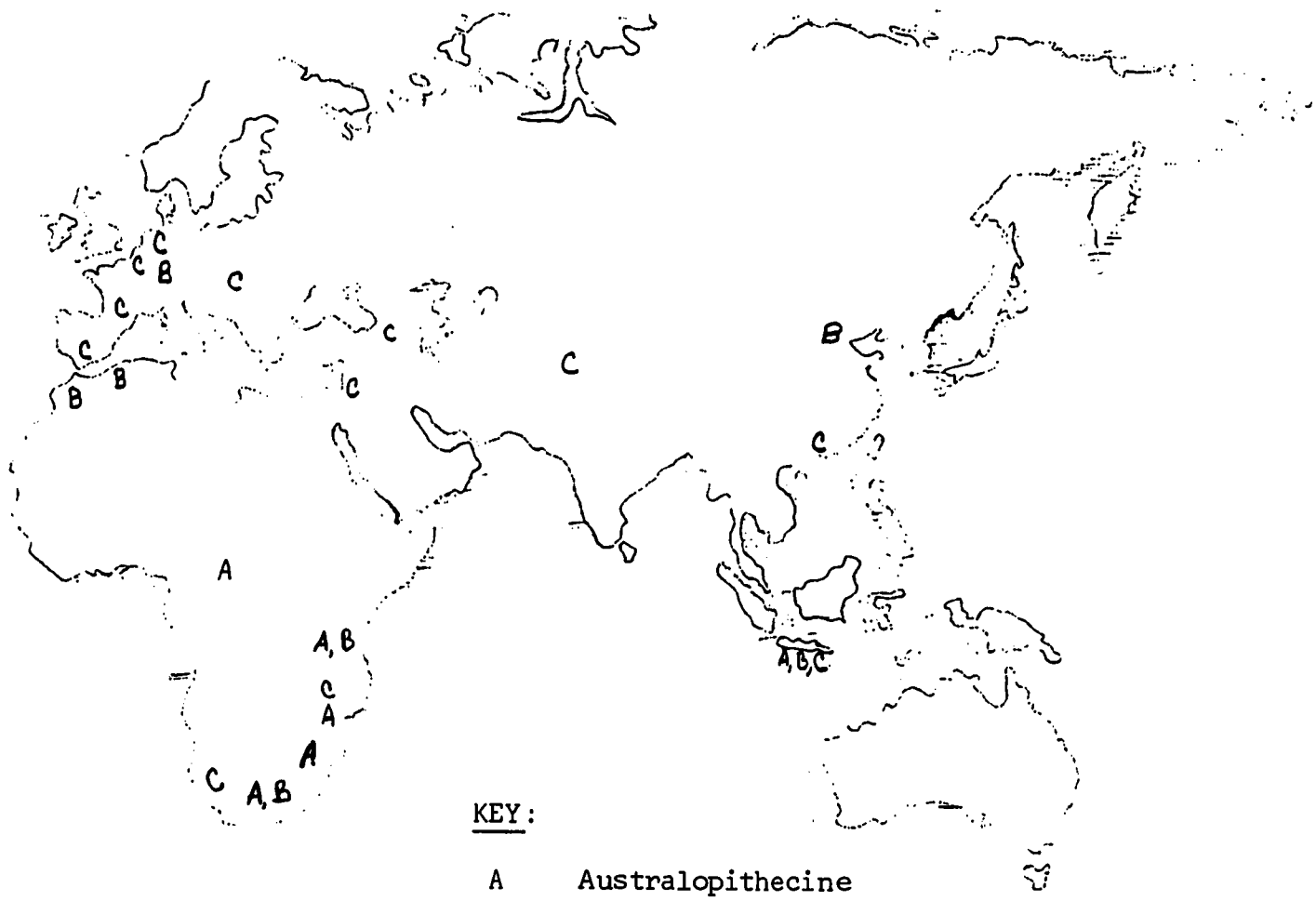
HOMO SAPIENS

imply that the several species all made stone tools nor that they are all ancestral to modern man. There may have been two species of Australopithecines, and perhaps more, but there is so much disagreement about classifying certain fossil finds that we cannot go into details here. We should, rather, be reminded of the difficulties of classifying "species" mentioned earlier. In any event, the skeletal remnants of these Australopithecines have been found in sub-Saharan Africa, in Morocco, and in Java. Pebble tools are found through most of the southern regions of the Old World. Australopithecines survived in one form or another until about 500,000 years ago.

Suffice it to say that by about 2,000,000 years ago there were bipedal, tool-using primates with brains scarcely larger than a gorilla's but with skeletons more like our own than like any other primates.

What Happened During the Pleistocene

The "beginnings" of the Australopithecines were roughly contemporaneous with the beginning of the Pleistocene geologic period, which was about 2,000,000 to 3,000,000 years ago according to recent estimates. The oldest evidence of Australopithecine tools dates from the period of "cooling off" as the previous warm Pliocene climate was gradually displaced by colder temperatures and the Pliocene fauna were supplanted by species of animals adapted to such a climate. Although the Pleistocene is sometimes called the "Ice Age," the



KEY:

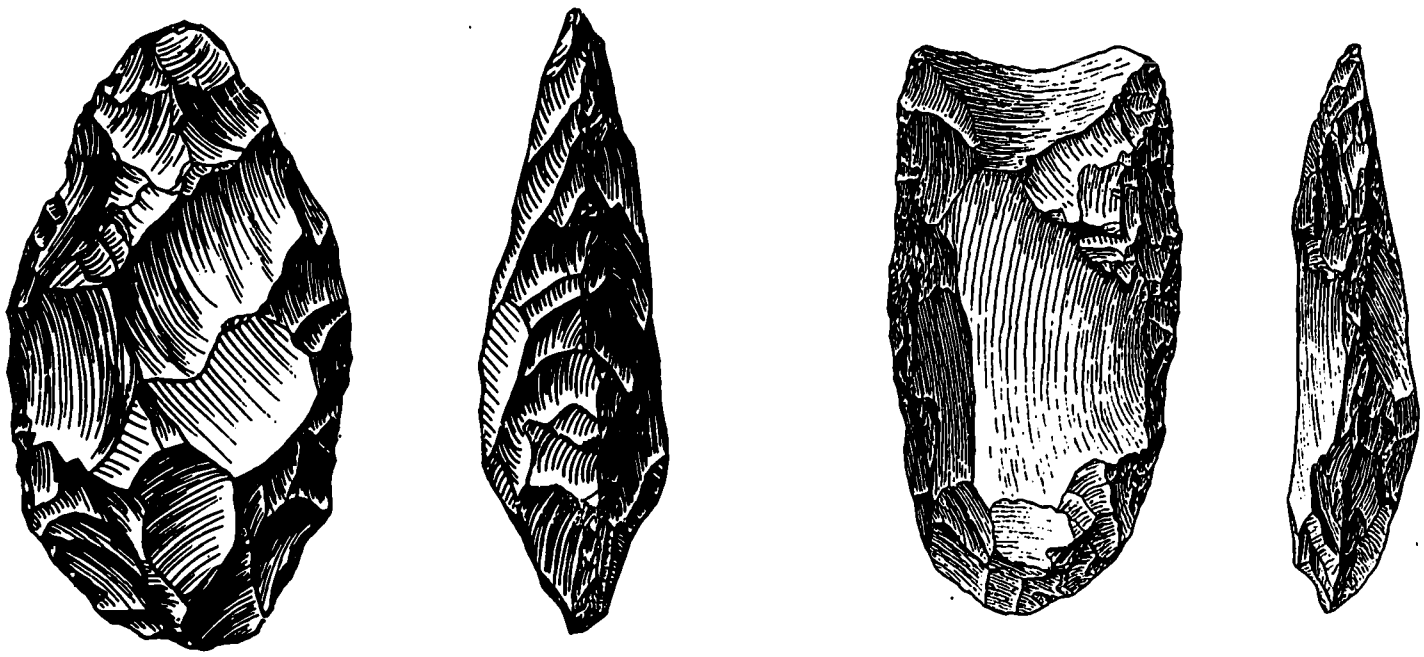
A	Australopithecine
B	Pithecanthropine
C	Neanderthal

LOCATIONS OF AUSTRALOPITHECINE, PITHECANTHROPINE, & NEANDERTHAL DISCOVERIES. (After Brace and Montagu)

term is misleading because between glacial advances the earth became at least as warm as it is today. The ice sheets advanced and retreated many times, and I shall refer to the cold periods as "glacials" and the warm as "interglacials." We must always keep in mind that the Pleistocene covers a very long period of time during which there were extreme climatic fluctuations. The warm period we are in now began only about 9,000 or 10,000 years ago.

From Australopithecines to Homo erectus. By 500,000 or 600,000 years ago--roughly when the first major Pleistocene glaciation spread to Europe--a "more human" kind of primate had evolved, the "pithecanthropines," and soon the Australopithecines were no more. Although these various "pithecanthropine" fossil creatures have been christened by several different names (the most important discoveries were called *Pithecanthropus erectus* and *Sinanthropus pekinensis*), it is now generally agreed that they may all be considered members of a single species, *Homo erectus*.

The skeletons of *Homo erectus* are entirely like our own except for the skull. Their brains were almost twice as big as the Australopithecines, though still one-third smaller than ours, and they had very little forehead rising above heavy brow ridges. Their large jaws and teeth show that they lacked a chin. Their bones and the Australopithecines' have been found in much the same regions, but theirs have also been found further north, in Europe, North Africa and China, along with good evidence that they made use of fire in at least two of these regions.



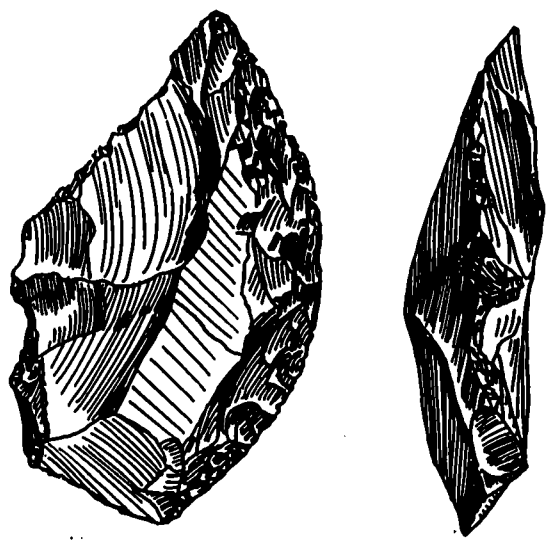
Tool type:	Hand axe (core)	*Tool type:*	Cleaver (core)
Date:	From ca. 700,000 B. C. until 35,000 B. C. or later	*Date:*	From 700,000 B. C. until 45,000 B. C. or later
Range:	Europe, Africa, and the Near East; east to India	*Range:*	Identical to hand axes and usually found with them

Although pebble-type tools persisted in Asia until around 100,000 years ago, *Homo erectus* elsewhere had invented at least one new kind of tool 400,000 years earlier. That is, by 500,000 years ago they were already chipping stones all over the surfaces to form bifaced "hand axes." These tools represent an early phase of what is called lower paleolithic culture. (The term "paleolithic" describes a level of culture but is also used to designate the period in time when it flourished.)

Refuse heaps indicate that animals as large as elephants were killed, dismembered, cooked, and eaten--hardly a one-man job. So, besides the bifaced stone tools and evidence of wooden spears that have been found, there must have been other kinds of paraphernalia, perhaps of perishable material. Also, the close cooperation necessary for hunting must have included language of some complexity.

By about 300,000 years ago several kinds of stone tools were in use. The "hand axe" continued in a somewhat smaller size alongside the "cleaver," a

heavier, oblong stone tool with a sharp edge at one end which would have been more efficient for the specialized work of dismembering large carcasses and other heavy-duty cutting and chopping jobs. A third tool, roughly half-moon shaped with one side flaked to a sharp edge, which has been called a "side-scraper," would have been more efficient than the others for cutting meat and for other kinds of sawing and scraping operations. There is evidence that wooden spears with fire-hardened tips were also used, besides smaller bifaces and sharp-edged "waste" flakes in profusion. These are, of course, extreme generalizations from a mass of specific finds, for there was considerable differentiation from one time and place to another.



Tool type: Side scraper (flake)
Date: From 45,000 to 35,000 B. C.
Range: Europe and the Near East

Thus it is apparent from five demonstrable kinds of evidence that *Homo erectus* and his way of life represented considerably more complexity than shown by the australopithecine forebears: (1) expanded brain; (2) extended range into colder region of Asia and Europe; (3) controlled use of fire; (4) group hunting and living; and (5) improved tools. But how these elements must be interrelated may not be so apparent.

The Significance of Fire. Early man's "discovery" of fire may well have been the precipitating factor by which he evolved into *Homo erectus.* It allowed him to establish "permanent" residences in caves and elsewhere where predators could be kept at bay. It allowed him to survive in regions that otherwise would have been too cold though they abounded with good things to eat. And, no less important, fire permitted him to increase his consumption of meat by cooking it to digestibility, thus making it a more efficient form of concentrated human fuel; a raw steak takes a lot of chewing--often perhaps more than it is worth.

Large beasts would stock a larder more fully and for longer than small ones, but they could be killed only by the consultative and cooperative efforts of several men free to chase them as far and for as long a time as necessary. With fire, a man could leave his family "at home" with some assurance that they would be safe until his return. With fire, a man could cook a mammoth steak, provided he could cut the steak off the mammoth. Probably there was a complex interrelationship, a feedback effect, between the surplus food that large animals provided and the need for specialized tools plus modes of cooperation necessary for hunting large animals. Surplus food would make possible more leisure time in which to improve tools and human organizations, and the improved tools and cooperation would make hunting more efficient.

But better tools and techniques require proficiencies which must be *learned.* And learning depends on two conditions: capacity and experience. Hence larger brains were valuable, as was time (childhood) during which they could be used to develop proficiencies. If father could provide food for all, mother could spend more time caring for and supervising children. In

turn, an increase in "motherness" permitted infants to be physically dependent for ever longer periods of childhood. The direct survival value of more protection and indirect survival value of more education are self-evident. The significance of fire is truly complex.

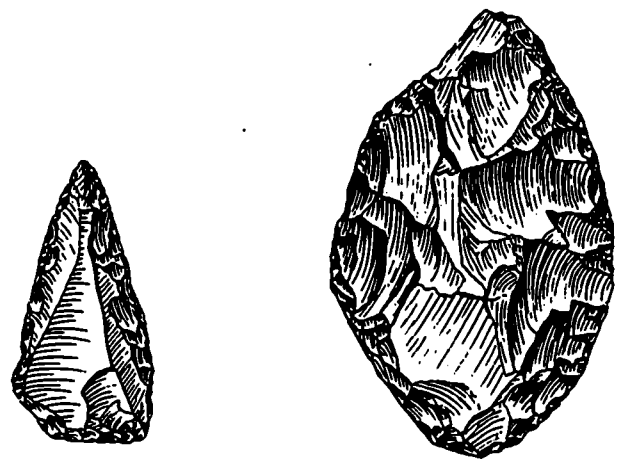
The central idea to be derived from all the foregoing discussion is that a great many closely intertwined factors constitute the process of human evolution. I have emphasized fire, but to insist that any single factor was dominant amounts to asserting that there is a simple answer to a chicken-or-egg-first kind of problem. From one point of view the invention of the biface stone tool was an evolutionary drop in the bucket. On the other hand, if there had been no tool with which to reduce those large, meaty carcasses to portable, cookable, dimensions, we might still be speechless, fireless, ape-brained vegetarians!

Who Is the Sapient Man?

The modern form of man, *Homo sapiens*, evolved from *Homo erectus* between approximately 200,000 and 40,000 years ago. Unfortunately, this is a period for which cultural evidence is weak and skeletons difficult to date. Part of the problem is that radio-carbon dating is not very accurate for events that happened more than 50,000 years ago, while potassium-argon dating was until very recently practically useless for dates of *less than* a half-million years ago.

In any event, apparently there was not much change in tool traditions during this time although hand axes and flake tools became increasingly refined. In the latter third of this period a somewhat different tool kit appeared in Europe. The culture it represents is called the "Mousterian," after a cave in France where it is well represented. The kit is characterized by a gradually reduced number of hand axes and chopping tools and a great many more flake tools, including the Mousterian stone "points," probably used as spear tips. Also included are the first definite implements of bone, consisting mainly of stone-working compressors.

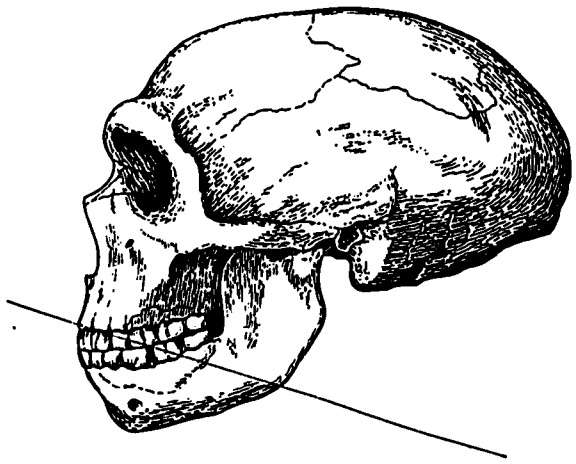
The Mousterian period spans an interglacial and a portion of the last glacial. During the interglacial the huntable large game became somewhat different and species of small game adapted to the warmer climate appeared. The gradual changes in kinds and variety of game available may have been responsible for such changes as occurred in the tool kit.



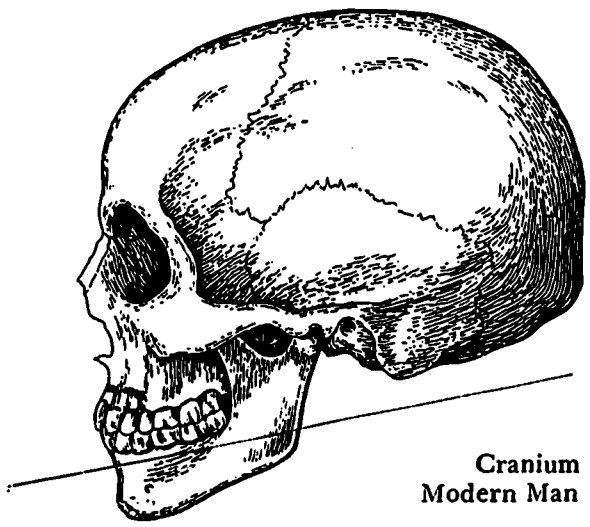
Mousterian tool kits are likely to be dominated by such carefully retouched flake tools as points (left) and scrapers (right)

The brain of Mousterian men had become at least as large as ours. This is not to say that they actually looked like us, for the nose and middle portion of their faces protruded more and the length of their heads from front to

back was generally greater than ours. While contemporaneous Mousterian men in Africa ("Rhodesian Man") and in Indonesia ("Solo Man") were obviously different in many details (much as local populations differ today), they shared these features in part.



Cranium
Neanderthal Man



Cranium
Modern Man

A more popularly recognized name for Mousterian man in Europe is "Neanderthal." Argument concerning his origins and fate still rages. It stems from two related problems. One is that there is very little skeletal material which can be considered transitional between *Homo erectus* and "Neanderthal." What little there is is fragmentary and difficult to interpret. The other problem is that Neanderthal of Europe *seems* to have disappeared "abruptly" at the beginning of the upper paleolithic, around 40,000 years ago. Some explain the disappearance as replacement by immigrants indistinguishable from ourselves.

Most scholars agree in general that Mousterian man throughout the world was a direct evolutionary product of *Homo erectus;* that his brain increased to modern size before the large face shrank to modern size; and that he was replaced not by previously evolved immigrants but by the product of his own evolution. But there are great reservations concerning what happened in Europe, and the subject calls for well-chosen words!

The situation at the beginning of the last glacial, then, can be summarized as follows. The size of the human brain had increased again by half (i.e., since *Homo erectus*), yet the tool kits had not comparably improved or increased in variety. One inference is that either food was not very difficult to obtain or the menu provided little choice, for intelligent men can be expected to have been as inventive as they needed to be. That is another way of saying that if there were strong competition for a limited food supply, there should have been more technological advances than seem to have occurred, especially since population density must have been increasing. But we must also consider that man's experience with technology was still relatively meager.

Mousterian men were imaginative, which further leads us to believe that their kind were as inventive as they needed to be. They had a cave bear "cult," with ceremonial skulls and ritual "killing" activities. They buried their dead, sometimes in carefully selected positions in "cemeteries," and sometimes

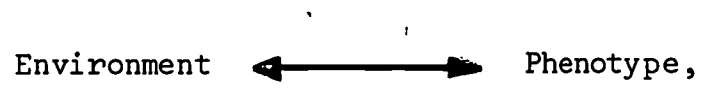
also with tools and food. And there is occasional evidence that some of them practiced ritual cannibalism. In short, they had a conscious belief in some sort of afterlife. Depending, of course, on how one chooses to define the term, *human* would certainly *seem* to be the word for Neanderthal.

Culture Had Something to Do with Everything

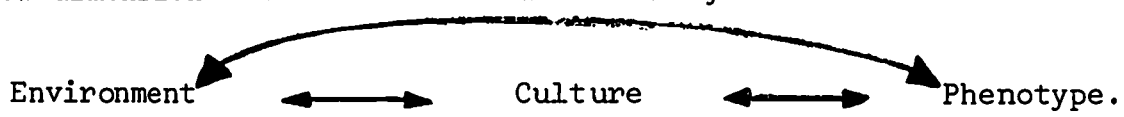
Evolution through natural selection is merely the simple and obvious result of the fact that in every population some individuals produce more surviving offspring than others, generally because they happen to hit it off better with their environment. That is, they may live longer, start reproducing earlier, or be a bit more fertile, etc., than the average. In an environment filled with the swish of flycasting rods, a trout that prefers eating worms from the bottom of the pond is likely to sire more than the average number of fry--all else being equal. A proportion of his offspring may be prone to favor worms too, inheriting the preference from their parent, while the others continue to leap at flies and feed sportsmen. And so on. Oversimple indeed, but this illustration should serve to make the point. Natural selection is not a conscious striving toward some evolutionary goal; it is rather the effect of differences among individuals that lead to *differential survival of progeny* which can, in the course of time, lead to a marked shift in the characteristics of a whole population.

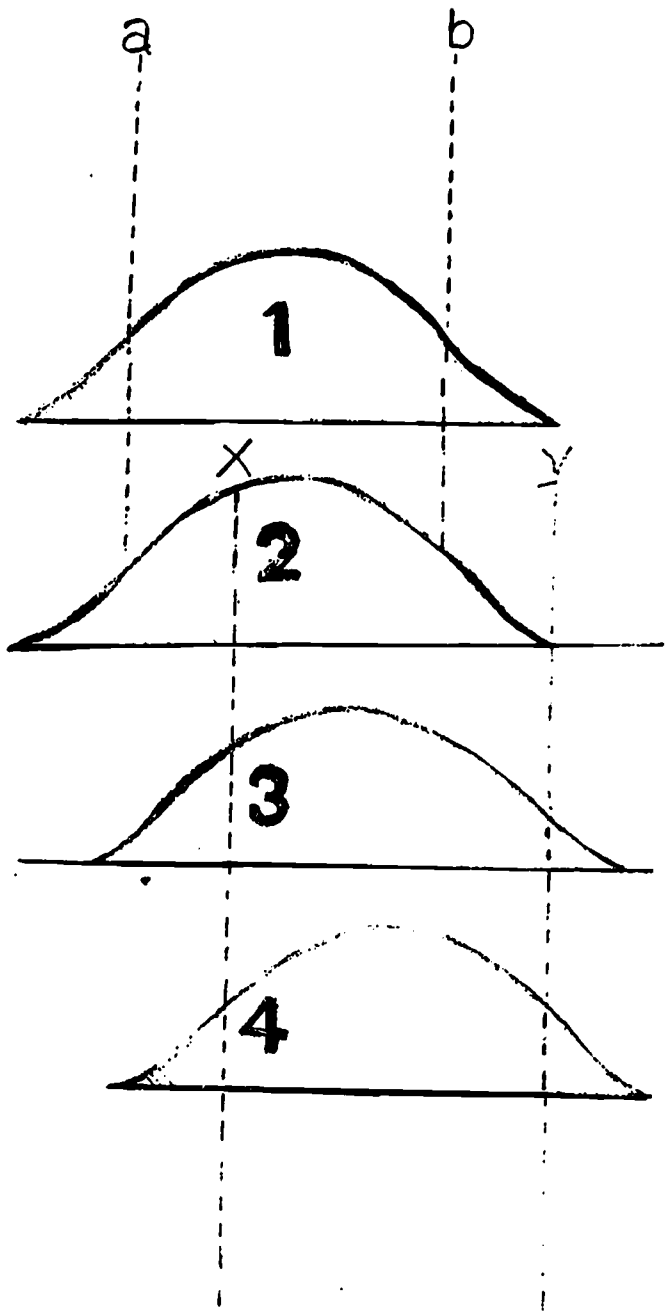
What has all that to do with culture? Among all other living species, natural selection is the effect of complex interactions between the environment and the phenotype. (The *set* of *inherited* characteristics of an organism as they are outwardly expressed--that is, aspects of its anatomy, physiology, and behavior--constitutes the phenotype.) For example, a drop of the mean annual temperature in the environment of a population of squirrels might be selective for squirrels with thicker coats, heavier bodies, higher metabolic rate, or some combination of these, with the result that, in the course of many generations, the whole population would be phenotypically (observably) different from the ancestral one. But the squirrels might also begin to build warmer nests in different places, or to eat different foods, of they *might* just move to a warmer climate--so that, subtly, by any one or more of such actions over many generations, the squirrels would be "changing" their environment too, through feedback.

Culture as Feedback's Middleman. With prehumans, natural selection operated by the same general sort of feedback system,



until prehumans began to use and to make tools. Then the tools became substitutes for adaptive phenotypic changes. Metaphorically, the tools became extensions of their anatomy, physiology, and behavior. At that point a new dimension was added to the feedback system:





A simplified expression of the change in biological characteristics of a species through natural selection. The four curves represent a population at different points in time. The dotted lines a and b and x and y represent the limits of variation which the environment will allow to exist in the population. Individuals outside the environmentally permissible range (shaded areas) cannot survive, and their genes are lost to the population. When the characteristics of the environment change, and the limits shift from a and b to x and y, more individuals at one end of the range die off, but those at the other end--who would have died under the previous conditions--now survive. The range of variation produced by the population therefore shifts in the direction of the new limits (curve 3), and approaches stabilization within the new environment.

From here on our discussion emphasizes the interaction between environment and culture.

"Culture" in the diagram means primarily the making and using of tools, but it also means the establishment of *traditions* of group behavior that were adaptive to environmental conditions. At this stage we have, in effect, a situation in which a proto-human species had two ways of becoming adapted to environment: by direct phenotypic changes, as with other species; and by cultural innovations in lieu of phenotypic changes.

Cultural adaptation to environment can also be thought of as part of the environment--from as far back as the Australopithecine period of human evolution, since culture was responsible for the phenotypic changes which occurred over at least the next two million years. In other words, the proto-human "species," instead of becoming adapted to environmental conditions directly, invented culture as its adaptive medium and became adapted to culture! Some morphological results were anatomic changes for improving erect posture, for manual precision, and for greater brain size.

This sort of feedback arrangement was primary for a very long time, and it surely continues. But by the advent of *Homo sapiens* in his most modern form--by the beginning of the upper paleolithic, roughly 40,000 to 30,000 years ago--the adaptive *emphasis* had shifted almost entirely to the

Environment ⟷ Culture

interrelationship. This is not to say that environment no longer influences morphological and physiological changes in populations. It continues to do so, but less importantly, because the environment itself is so much shaped by culture.

Experience Must Be Stockpiled. The fact that material cultures changed so slowly before the upper paleolithic is explainable as analogous to the principle of compound interest operating on a penny to start with and building a $1,000,000 fortune. The total wealth does grow at an accelerating rate, but the increments at first are so miniscule as to appear negligible--and no doubt nature is not nearly so punctilious as the First National Bank in keeping accounts. Likewise, the steam engine could not have been desired or conceived of, much less devised, without knowledge of metal-working, mechanics, temperature-pressure relationships, etc.--the cultural inheritance of thousands of years' accumulation of experience.

By about 30,000 years ago enough basic discoveries seem to have been made so that cultures, as we know them archeologically, could begin truly to become differentiated from one another. A broad cultural base of traditions and experience having been accumulated, men began to adjust their cultures more precisely to ecological differences through time and space. In effect, man by now had more influence on his envrionment than his enrionment had on him morphologically. In a sense, environment and culture merged so another way of thinking about the major feedback system relevant to human change would be

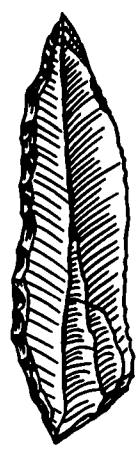
Culture ⟷ Phenotype.

THE UPPER PALEOLITHIC: Man Takes the Reins

Homo sapiens of 30,000 years ago was morphologically, physiologically, and probably psychologically not different from us in any way that is worthy of mention. His tools were considerably more efficient than his ancestors' by virtue of a new technique for finishing stone tools: a punch, or chisel, had been introduced between the hammer stone and the stone being worked. This technological improvement allowed force to be applied more precisely and concentratedly so that it was possible to strike off long flakes (or blades) that had very sharp edges. These make excellent knives, and many could be struck from a single core of stone.

Hunting must have been much more productive with the invention of the spear thrower, a sort of handle for the spear that served to increase the length, and hence the leverage, of the throwing arm. Most of these developments took place in the midst of the last glacial period, within the space of about 20,000 years.

The post-glacial level of culture seems to have had much in common with that of some northern aboriginal tribes of North America--for example, the Eskimos. To combat the cold in various places clothes were sewn from skins (eyed needles of bone have been found) and earth lodges were devised for shelter. Hunting tools were closely suited to the prey: such as "Solutrean" points, especially good for penetrating the tough hides of bison and other large game; and later "Magdalenian" bone harpoons to which lines could be attached to prevent the escape of speared animals. Traps of many sorts were devised, and animal skins were sometimes used as hunting disguises.



Knife

Chisel

Cooperative Effort Pays Off. A high degree of social organization is indicated by "kill sites," where the bones of vast numbers of mammoths or other large game corralled in gorges or herded over cliffs attest to successful drives. Needless to say, such hunting materials and methods needed and could support large groups of people. Bands grew, and there is no doubt that the total population grew too.

If each of us had to hunt his own food and manufacture his own shoes, none of us would have time to sell insurance, teach history, or write about early man. Nor should we likely be more than barely effective at hunting or shoe-making, for--at least up to a point--specialization and expertise go together; and together they release more "leisure" to think about more invention.

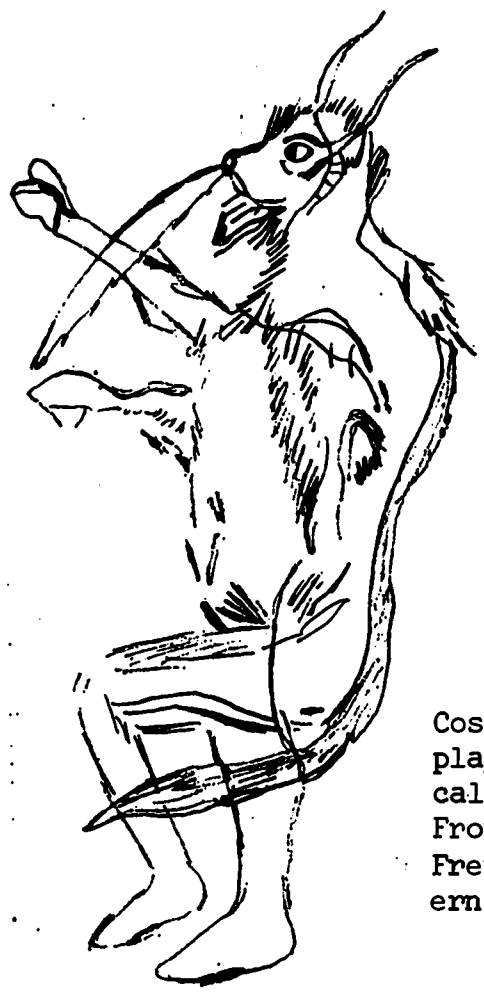
Leisure also fostered further experimentation in mysticism--magic and religion--and in artistic proficiencies scarcely surpassed to this day. But probably the upper paleolithic artists who painted animals on cave walls considered their work highly "functional" rather than "artistic," the purpose being

perhaps to ensure a continuing plentiful supply of game. Whatever the function, the upper paleolithic artistic quality produced in France and Spain was not to be approached again for nearly 10,000 years.

While we have barely touched on the characteristics of our antecedent upper paleolithic cultures, it should be quite clear that the last glacial period saw man in Europe elaborating his culture to a high degree of both adaptation and *adaptability*. He had become culturally flexible, prepared for eventualities.

THE MESOLITHIC: Man Applies the Spurs

The beginnings of new human ways of life coincided with the most recent retreat of the glaciers, which began about 10,000 years ago. As the regions of high rainfall were redistributed, equatorial grasslands which once supported game for the larders of much of the world's population were turned slowly to sterile, rainless deserts. Concurrently the grazing lands which had provided food for upper paleolithic man in Europe were gradually invaded by dense forests. As the tremendously heavy glaciers melted, causing readjustments of land levels, sea levels and shore lines underwent corresponding cycles of change. All over the world groups of people were offered new ways of making a living.



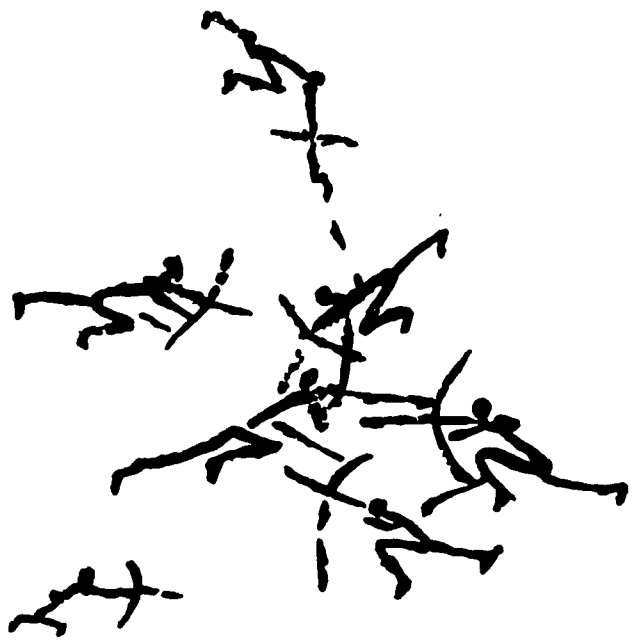
Costumed figure playing a musical instrument. From Les Trois Freres (southern France)

Under the circumstances it doesn't seem surprising that the variety of cultures proliferated in this period--into what we call mesolithic cultures. Here the advancing forest nudged a population toward the sea while the shoreline rose to meet them, and people became fishermen and hunters of shore birds. There another group became forest dwellers--hunters of deer, wild pigs, and other forest creatures. It is quite clear that the most recent glacial retreat brought an end to large herds of big game coincident with considerable population and cultural dispersal, at least in Europe. To exploit smaller game, not always in herds, required new ways of hunting and doubtless led to the invention of the bow, so efficient for a lone hunter. One bit of cultural uniformity in the European mesolithic is the production of much smaller stone implements (microliths). They were made possible in part by the blade-making techniques of the upper paleolithic, and made desirable in part by the invention of the bow, for they were useful as arrow tips, and for a variety of other purposes. Dogs were domesticated; fishermen built boats of skin streched on wooden frames and fished with hooks fashioned from drilled bone discs; and in the north, near the edges of retreating glaciers, sleds and skis were invented.

While variety increased, elegance of tools and artistic creations declined during the mesolithic. This fact could be explained by reasoning that an early effect of the disappearance of large game was that fewer people could survive in any one place. A smaller group, pressed to try some new way of making a living, would fashion new kinds of tools to fit their particular needs but by cruder means than some ancestral specialist of the upper paleolithic commanded. However, since we find only the imperishable remains of tools, those which were composite (say, of stone and wood) may have been more efficient and even fancier than tools of the upper paleolithic. It is safer to say of mesolithic tools only that styles *changed* as populations rapidly adjusted to the changing environment.

Cave paintings were monochromatic and sketchy, often in the form of very stylized figures, but they are the earliest to show *people* performing "everyday" kinds of activities, especially hunting. A sign that men were occasionally in serious competition is in paintings that show groups of archers shooting at one another! Apparently the mesolithic saw some beginnings of organized warfare, and it is reasonable to suppose that some major causes were disagreement over rights to food resources.

Competition for food during the mesolithic also led to discoveries of new kinds of foods and the development of more efficient ways of getting them. Another use of microliths, for example, was to set them side-by-side in shafts of wood. Were they sickles--for seed-bearing grasses?



Archers fighting. Painting in dark red. Morella la Vella, Castellon. Scale approx. 2/3. (Eastern Spain: Mesolithic)

The major theme of the mesolithic was that groups of people learned to occupy smaller areas and to exploit their environmental resources more intensely. Instead of moving from place to place (which would have been progressively less easy in the mesolithic, for populations had increased to the point where much of the best land was occupied), groups tended more often to stay put. This increased settledness fostered *even more* precise adaptation to the particulars of the environment. It fostered also higher levels and greater stability of intra-group communication and social interaction, because range restrictions imply a need for a group to stay at home and intact to defend its territory from poachers. Furthermore, the frequent closeness of group locales fostered trade of both goods and ideas across local group boundaries.

The late Pleistocene changes of climatic and general environmental conditions severely tested the adaptive plasticity of human cultures. It was the aptitude of the human species for cultural diversification that gave it dominion over almost every major geographic and ecological zone on earth. Man's problem of

making the most of local environments led to the beginnings of animal and plant domestication. Climates since the most recent glacial retreat have obligingly cooperated by favoring broad distribution of domesticable ruminants (sheep and goats), of cattle, and of the warm-/dry-adapted wild food plants wheat and barley.

Where the rich lands of the Near East could be irrigated to grow wheat and other food plants they could maintain human populations of previously impossible density and hence size. Agriculture may already have appeared in parts of Europe also, but generally on a smaller, more individualistic scale; where irrigation was not necessary because rainfall was adequate, there was less need for the cooperative efforts of great numbers of people. It may be for such reasons that cities and the beginnings of recorded history rooted and grew out of the "Fertile Crescent" of the Near East.

Social Education, Vol. XXXII, No. 2
February, 1968

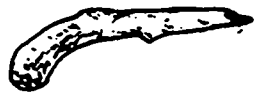
Objectives	Activities	Resources
Fossil Man A. Ancestors to men are found in the order Primates. Man did not descend from the monkey. Both man and apes probably descended from a common primitive primate, closely related to the toll shrew and lemur, that has since disappeared. B. Time and location of the seperation of Hominid has not been definately established. C. The fossils we have are believed to be from the line that eventually produced Homo sapiens.	Show film: In Search of Man Terms that should be familiar: Brachiation Lumbar Curve Bi-Pedalism Pronograde Foreamen Magnum Prognathism Simian Shelf Olduvai Gorge Use of comparison to illustrate evolution. Use of National Anthropological Project Cards on tools and on anatomy in class.	Film: In Search of Man -(Wolper Prod.) Filmstrip FS-573-Fo - Fossil Man, Part I and II K Simons, Elwyn L., "The Early Relatives of Man", Scientific American, Vol. 211, No. 1, (July, 1964), pp. 50-62 Leakey, L. S. B., "Adventures in the Search for Man", National Geographic, Vol. 123, No. 1, (January, 1963), pp. 132-52. Filmstrips FS-573-Ma - Man's Serach for His Ancestors FS-573-MA - Man in the Animal Kingdom FS-599-Ma - Man and other Primates FS-913-Ma - Man's Origins Washburn, S. L., "The New Physical Anthropology", Transactions of the New York Academy of Sciences, Series II, Vol. 13, No. 7, 1951, pp. 298-304

	LOCATION	DATE OF DEPOSIT	FOSSIL MATERIAL	CRANIAL CAPACITY
Australopithecus				
-Homo habilis	Olduvai Gorge	Upper Pliocene	Parts of skull, hand, foot, scapula, upper molar tooth.	682 cc.
-africanus	South Africa	Lower Pleistocene	Infant skull; 24 milk teeth; 4 permament teeth.	600 cc.
-robustus				
-Zinjanthropus	Olduvai Gorge	Upper Pliocene	Near-adult skull.	600 cc.
Homo erectus				
-erectus	Java	Middle Pleistocene	Skullcaps, limbs, and teeth.	900 cc.
-pekinensis	China	Middle Pleistocene	Parts of skulls, jaws, and teeth.	1300 cc.
-Chellean-3	Africa	Middle Pleistocene	One skull.	
-Ternifine	Algeria	Middle Pleistocene	Part of skull; jaws, teeth	
-Modjokerto	Java	Lower Pleistocene	Skullcap of baby.	
-Telanthropus	South Africa	Lower Pleistocene	Jaw: two molars.	
Homo sapiens				
-Solo Man	Java	Upper Pleistocene	Skull parts; tibias.	1300 cc.
-Rhodesian Man	Rhodesia	Upper Pleistocene	Skull	1200-1300 cc.
-Salanha Man	Africa	Upper Pleistocene	Skull parts.	1200-1300 cc.

	LOCATION	DATE OF DEPOSIT	FOSSIL MATERIAL	CRANIAL CAPACITY
-neanderthalensis				
-Classic	France	Upper Pleistocene	Complete skeletal remains	1300-1800 cc.
-Mt. Carmel	Palestine	Upper Pleistocene	Skulls, skeletons, teeth.	
-Shanidar	Iraq	Upper Pleistocene	Skulls, skeletal remains.	
Homo sapiens				
-spaelus				
-Steinheim	Germany	Middle Pleistocene	Female skull.	1000 cc.
-Swanscombe	England	Middle Pleistocene	Female skull parts.	1300 cc.
-Fontechavade	France	Middle Pleistocene	Skull parts.	
-sapiens sapiens				
-Cro-Magnon	France	Upper Pleistocene	Five skeletons.	1660 cc.
-Grimaldi	Monaco	Upper Pleistocene	Two skeletons.	
-Predmost	Czechoslovakia	Upper Pleistocene	Forty skeletons.	
-Bruun	Czechoslovakia	Upper Pleistocene	Several skeletons.	
-Combe Capelle	France	Upper Pleistocene	One skeleton.	
-Chancelade Man	France	Upper Pleistocene	One skeleton.	

MAN ADVANCES BY LEARNING TO USE HIS HANDS . . . AND HIS HEAD

An Upright Man-Ape



The first creature to stand upright and use tools probably lived three or four million years ago during the Pliocene epoch. Remains of this manlike primate have not yet been found, but his skull may have resembled a modern ape's (left). Note the small brain cavity, high brow-ridge, and the flat nose and large jaw. The manlike primate used his hands for fighting, picking fruit, and hurling rocks. Perhaps his best tool was a heavy branch-club, right.

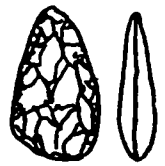
An Ape Man Who Hunted

Zinj belonged to a group of South African ape men called Australopithecus. They lived during the Lower Paleolithic period as early as two million years ago. The brain of this ape man was slightly larger than that of the ape, but his jawbone was smaller. He held his head erect, and possibly he had the power of speech. His tools were pebbles (the front and back sides of two are at right) which he used to kill and skin small animals. Some ape men were less than 5 feet tall; others weighed up to 150 pounds and stood as tall as full-sized men.

A Man Who Could Cook

About 700,000 years ago, in the second half of the Lower Paleolithic period, the first true man appeared. The skull shown here is that of Peking man, a fossilized skeleton found in a Chinese cave. His brain was twice as large as that of the ape, and his cranium was higher and more rounded. A typical tool was a crude chopper (at right) that was well suited for working hides. There is evidence that Peking man could preserve and use fire. He soon learned how to cook meat and keep his family warm in the winter months.

A Man With New Weapons

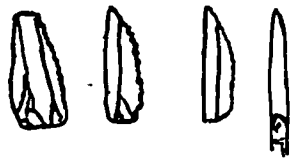


The first evidence of true man discovered in Europe was Steinheim man and his contemporary, Swanscombe man. They lived 250,000 years ago and were very much like men today, although their bones were thicker. The whole Steinheim skull was not found (the jaw was missing), but the brain size can be estimated from the cranium, which is little larger than Peking man's. He had the sense to construct a good hand axe and other weapons for hunting large animals.

A Man Who Made Better Tools

Neanderthal man is not considered our direct ancestor; he had special characteristics not found in modern man. His physique was adjusted to the severe climate of the glacial period. He had a big head with correspondingly large brain, face, and nose. He was heavy and muscular but stood only 5 feet 4 inches tall. The earlier Neanderthals of 90,000 years ago used the large Mousterian scraper and saw-tooth points (right) to chop up their bear meat and other food. Neanderthal man disappeared about 40,000 years ago.

A Man Who Could Paint



Upper Paleolithic man followed the Neanderthals into Europe. The newcomer lived from 30,000 to 10,000 years ago. He was almost like us; slightly shorter but with a lean and slender body. His skull and brain were of moderate size, and his facial features were no different from ours. He was quite a talented artist and craftsman who was capable of abstract conception. Among his specialized tools was a flint with one razor-like edge and one blunted edge (right). This ingenious tool, known as a backed blade, evolved into the modern knife.

Taken from The Search for Early Man by John E. Pfeiffer (New York: American Heritage Publishing Company, Inc., 1963).

HOW MODERN MAN (HOMO SAPIENS) DEVELOPED

Homo Sapiens is Ten Minutes Old

The diagram on page 59 permits a graphic presentation by the teacher of the duration of life on earth and the relatively brief period since man's appearance. The diagram can be reproduced, held up for the pupils to see, projected in an opque projector, or used in an overhead projector after a transparency has been made.

The following is background material for the teacher. It is not intended to be read verbatim to the pupils but to be adapted to the ability of the class:

The thousand million years or more which have passed in the history of our planet since the first forms of life made their appearance seem to us so astronomical and overwhelming that to distinguish eras and dates is almost impossible. We, who think in hours, days, and months, need a convenient yardstick. Professor Louis-Rene Nougier in his book, Human Geography in Prehistoric Times, has provided one by condensing the history of life into one year, shown in the graphic representation of page .

"Man is a late arrival in the world's long biological development, though his existence extends over thousands of years. We can show this by a simple transposition of the scale of time. Let us suppose that the major events of the biological evolution on our planet were condensed into a single calendar year and that January 1 represents the first appearance of life in the world. We must wait until the end of July to find the first marine vertebrates. The great reptiles and first mammals do not appear until the second half of October. December 13 marks the beginning of the Tertiary Age with the first ape-like creatures.

"Not until 2 p.m. of December 31 do we enter the Quaternary Age, the last of the vast geological periods in which man appears. At 5:30 p.m. the pre-hominids (Pithecanthropes and Sinanthropes) arrive, but the first vestiges of homo sapiens are still to come. Swanscombe Man....enters the scene about 8 p.m., and the many traces of Neanderthal man appear about 11:40 p.m.

"It is not until ten minutes to midnight that homo sapiens definitely comes on to the stage....Now we must count only in seconds. The Neolithic Revolution explodes in the West at six minutes to twelve, 15 seconds. The Bronze Age begins at one minute to twelve, when recorded history is barely a few seconds old, and somewhere in the Orient man has invented writing.... At midnight our condensed year ends. And in 2000 A. D., forty years from now, we will have spent only one full minute of the new year on this reduced scale."

Reference: Adapted and reproduced from The UNESCO Courier, March 1961, pp. 16-17.

Skills:

To acquire a sense of prehistoric and geological time.

To comprehend various systems of reckoning time, particularly the Christian system of chronology.

To understand differences in duration of various historical periods.

To learn to use such definite time concepts as era, century, decade.

Suggestions for Further Pupil Reading and Research:

Colbert, Edwin, Millions of Years Ago. Crowell, 1958, pp. 121-150.

Hillyn, V. M., Child's History of the World. Appleton, 1951, pp. 10-15.

The Evolution of Man

Portraits of man through the ages can be posted for class analysis or can be projected through the medium of the opaque or overhead projector.

Questions for Discussion:

In these "portraits" of man, what major changes do you see between the appearance of early man and the man of the future?

The author of this article refers to a number of changes that have taken place in man: the growth of his brain, the shrinking of his jaw, and loss of body hair. How do you think the changes in man's way of life have helped bring these about? (Brain has adapted to increasingly complex world; jaw has shrunk from changes in diet and function of chewing apparatus from early human history; body hair has lost its functions because of clothing, artificial shelter, use of fire.)

If you had a choice in the way you would like to look, which of the forms of man shown here would you most like to resemble? Why?

Skills:

An ability to draw valid conclusions on the basis of the evidence presented and thus learn some elements of historical method.

An appreciation of the value of pictorial materials as sources of information and the capacity to make inferences from the pictorial data presented.

How Man Was Able to Improve His Way of Life

After previewing the filmstrip "Prehistoric Man" (Eye Gate House, item # 51300.18), select those frames that emphasize the ability of man not only to adapt to his environment but to improve it and to develop a pattern of technological and cultural progress.

The following questions can serve as guides for discussion after the pupils have seen the filmstrip:

a. What abilities did prehistoric man have that made him superior to other species of animals?

b. Why did prehistoric man eventually settle in one place?

c. How did early man develop the beginnings of government?

d. Let the class study the last frame on the contributions of early man. Which of these contributions do you think helped prehistoric man most to survive and to advance?

Concepts:

All human beings have certain basic needs (A-S).

Man's present material and cultural level is an outgrowth of the accumulated knowledge and experiences of the past (A-S).

The environment in which a person lives greatly affects his opportunities for personal growth and development (A-S).

Man is a product of his past (H).

HOMO SAPIENS IS TEN MINUTES OLD

1 JANUARY

First signs of unicellular life appear on earth over 1,000 million years ago.

28 JULY

The first fish-like marine vertebrates appear more than 450 million years ago.

18 OCTOBER

Great reptiles and first mammals appear more than 200 million years ago.

13 DECEMBER

Tertiary Age begins with first ape-like creatures more than 50 million years ago.

31 DECEMBER

12:01 a.m. — The year 2000 A. D.

12:00 midnight — Iristian Era Begins

11:59 p.m. 45 sec. — Princess of Vix (525 B.C.)

11:59 p.m. — The Bronze Age (2,000 B.C.)

11:54 p.m. 15 sec. — Neolithic Period (8,500 B. C.)

11:50 p.m. — Homo Sapiens (20,000 years ago)

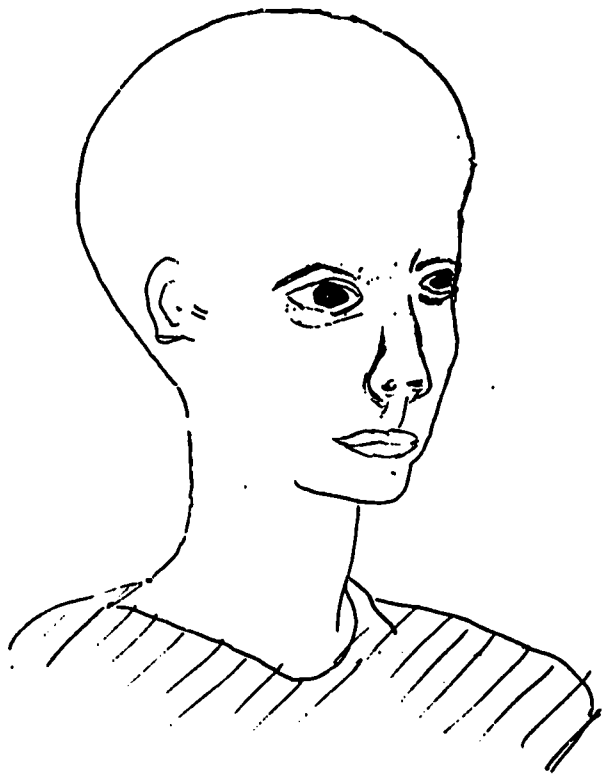
11:40 p.m. — Neanderthal Man (40,000 years ago)

8:00 p.m. — Swanscombe Man (50,000 years ago)

5:30 p.m. — Pithecanthropus Man (850,000 years ago)

2:00 p.m. — Quaternary Age (one million years ago)

WHAT MAN WILL BE
LIKE IN 101,961 A. D.



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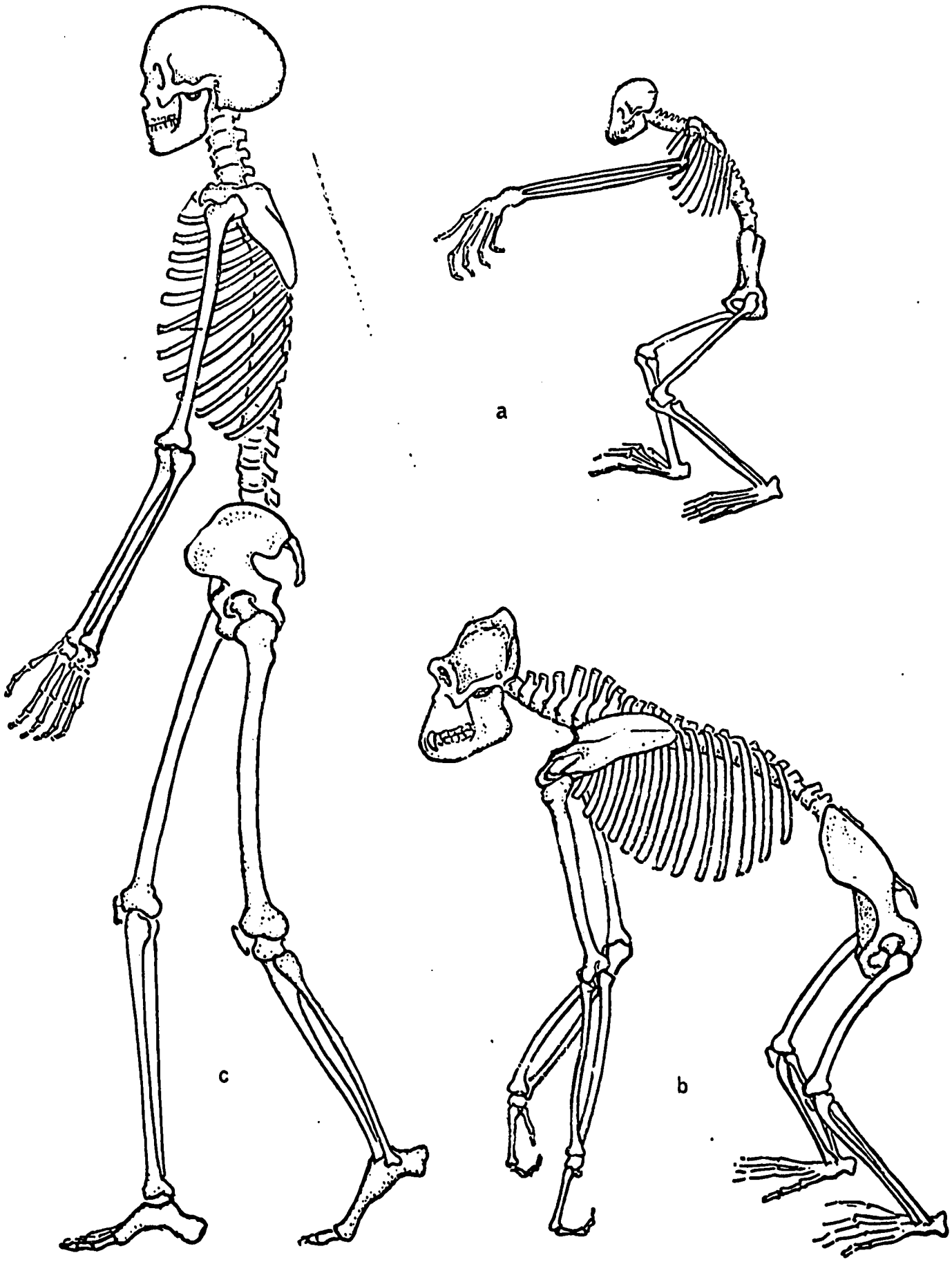

These figures adapted from UP FROM THE APE by Earnest Albert Hooton, Revised Edition Copyright 1946 by The Macmillan Company and used with their permission.

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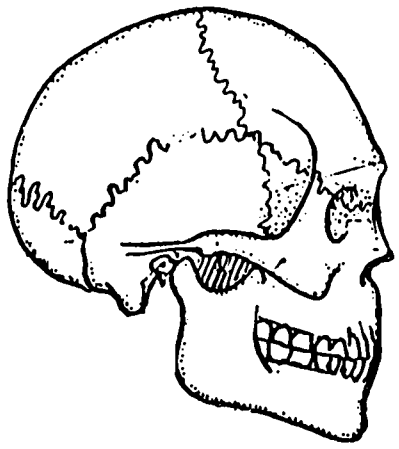

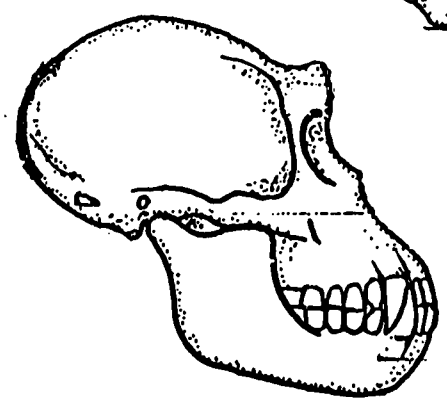

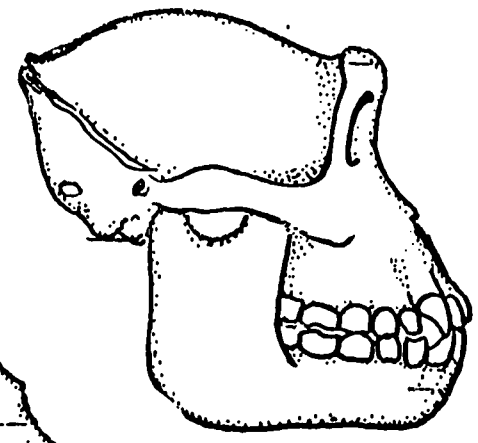

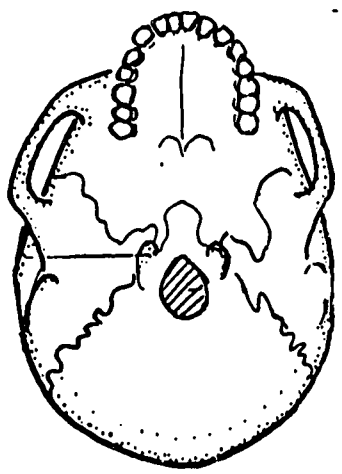

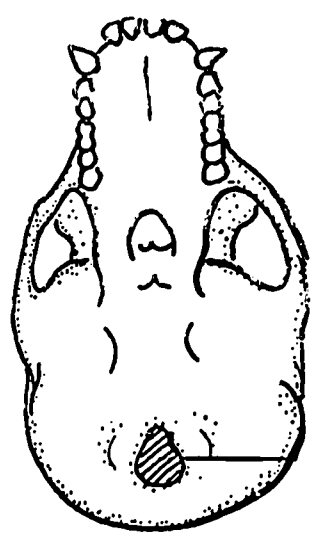

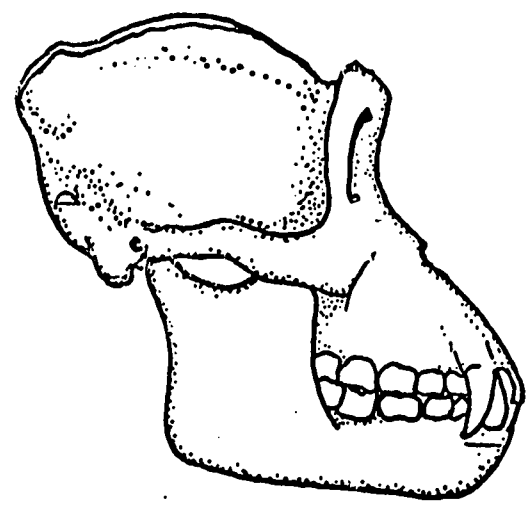

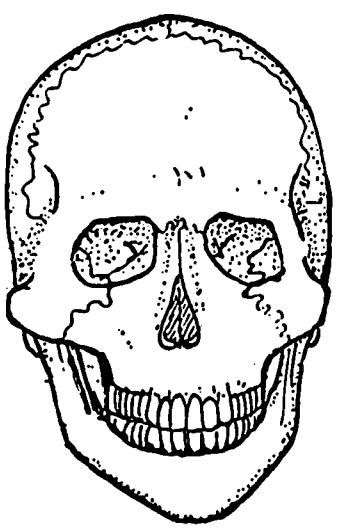

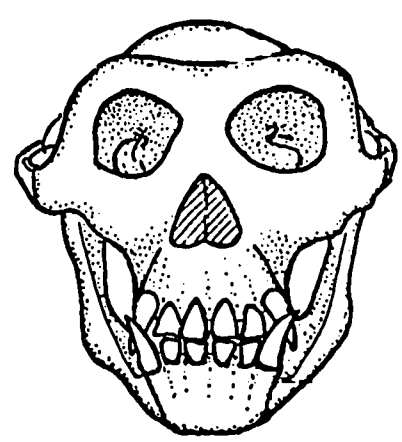

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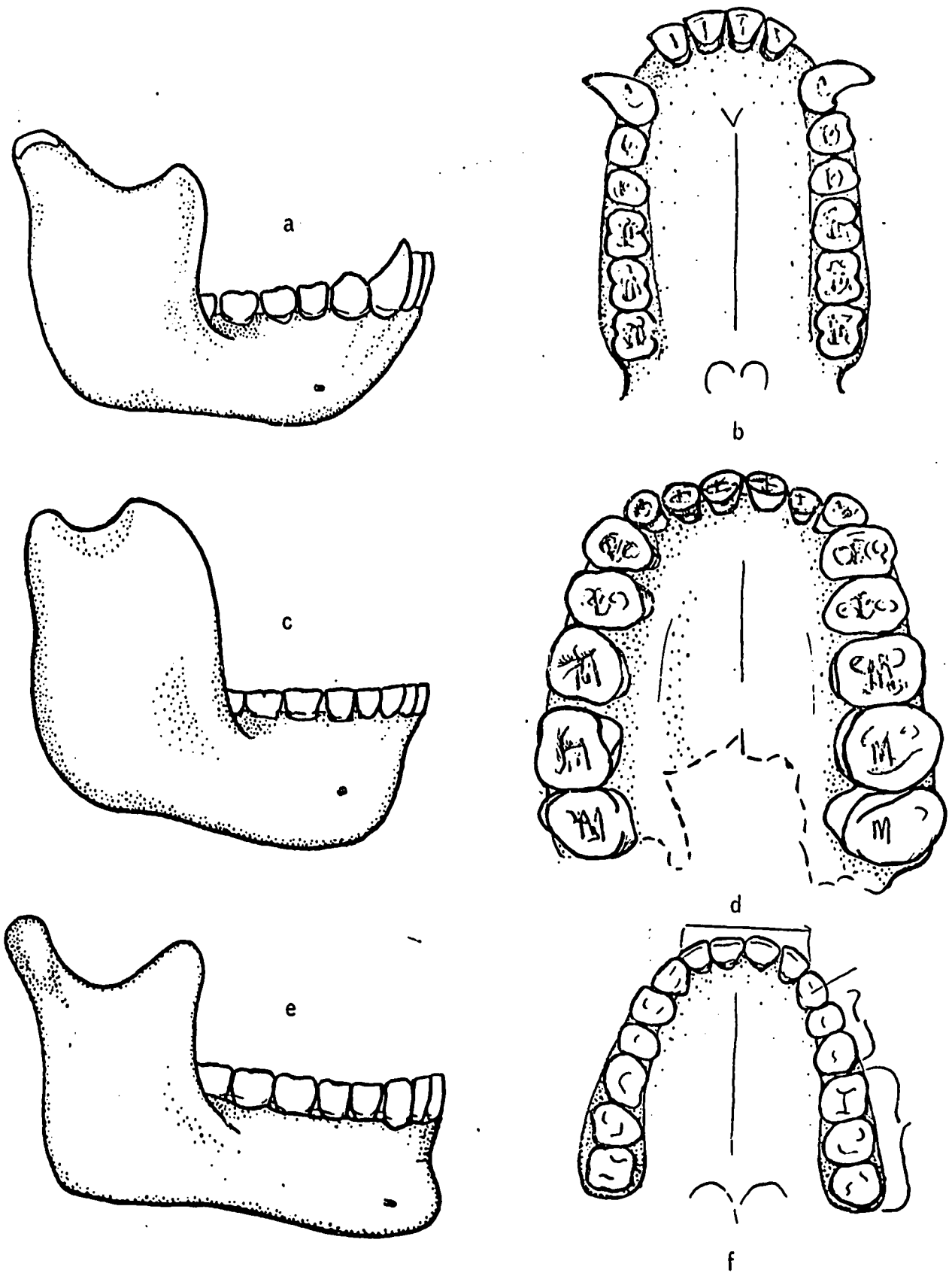

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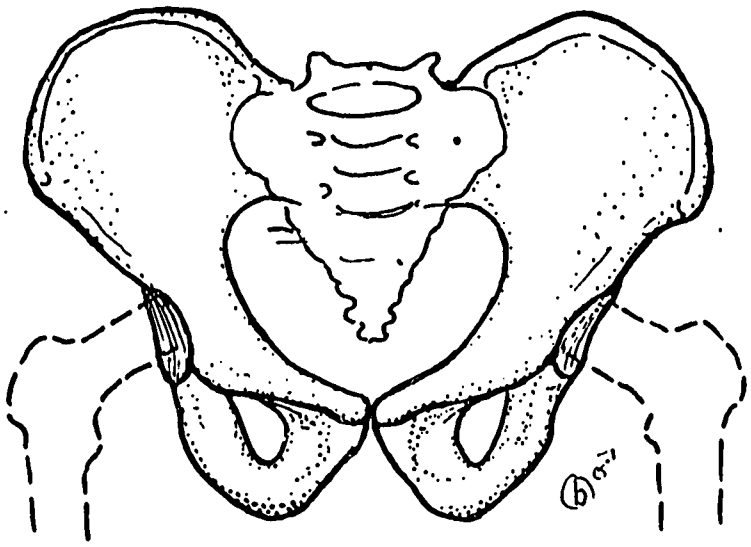

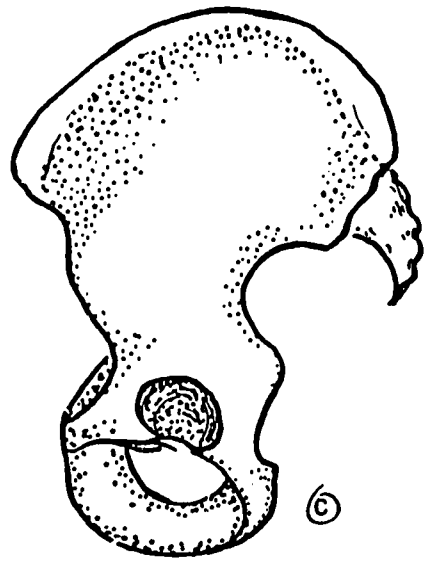

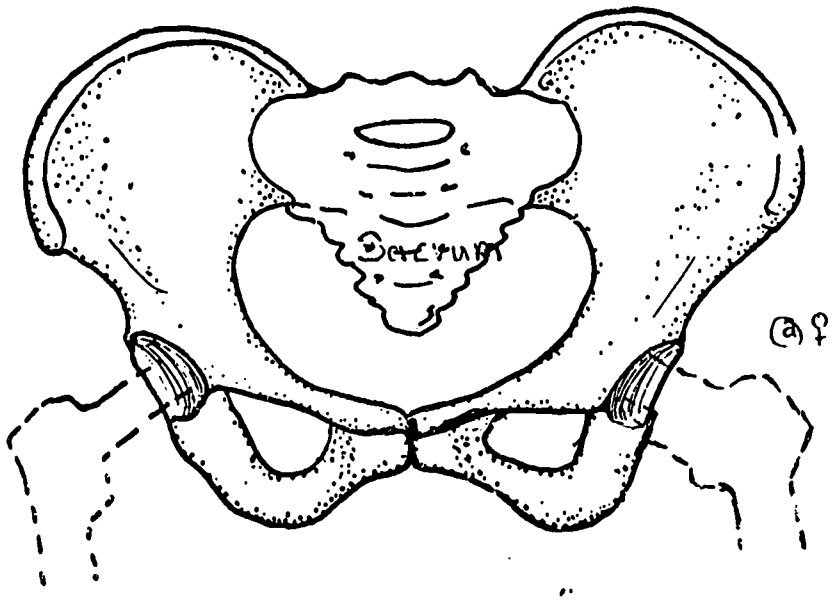

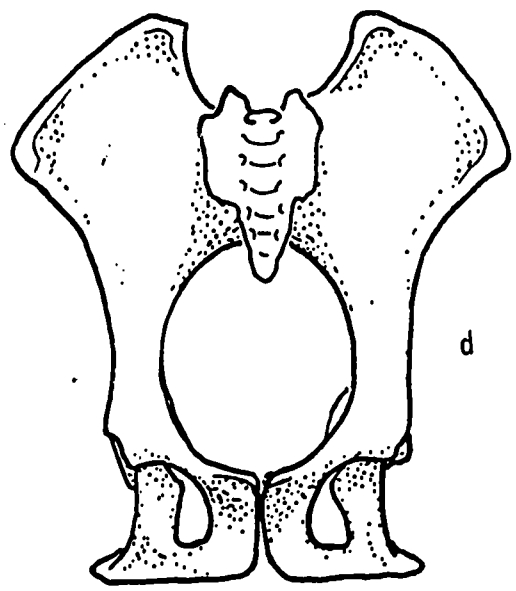

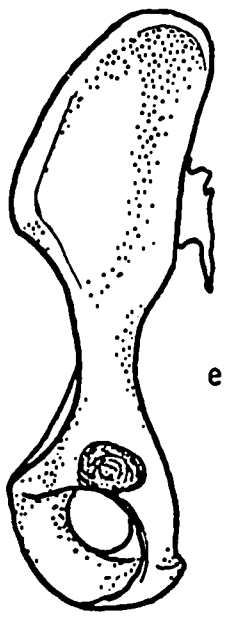

Race

Objectives	Activities	Resources
		Exercises 3-4 4-1 to 4-2 Primate Morphology 7-1 to 7-2 Fossil Man (make up)
		Farm and Function:
To get across the idea that race = a human population whose members breed among themselves and have become distinct from other populations by showing a number of common inherited physical traits. To work away from the old classification of race which is based on observable physical characteristics.	Concept of race to be discussed in groups. Show film: The Color of Man	Salzmann, Chapter 8 IMC - Film F1173 - The Color of Man J-S (12 min. color) This film gives the scientific explanation for racial skin pigmentation utilizing both photographic and cartoon techniques.
Race may be studied as: a. an extension of biology b. a cultural and social phenomenon	Group and/or individual work: "There is absolutely no scientific evidence to support the idea that human groups differ in inborn mental capacity." Some people persist in believing that certain races or minorities are superior in intelligence and ability to other races. Explore the scientific evidence that bears on this question of race and mental capacity.	Periodicals Salzmann, Chapter 8 Firth, Raymond, Human Types, Chapter #1--"Racial Traits and Mental Differences"

OVERHEAD AND WORKSHEET

	SKULL	TEETH	BODY AND LIMBS
Gorilla			
Chimpanzee			
Orangutan			
Gibbon			
Baboon			
Capuchin			
Tarsier			
Lemur			
Tree Shrew			

Review Sheet for Primate Morphology

Fill out the above with information or characteristics in three major areas: teeth, skull, and trunk and limbs. Include such information as dental formulae, location of foramen magnum, skull capacity, specialized characteristics of limbs and digits, mean stature and weight.

TAXONOMY OF MAN

Family: Hominidae

Genus: Australopithecus

Species: Homo habilis
Zinjanthropus boisei
Australopithecus africanus
Australopithecus robustus (Paranthropus)
Talanthropus

Genus: Homo

Species: Homo erectus

Subspecies: Homo erectus erectus (Pithecanthropus--Java Man)
Homo erectus pekinensis (Sinanthropus--Peking Man)
Homo erectus modjokertensis
Chellean-3 (uncertain classification)

Species: Homo sapiens
-Rhodesian
-Saldanha
-Solo

Subspecies: Homo sapiens spalus
-Steinheim
-Swanscombe
-Fontechevade
-Mt. Carmel
-Skhul
Homo sapiens neanderthalensis (Neanderthal Man)
-La Chapelle aux Saints
-Mt. Carmel
-Tabun
Homo sapiens sapiens
-Cro-Magnon
-Grimaldi
-Predmost
-Bruun
-Chancelade
-Modern Man

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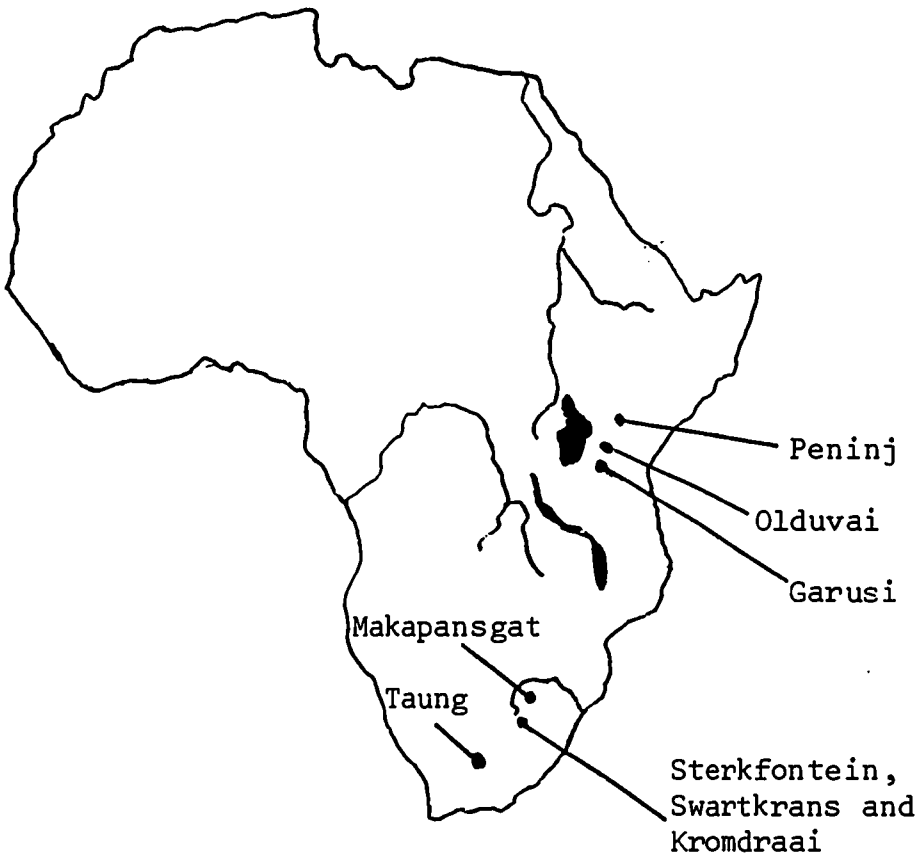

The African sites which have yielded fossilized remains of Australopithecus popularly known as ape-man, near-man, or half-man.

1924	Taung (South Africa)
1936-1949	Sterkfontein Type Site (South Africa)
1938-1954	Kromdraai (South Africa)
1939	Garusi (East Africa)
1947-1961	Makapansgat (South Africa)
1948-1952	Swartkrans (South Africa)
1955-1959	Olduvai (East Africa)
1957-1958	Sterkfontein Extension Site (South Africa)
1957-1958	Sterkfontein Extension Site (South Africa)
1964	Peninj, Lake Natron (East Africa)

IN SEARCH OF THE FIRST MAN
by Diane Sherman

A newcomer to the family tree may be the father of us all.

Deep in a canyon in east Africa, in 1962, Dr. Louis Leakey and his wife, Mary, made one of the most exciting discoveries in the history of man's search for his earliest ancestors. They found fossil bones of a man-like creature that appears to have lived nearly two million years ago. Dr. Leakey has named the creature Homo Habilis, which means "man able to do things." Was he the first man?

The Leakeys are both anthropologists (scientists who study man). They dug the remains of Homo Habilis out from what must have been the floor of a campsite. There were simple tools scattered about, and heaps of bones of catfish and small animals that Homo Habilis may have eaten. In spots, Dr. Leakey and his wife found stones piled together in what seem to have been the foundations for very simple huts or windbreaks.

They found parts of the skeletons of five different people, including a woman and a child. But there were enough of these fragments to tell a good deal about Homo Habilis. From the leg bones, scientists can tell that he walked upright and that he was only four feet high. In certain ways, his skull was shaped very much like ours, and his feet - like ours - had parallel toes.

Homo Habilis was very old. Was he the earliest man?

Early Man or Russian Soldier?

People have been looking for the earliest man since Charles Darwin, the great English naturalist, published a book titled "The Origin of Species" in 1859. In that book, he explained the theory of evolution and suggested that men had developed a long time ago from ape-like creatures. But three years before, in 1856, workmen digging out a cave in the Neanderthal valley of Germany had found some most peculiar fossils. They seemed to be the bones of a man, but what a strange man! He couldn't have had much of a forehead, because the top of his skull was low. There were heavy ridges across his brow and all his bones were very thick.

People were not sure what to make of Neanderthal man. One scientist at that time thought he must have been a Russian soldier who had gotten sick while chasing Napoleon's army back into France in 1814 and had crawled into the cave to die. Others thought he was just a freak.

But as more fossils of Neanderthal men were found in other parts of Europe, many scientists began to accept them as an earlier kind of man, a kind that had lived a long time ago. Perhaps there were fossils still buried of even earlier men - "missing links" that were even more like apes.

Men from Java and Peking

A young Dutch doctor named Eugene Dubois was determined to find out. In 1887 he sailed for Java, in the East Indies. Dubois thought that men had probably descended from ape-like creatures in a warm country. He also believed that fossil men would most likely be found where apes were still living. Java is a warm country

and the home of the orangutan, one of the great apes. It seemed a likely place to search.

Many people thought he was crazy to go to such trouble to find something that only might exist, but after several years of patient digging, he found the top of a skull. It was low and flat, like the skull of an ape. But it was too big for an ape - and too small for a man.

Nearby, Dubois found a human-looking leg bone. It had belonged to a creature that walked upright. Dubois decided that the skull and the leg bone belonged to the same creature - the missing link he had been searching for. He named it Pithecanthropus erectus, meaning "the ape-man who walked upright." But many scientists wanted more evidence before they would accept Java man as a true early man.

Then, in 1929, a skull was found in Peking, China. Because it was whole, the Peking fossil showed more plainly that its owner had been a man, not an ape. As excavations continued under Dr. Franz Weidenreich, chipped stone tools were found. Not only did these Peking men make tools, but bits of charcoal showed that they used fire as well. They even had clay hearths.

A little later back in Java more skulls were found by a young German scientist, G. H. R. von Koenigswald. When these skulls were placed side by side with the Chinese skulls, they proved to be quite a bit alike. Peking man is now called Pithecanthropus pekinensis, to show that he is quite close to Pithecanthropus erectus.

We now know that these ape-men lived between 500,000 and 250,000 years ago. Their remains have been found in North Africa as well as in China and Java. They were over five feet tall and lived in bands, gathering nuts and berries and hunting deer and other animals.

Starting in 1925, new discoveries were made in South Africa. A fossil skull found by a workman in a quarry was sent to Dr. Raymond Dart, of Johannesburg. Dr. Dart thought that the brain case was too small for the skull to have been a man's and he named his find Australopithecus, or "southern ape".

Yet the creature had some oddly human features. For example, its upper jaw was shaped like a man's and the teeth were small, even, and human-looking. Dr. Dart became more and more convinced that Australopithecus was closely related to man.

In 1936, Dr. Rovert Broom, of Praetoria, South Africa, found another similar skull. Two years later, he came across still another. Since then many more fossils have been found. They show that the Australopithecines, as these creatures are called, walked upright, as we do. Animal remains were found near their bones, which suggests that they were hunters. Stone tools were found nearby, but we don't know for certain that the Australopithecines made them. Animal bones were also found at their campsites and these may have been used as weapons or tools.

What Makes a Man?

What kind of creatures were the Australopithecines? Were they extra-intelligent apes? Or were they early men? The question of what makes a human being is a hard

one to answer. We didn't become man all of a sudden. There was a gradual change from "ape-like" to "human-like" to "human," and it took a very long time. The Australopithecines had many characteristics we consider human. For example, they walked upright and their teeth were much like ours.

Upright posture is an important part of being human but there are other things, too. Before we can say that a creature was human, we have to know how he lived. Did he pick up a likely-looking bone to use as a club whenever he happened to find one? Or did he deliberately hunt certain kinds of animals because he knew their bones would make useful tools or clubs? Was he satisfied with the club he found? Or did he know how to split it just so, to make it sharp?

In other words, we want to know if he had foresight, if he could plan his actions ahead. For example, a chimpanzee may pick up a stick to reach something, or he might throw a stone that is handy. But a chimpanzee will not make a tool. He cannot sit down and shape a tool in order to solve a particular problem. Man, then, has been called the tool-maker, because he is the only creature who makes tools.

While the Australopithecines' remains were being discovered, Dr. Leakey was digging for fossils at Olduvai Gorge in East Africa. Olduvai is a narrow canyon, 300 feet deep and 25 miles long. Long ago it was cut by the channel of a river which has long since dried up, exposing layers of fossil-studded mud and sand that had turned into rock with the passing of time.

Ever since 1931 the Leakeys had been digging here. They had found thousands and thousands of fossils of extinct animals - and numerous small chipped stones that must have been used by early man as simple cutting tools. Who had made these tools? Through year after year of patient digging, the Leakeys had found no trace of the early tool-makers.

The Man from Zinj

Then, in 1959, the Leakeys found a skull. It was bigger than an Australopithecine's but smaller than that of modern man. The bone structure of the face looked nearly human, though the forehead was very low. Strangest of all were the giant back teeth. The Leakeys named their discovery Zinjanthropus, "man from East Africa," and his age was fixed at 1,750,000 years, making him the earliest fossil man yet discovered - if he was a man.

Dr. Leakey had found pebble tools along with Zinjanthropus. But as the Olduvai excavations went on, it appeared that the tools had not belonged to Zinjanthropus but to another human-like creature. For, on the same campsite, the four-foot high Homo Habilis was discovered, and Dr. Leakey believes the tools to have been his.

Scientists used to think that each man-like fossil showed a separate step in the development of man. But here were Zinjanthropus and Homo habilis - living side by side. Perhaps Zinjanthropus and the Australopithecines are not our direct ancestors at all. It is more likely that there were several different man-types, all descended from the same ape-like ancestor. Only one of them eventually gave rise to modern man, the others, like Zinjanthropus and the Australopithecines, left no descendants.

Homo habilis may well be our direct ancestor. But he may not. His fossil bones are still being studied and the search for more fossils is still going on. We know much about early man, but there is a great deal more to be learned.

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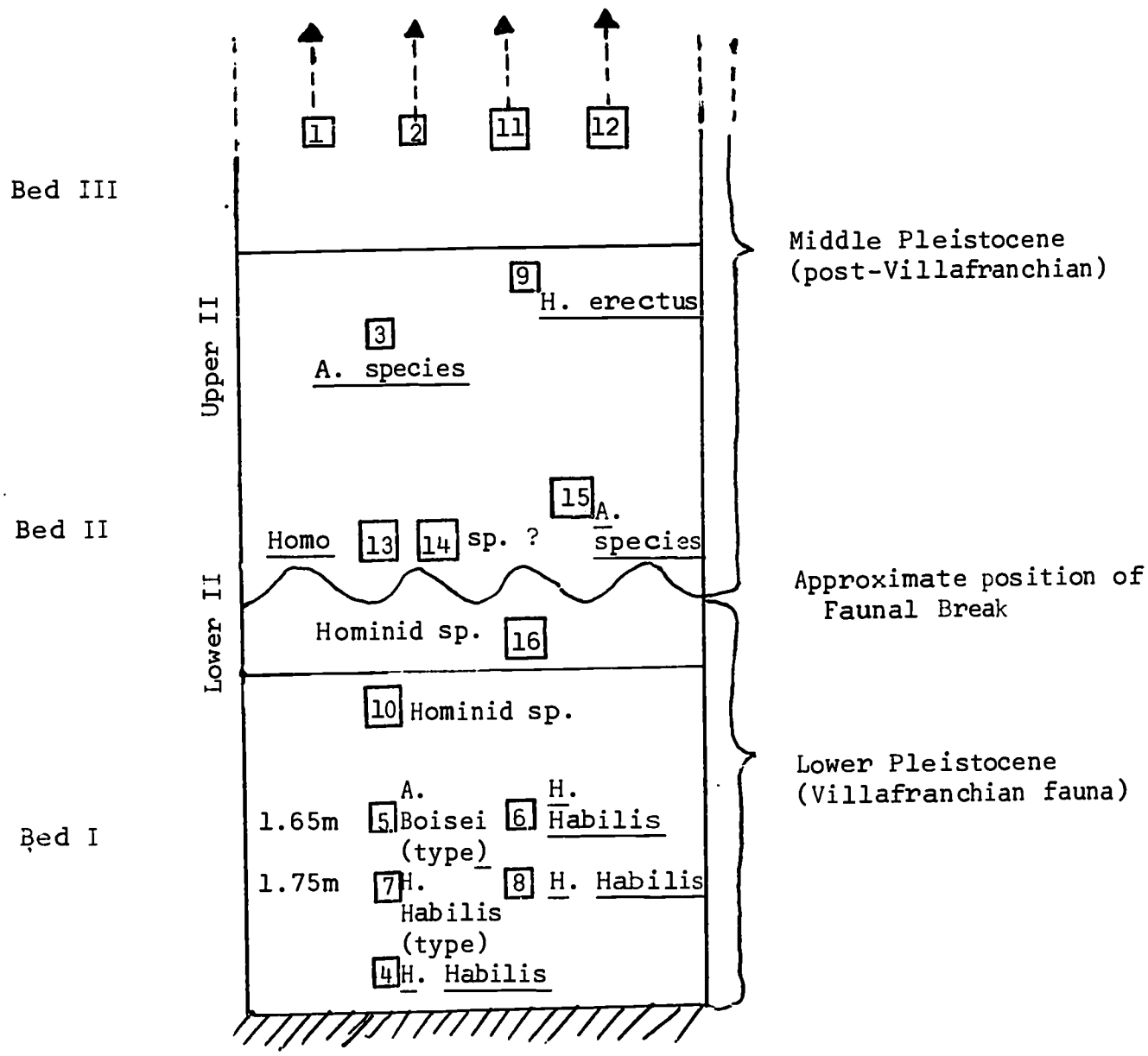


Schematic representation of the lower half of the Olduvai sequence, showing the approximate vertical positions of hominid fossils (numerals enclosed in squares). The potassium-argon dates are indicated near the left margin (m = million years).

SOME FOSSIL HOMINIDS WHICH HAVE BEEN CLAIMED TO BE AUSTRALOPITHECINES

Nature of Speciman	Original Designation	Revised Attribution	Latest Interpretation
		Swartkrans	
1 mandible, 1 mandibular fragment, and 1 radial fragment	Telanthropus capensis	Australopithecine (Dart, Le Gros Clark)	Pithecanthropus (Homo erectus)
		Chad	
craniofacial fragment	Australopithecine	Homo sp	Homo sp (unpublished)
		Ubeidiya	
2 teeth and 4 cranial fragments	Hominid	Australopithecine (?)	Homo sp (unpublished)
		Sangiran (Djetis Beds)	
3 mandibular fragments	Meganthropus palaeojauanicus	Australopithecine	More advanced than African Australopithecine (? Homo sp.) (Tobias and von Koenigswald)
		China	
isolated teeth	Hemanthropus peii (originally Heimanthropus peii)	Australopithecine	Status not clear (? Homo habilis)

Definitions of Race

Objectives	Activities	Resources
Differences in the biological and cultural definitions of race. Not a question of whether there is a difference, but what are the relevances of the differences.		Howells, William W., "The Distribution of Man," Scientific American, Vol. 203, No. 3., (September, 1960), pp. 112-27. Washburn, S. L., "The Study of Race," American Anthropologist, Vol. 65, No. 3, Part I, 1963, pp. 521-531 Babern, Edward, The Varieties of Man, Collier Macmillan, 1969 IMC - Transparencies TP9016 - The Races of Mankind Filmstrip FS-573.21-Ra - Race: The Study of Human Variation

The Nature of Man: The Concept of Race

After previewing "About People" (Anti-Defamation League, item #42600), show the filmstrip to the pupils and extract the key ideas presented for class discussion.

Some questions appropriate for class discussion are the following:

a. What are some of the similarities you have observed about the way we look? The way we act?

b. What would be your reply to anyone who said: "He has bad blood. That is the reason he acts that way."

c. What have we gained from the Indians who have been here for thousands of years? From the Negroes who have been here for hundreds of years? From your parents and grandparents?

d. How should we choose our friends?

e. Explain this statement: "As for hating foreigners, we might as well hate ourselves."

To provide background materials for a greater in-depth study of man, reproduce the following statement for distribution to the class. Slower groups are likely to experience difficulty with some of the concepts, but the pupils' natural interest in the content should help in getting the ideas across.

Scientists are generally agreed that all men living today belong to a single species, Homo sapiens, and are descended from a common stock, even though there is some dispute as to when and how different human groups branched off from this common stock.

The concept of race is unanimously regarded by anthropologists as a way of classifying the various groups of mankind. The word "race" should be reserved for groups of mankind who have hereditary physical characteristics that distinguish them from other groups.

National, religious, geographical, language and cultural groups are not racial groups. Americans are not a race, nor are Frenchmen, nor Germans; nor is any other national group. Moslems and Jews are no more races than Roman Catholics and Protestants; nor are people who live in Iceland or Britain or India, or who speak English or any other language, or who are culturally Turkish or Chinese. The use of the term "race" in speaking of such groups may be a serious error, but it is one which is often committed.

Human races can be, and have been, classified in different ways by different anthropologists. Most of them agree in classifying the greater part of exisitng mankind into at least three large units, which may be called major groups. Such a classification does not depend on any single physical character, nor does, for example, skin color by itself necessarily distinguish one major group from another.

At the present time most anthropologists agree on classifying the greater part of present-day mankind into three major groups: Mongoloids, Negroids, and Caucasoids. Many subgroups or ethnic groups within these groups have been described. There is no general agreement upon their number.

So far as it has been possible to analyze them the differences in physical structure which distinguish one major group from another give no support to popular notions of any general "superiority" or "inferiority" which are sometimes stated or implied in referring to these groups.

Broadly speaking, individuals belonging to different major groups of mankind can be recognized by their physical characteristics, but individual members, or small groups, belonging to different races within the same major group are not usually so distinguishable. Even the major groups pass by degrees into each other, and the physical traits by which they and the races within them are characterized overlap considerably. With respect to most characteristics, the differences among individuals belonging to the same race are greater than the average differences between two or more races.

It has never been possible to separate members of two groups on the basis of mental capacity, as they can often be separated on a basis of religion, skin color, hair form, or language.

The scientific evidence available to us indicates that the cultural experience that a group has undergone, not heredity, determines a people's cultural achievements.

There is no evidence for the existence of so-called "pure" races. Race mixture has been going on for an indefinite but considerable time.

In matters of race, the only characteristics which anthropologists have so far been able to use effectively as a basis for classification are physical.

Available scientific knowledge provides no basis for believing that groups of mankind differ in their inborn capacity for intellectual and emotional development.

Some biological differences between human beings within a single race may be as great as or greater than the same biological differences between races. (Adapted from the UNESCO Statement on the Nature of Race and Race Differences, September, 1952)

Reference: What Is Race, published by UNESCO, 1952.

Concepts:

Human beings are much more alike than different. (A-S).

All human beings belong to the same species of animal, Homo sapiens. (A-S)

There is no necessary relationship between ethnic differences and distinctive behavioral traits. (A-S)

No significant differences exist in the innate intelligence and capabilities of human beings from varying racial and ethnic backgrounds. (A-S)

Members of different racial groups show a considerable overlap in abilities. (A-S)

Racism results from attributing heredity superiorities or inferiority to particular ethnic groups. (A-S)

Racism produces prejudice and discrimination. (A-S)

Macroevolution - Broad evolution

Microevolution - Within a species (Bushmen, Hottentot, Lapps, Pygmies)

Man is polymorphic - Evolved on different levels (Caucasoid, Mongoloid, Indian, Negroid, Austraoloid)

Race - Geographical
local
Microrace - Small segments of local races
Indian - A geographical race
Australian - A geographical race
American Indian - A geographical race
Polynesian - A geographical race
Micronesian - A geographical race
Melanesian - A geographical race

Caucasoid Locals:
Northeastern Europe
Northwestern Europe
Mediterranean (micropopulation-Italian, Greeks, etc.)
Alpine (micropopulation-Lapps)
Iranian
Polynesians (micropopulation-Tahitians, Maoris)

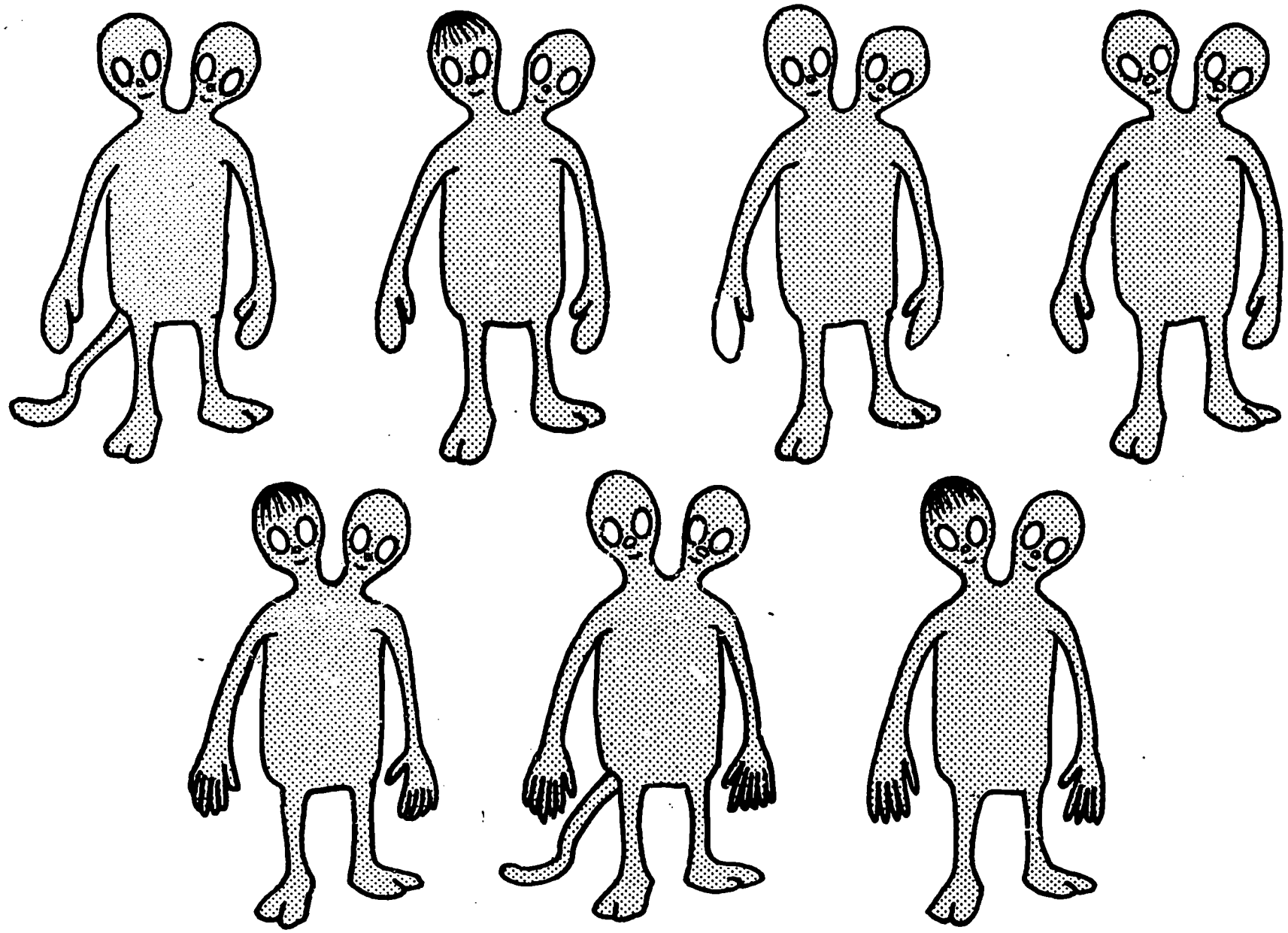
Indian Locals:
North American Hunters
Central American Farmers
South American Forest Farmers

Negroid Locals:
East African
Sudanese (Nilotic)
Forest Negro
Bantu

Mongoloid Locals:
Extreme mongoloid
Turkic
Tibetan
North Chinese
Southeast Asiatics

geographic isolation $\longrightarrow$ cladogenetic

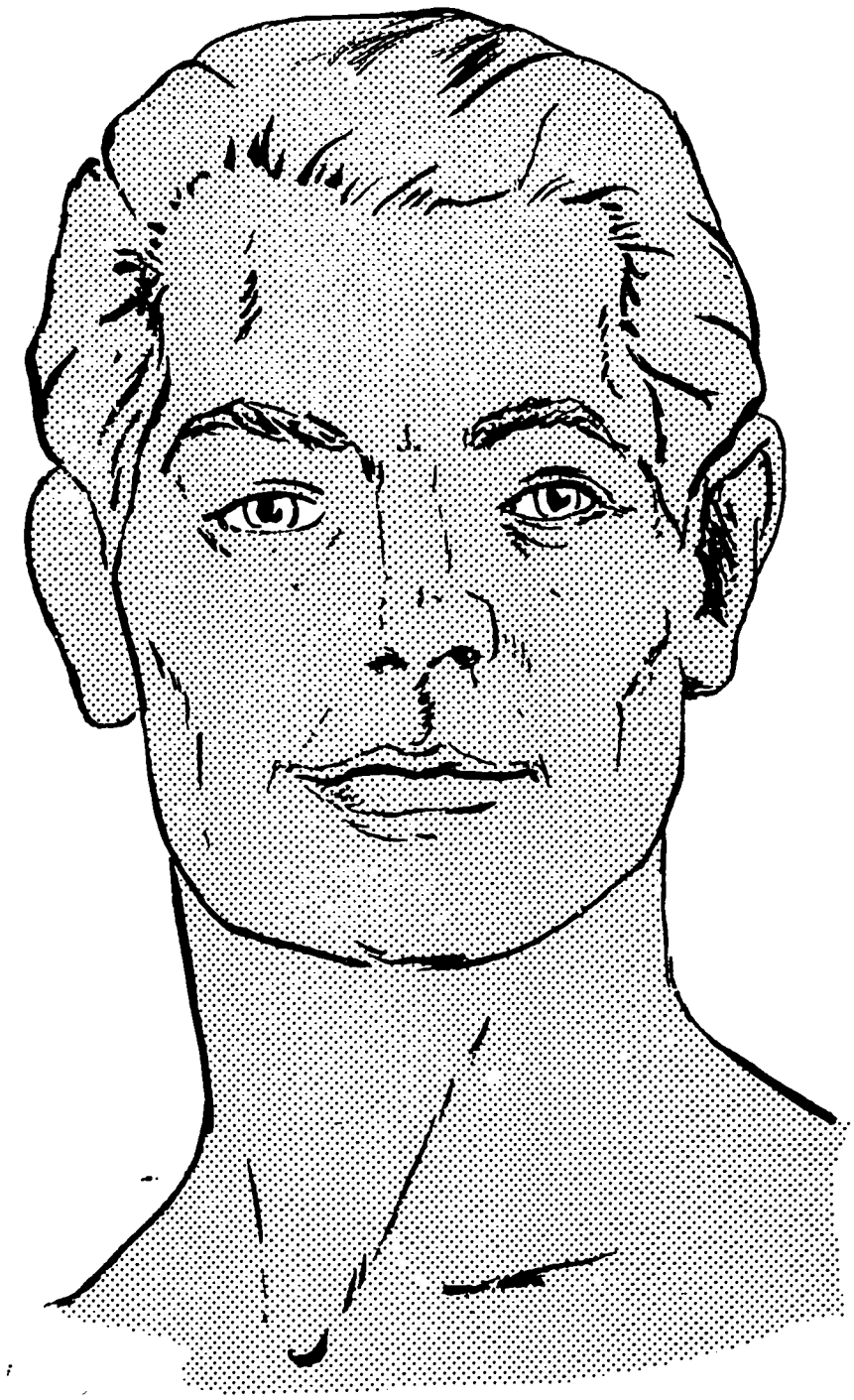
A RACE IS A GROUP OF PEOPLE HAVING A NUMBER OF PHYSICAL CHARACTERISTICS IN COMMON



HOW MANY RACES DO YOU SEE AMONG THESE IMAGINARY MARTIANS?

PLATE 1: Use Type 125, 127 or 133 Film

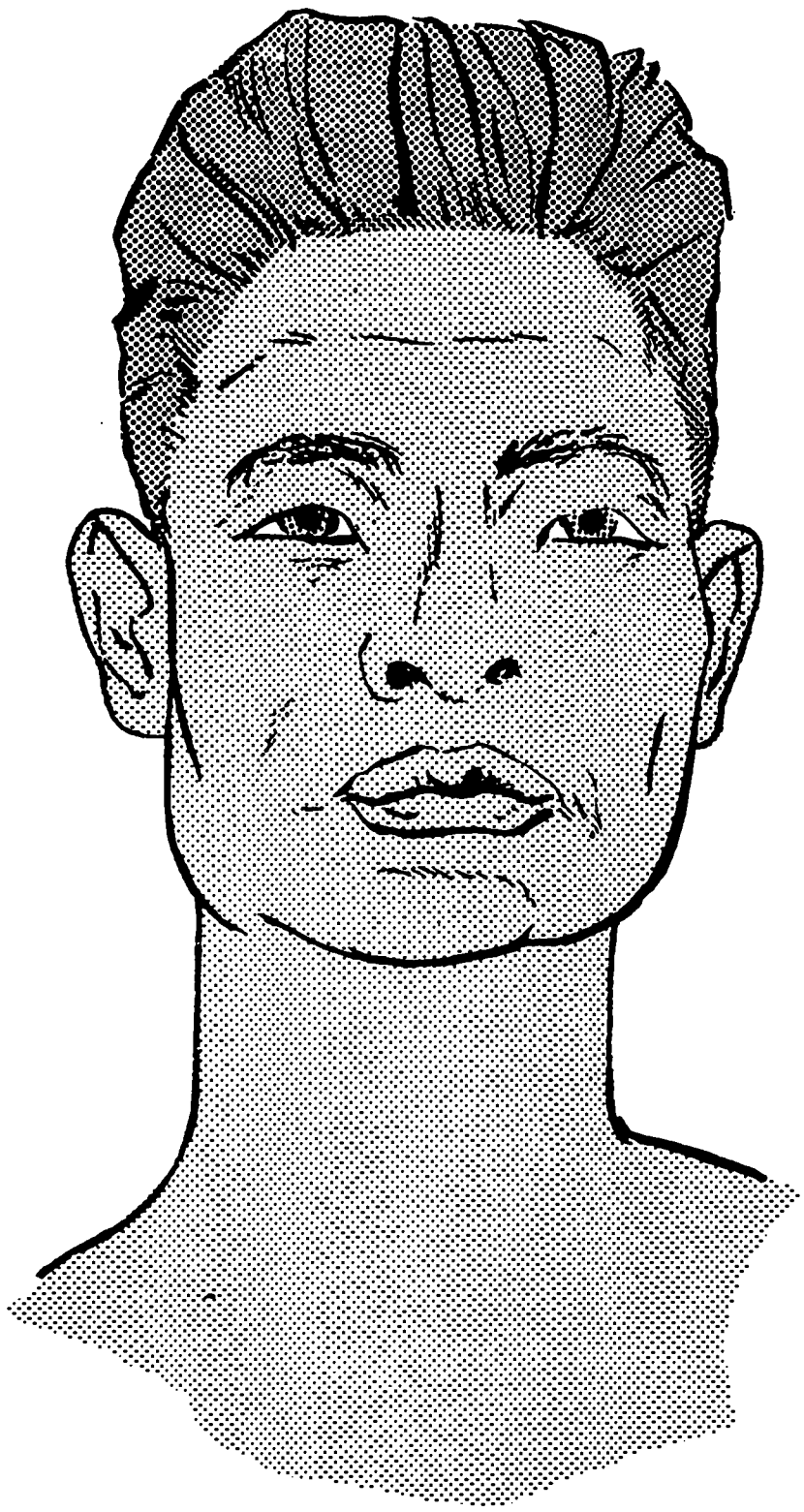
A COMMON BELIEF IS THAT THERE ARE FOUR MAIN RACES



CENTRAL EUROPEAN CAUCASIAN

PLATE. 3: Use Type 125, 127 or 133 Film

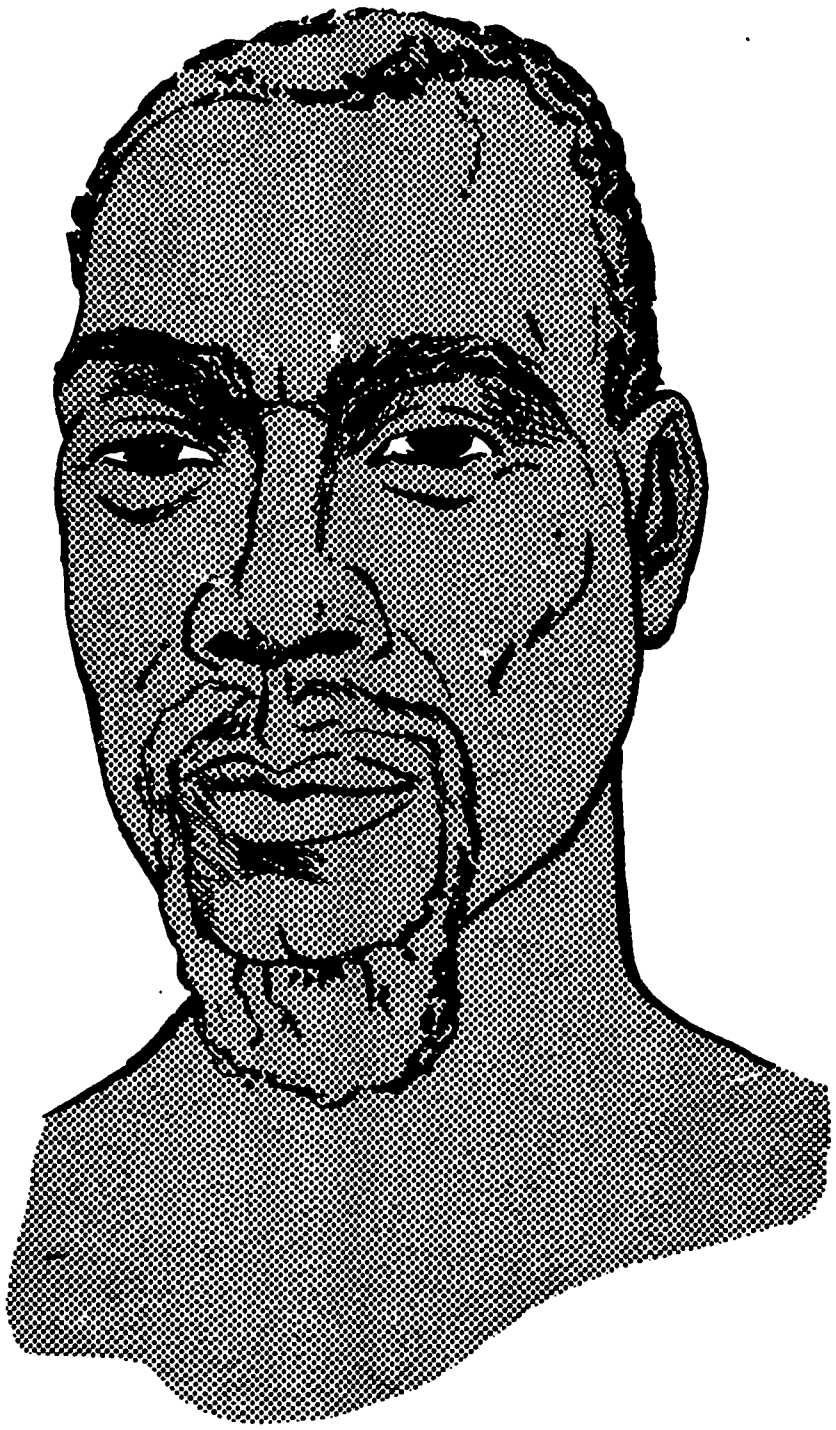
MONGOLOID



CHINESE

PLATE 4: Use Type 125, 127 or 133 Film

NEGROID



DAHOMEY AFRICA

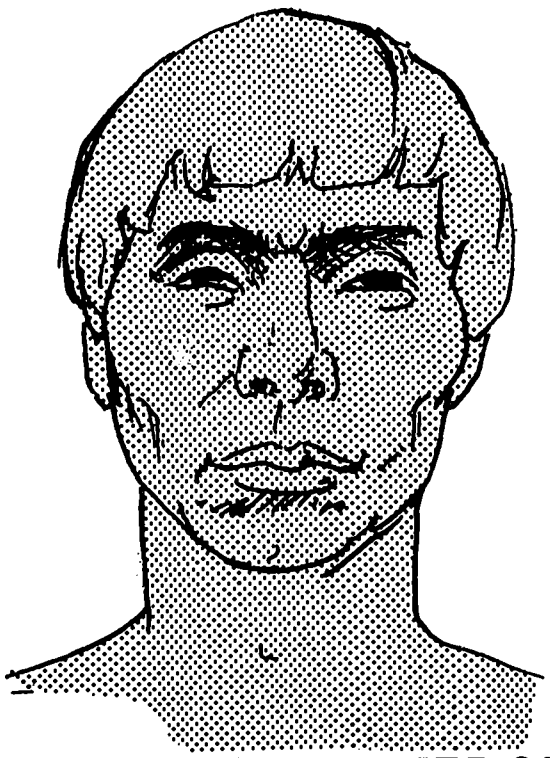
PLATE 5: Use Type 125; 127 or 133 Film

AUSTRALOID

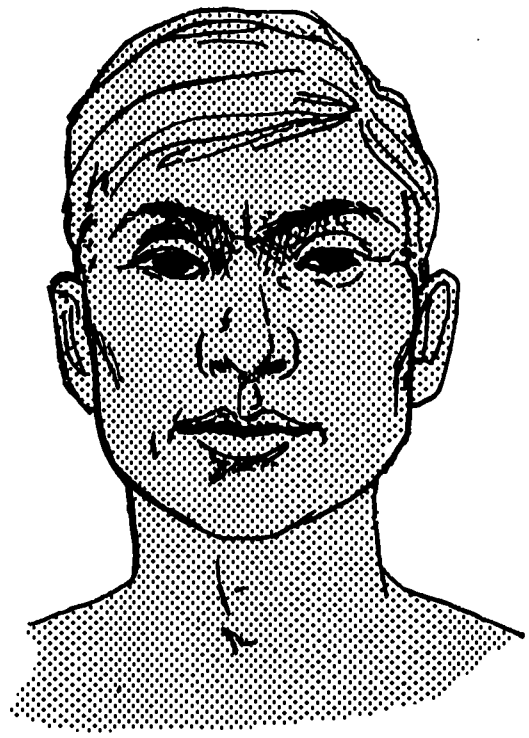
AUSTRALIAN BUSHMAN

PLATE 6: Use Type 125, 127 or 133 Film

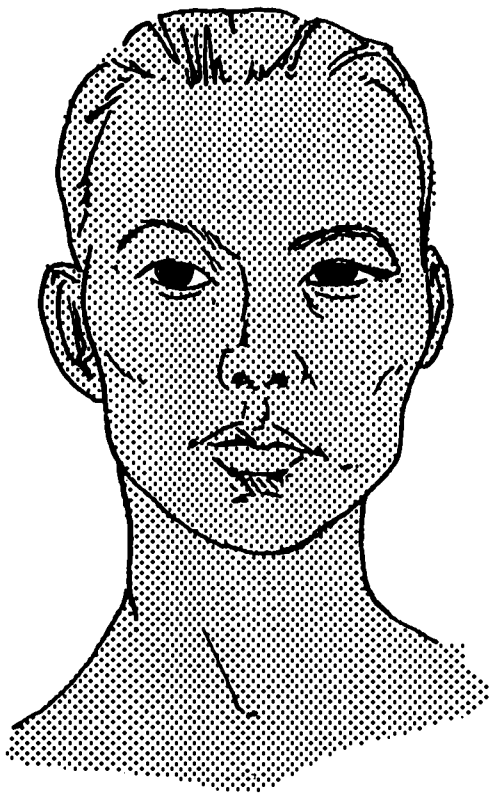
THERE ARE MANY VARIATIONS WITHIN EACH MAJOR CATEGORY



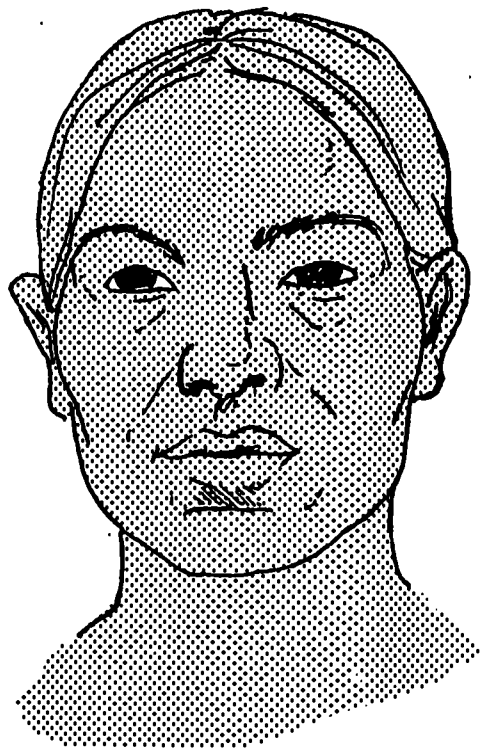
ESKIMO - NORTH AMERICA



KOREAN - EASTERN ASIA



YUCATECAN MAYA - CENTRAL AMERICA



TIBETAN WOMAN - CENTRAL ASIA

PLATE 7: Use Type 125, 127 or 133 Film

THE DARK PIGMENT IN NEGROID SKIN ABSORBS HARMFUL RAYS AND DISPELS THE HEAT INTO THE AIR

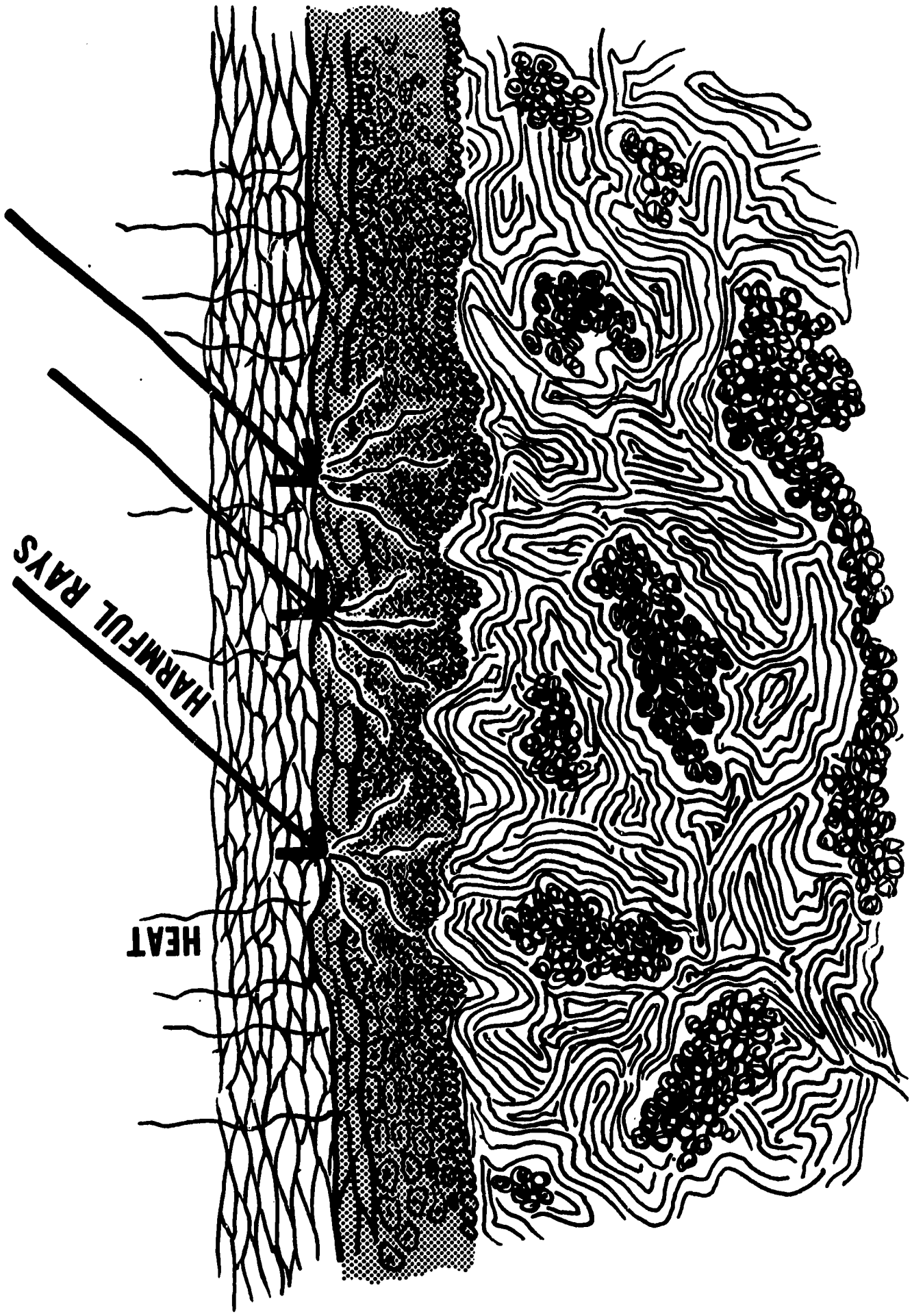
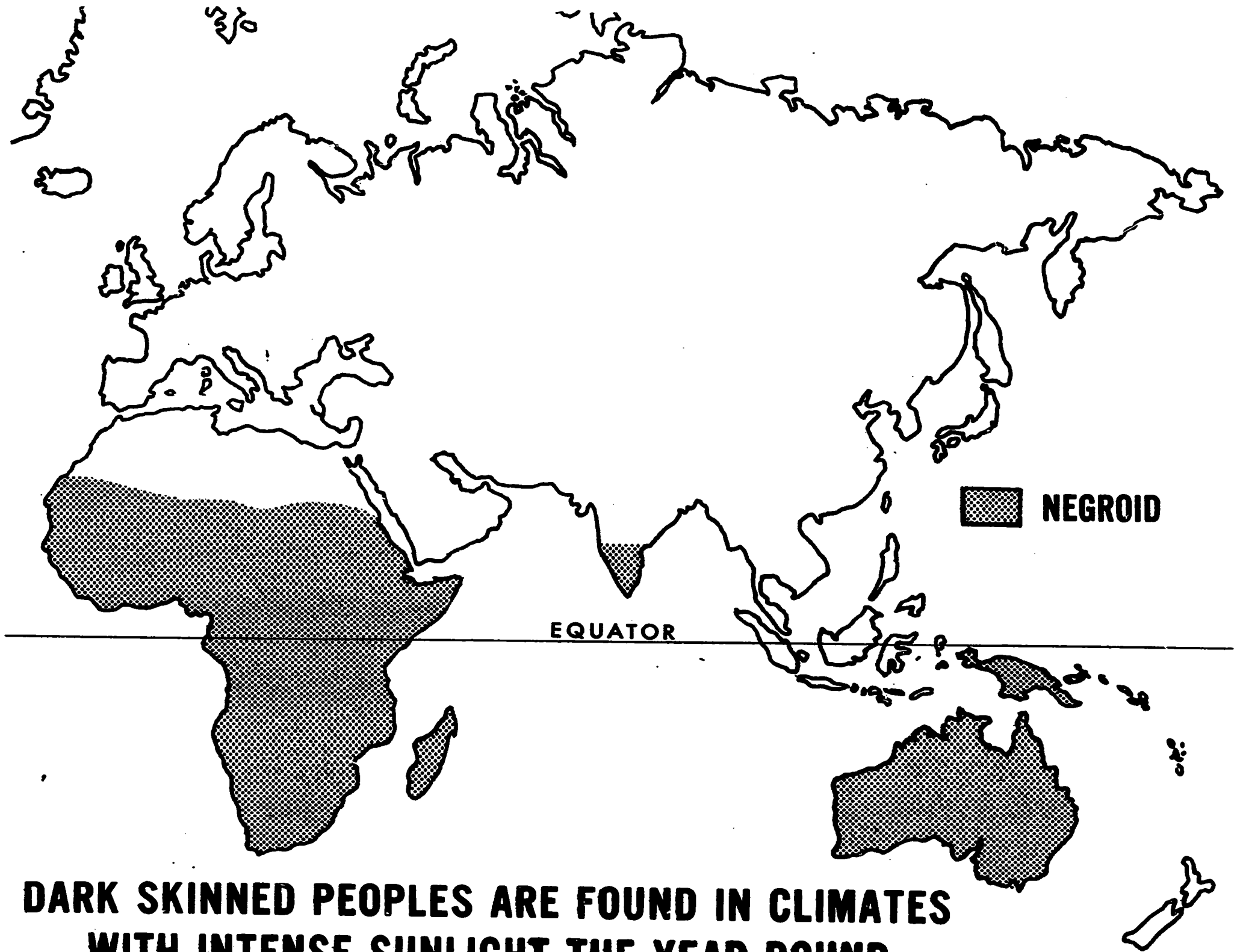


PLATE 10: Use Type 125, 127 or 133 Film



DARK SKINNED PEOPLES ARE FOUND IN CLIMATES WITH INTENSE SUNLIGHT THE YEAR ROUND

PLATE 11: Use Type 125, 127 or 133 Film

WHITE SKIN PERMITS HARMFUL RAYS TO ENTER AND LONG EXPOSURE OFTEN CAUSES A BURN

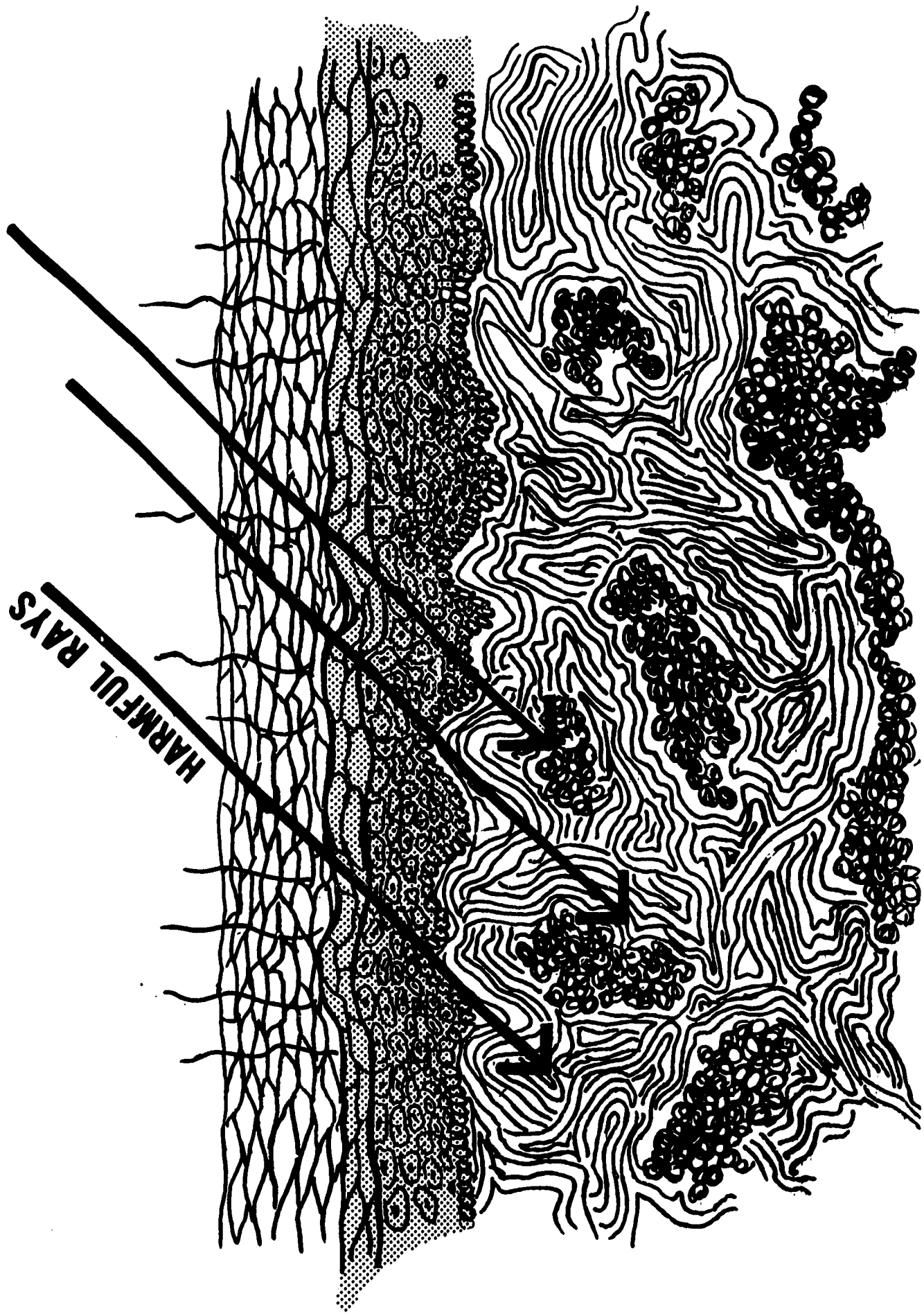
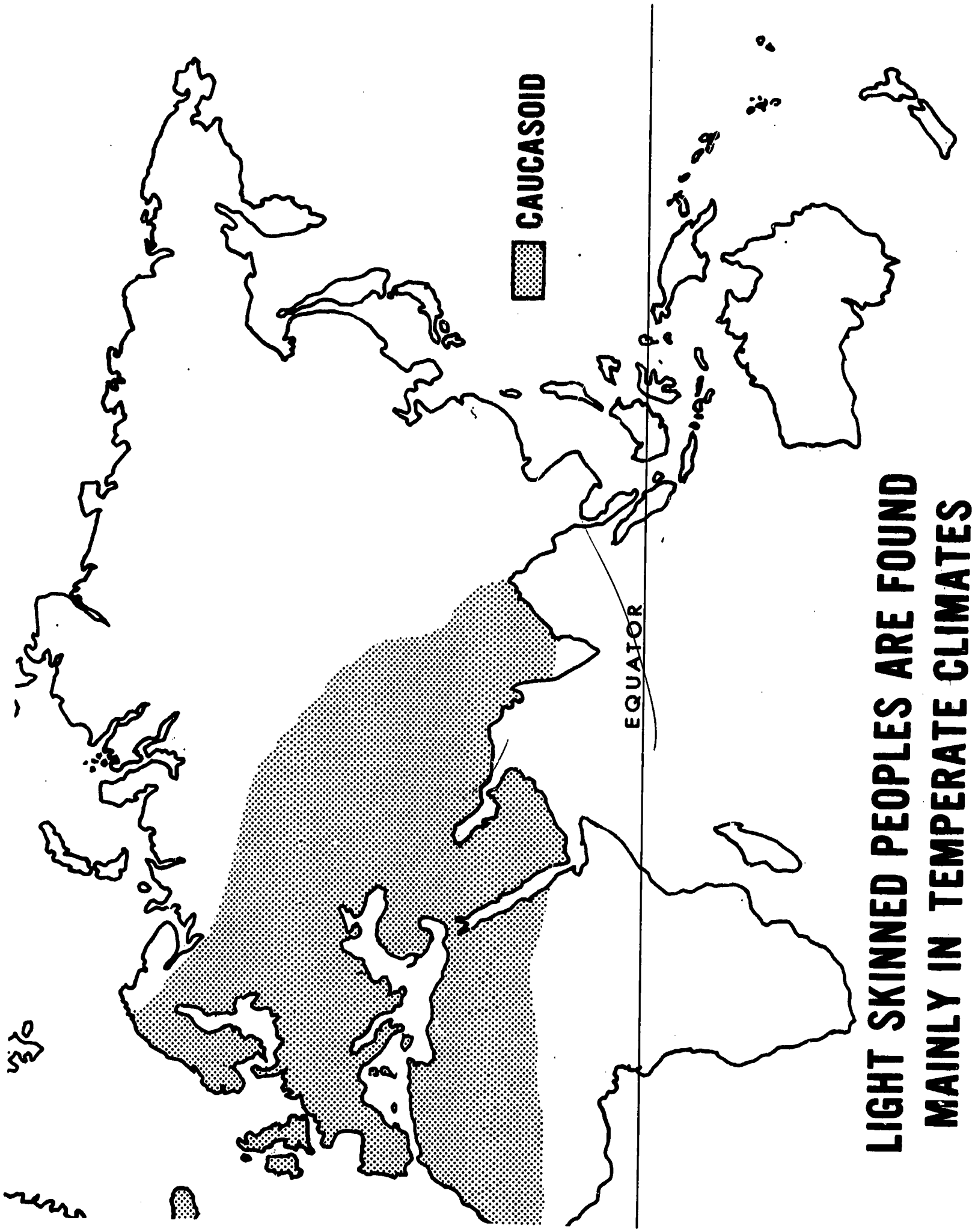


PLATE 12: Use Type 125, 127 or 133 Film



LIGHT SKINNED PEOPLES ARE FOUND MAINLY IN TEMPERATE CLIMATES

PLATE 14: Use Type 125, 127 or 133 Film

TROPICAL PEOPLES OFTEN HAVE LONG TAPERED BODIES AND LIMBS FOR BETTER HEAT DISSIPATION

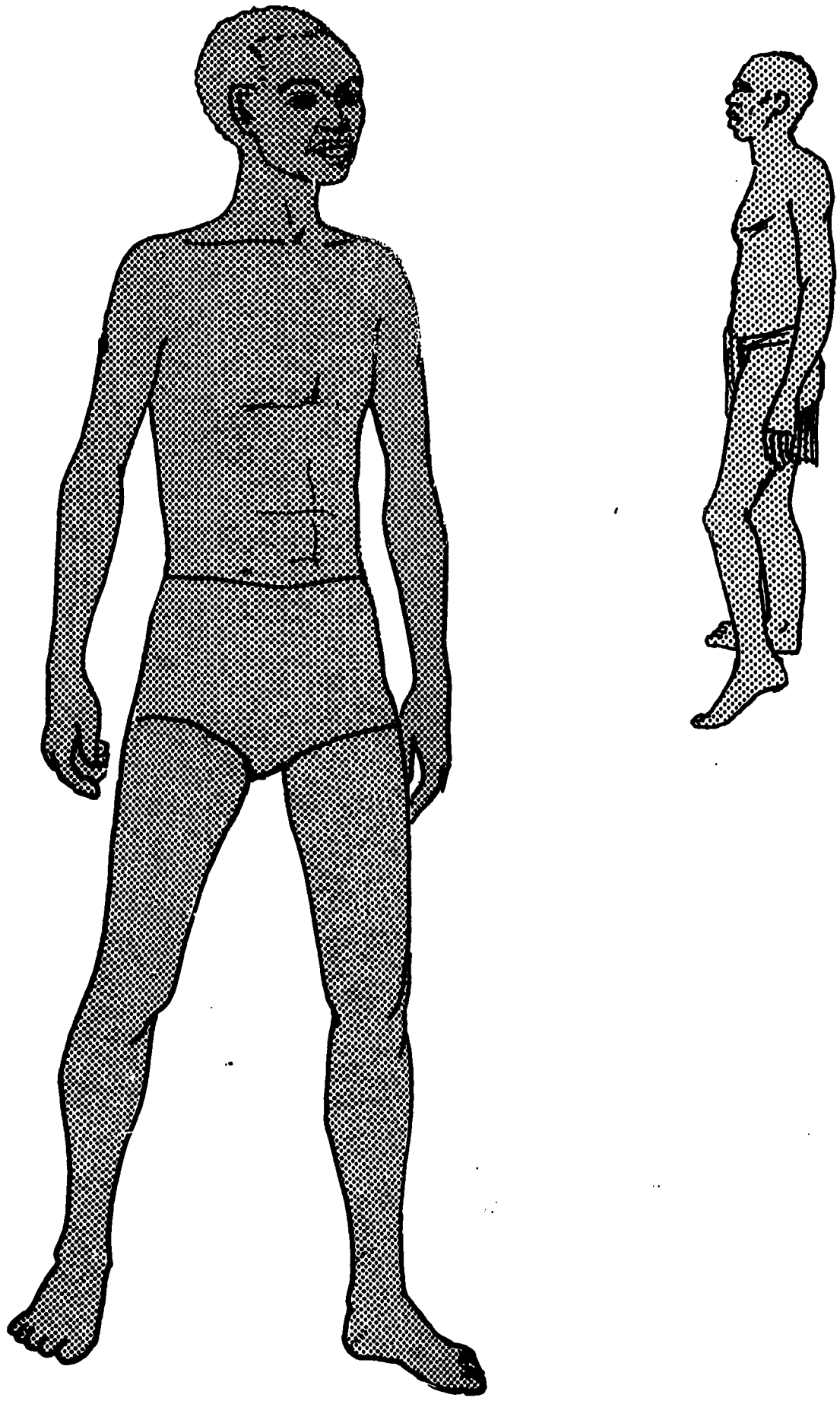


PLATE 16: Use Type 125, 127 or 133 Film

THE SHORT THICK BODY AND LIMBS OF THE ESKIMO HELP HIM TO RETAIN HEAT

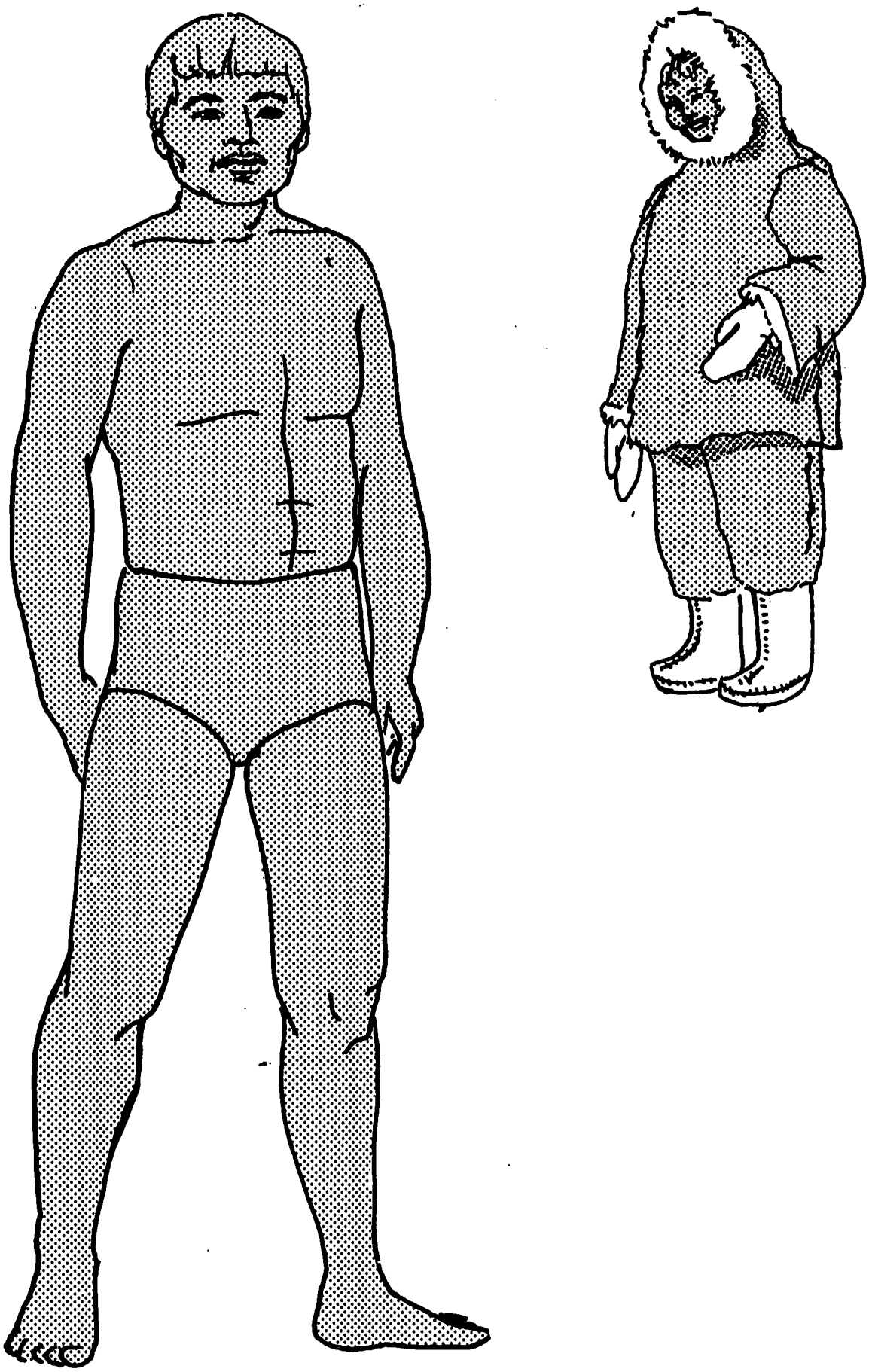


PLATE 17: Use Type 125, 127 or 133 Film

A LAYER OF FAT PROTECTS THE NORTHERN MONGOLOID AGAINST HEAT LOSS

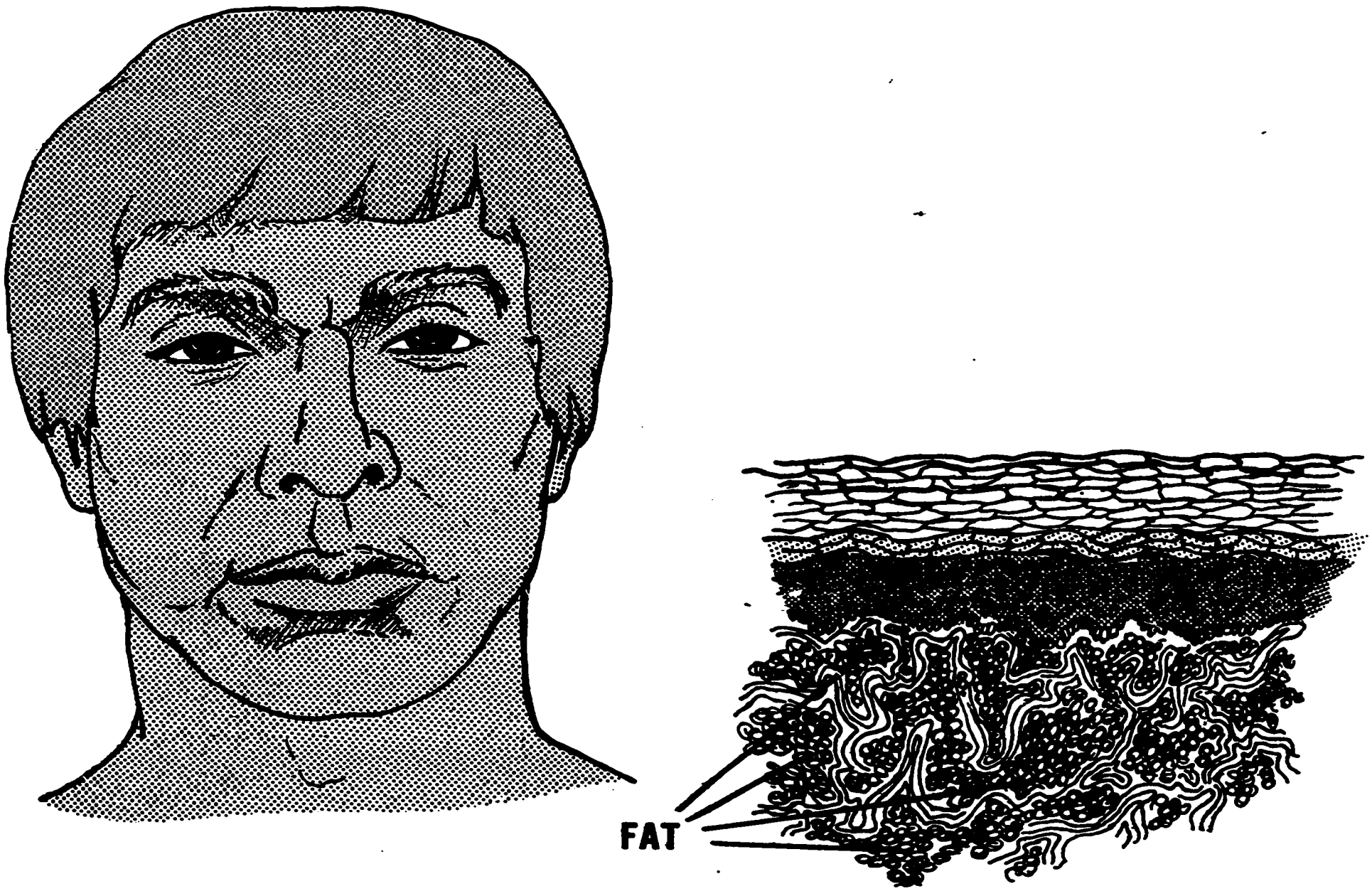


PLATE 19: Use Type 125, 127 or 133 Film

UNIT III CULTURAL ANTHROPOLOGY

General Concepts:

1. Culture is that part of learned human behavior that is the instrument whereby people adjust to their environment.

2. Culture is the product of the biological, environmental, psychological, and historical components of the total human experience. (1 - man's biological structure; 2 - his natural environment; 3 - his cultural heritage)

3. Whereas man is--"civilized" or "barbarian"--culture is organized around a center of learned imperatives (universals, specialties, alternatives) which lead towards the norm of said culture.

4. Man in a social group is faced with two major problems:

   a. survival in the physical world

   b. getting along with other members of the culture--and all men have five basic needs involved in survival:

      1. food needs
      2. warmth and/or shelter needs
      3. sexual needs
      4. intellectual needs
      5. aesthetic needs (Religion and art)

5. Any predictable aspects of culture (behavior) that make ways of living natural are learned.

6. Individual culture traits vary from group to group, but there are some regularities that permit comparison and analysis.

7. Culture is a form of evolutionary adaptation.

8. Culture is universal, but it comes in many varities.

9. Culture is not static and will change over periods of time.

10. Culture is non-material, but learned human behavior (culture) can be studied through careful examination of cultural material (artifacts).

To sum up, culture is an abstract term. It is abstracted from the behavior of individuals. The concept permits us to perceive the regularities of individual behavior and generalize from them for scientific purposes. Every human being has his own "personal culture", his own mental guide. Part of his "personal culture" is his conception of the culture of his society. In this sense each individual abstracts from the behavior of all other people with whom he has contact, be it direct or indirect. While each person's behavior tends to be idiosyncratic, it is also similar to those of all the other members of his society. The culture of a society, then, is based on the mutual interrelatedness of the nature of the individual "personal cultures".

Society should be defined, then, in relation to culture, as a population that shares a pattern of behavior--the method in which the members of a society actually relate to each other. The relationship that exists between culture and society is expressed by the term "socio-cultural".

THE CONCEPT OF CULTURE AND THE CONCEPT OF MAN

by Clifford Geertz

The French anthropologist, Levi-Strauss, remarks that scientific explanation does not consist, as we have been led to imagine, in the reduction of the complex to the simple. Rather, it consists, he says, in substituting a more intelligible complexity for one which is less so. As far as the study of man is concerned, one may go even further, I think, and argue that explanation often consists of substituting complex pictures for simple ones while striving somehow to retain the persuasive clarity that went with the simple ones. Whitehead once offered to the natural sciences the maxim: "Seek simplicity and distrust it"; to the social sciences he might well have offered "Seek complexity and order it."

Certainly, the study of culture has developed as though this maxim were being followed. The recent rise of a scientific concept of culture amounted to the overthrow of the view of human nature dominant in the Enlightenment. The Enlightenment view of man was that he was wholly of a piece with nature and shared in the general uniformity of composition which natural science had discovered there. There is, according to this view, a human nature as regularly organized, as invariable, and as marvelously simple as Newton's universe. Perhaps some of its laws are different, but there *are* laws; perhaps some of its immutability is obscured by the trappings of local fashion, but it *is* immutable. Mascou, the Enlightenment historian, presents this position with useful bluntness:

> The stage setting (in different times and places) is, indeed, altered, the actors change their garb and their appearance; but their inward motions arise from the same desires and passions of men, and produce their effects in the vicissitudes of kingdoms and peoples.[1]

Now, this view is hardly one to be despised; nor, despite my easy references a moment ago to "overthrow," can it be said to have disappeared from contemporary anthropological thought. Yet the Enlightenment concept of human nature had some much less acceptable implications, the main one being that "anything of which the intelligibility, verifiability, or actual affirmation is limited to men of a special age, race, temperament, tradition or condition is (in and of itself) without truth or value, or at all events without importance to a reasonable man."[2] The assumption underlying this view is that the great, vast variety of differences among men, in beliefs and values, in customs and institutions, both over time and from place to place, is essentially without significance in defining his nature. It consists of mere accretions, distortions even, overlaying and obscuring what is truly human--the constant, the general, the universal--in man.

Clifford Geertz is Professor of Anthropology at The University of Chicago.

[1]Quoted in Arthur O. Lovejoy, Essays in the History of Ideas (New York: G. P. Putnam's Sons, Capricorn Books, 1960), p. 173.

[2]Ibid, p. 80

The trouble with this view is that the image of a constant human nature independent of time, place, and circumstance, may be an illusion. What man is may be so entangled with where he is, who he is, and what he believes that it is inseparable from them. It is precisely the consideration of such a possibility that led to the rise of the concept of culture and the decline of the uniformitarian view of man. Whatever else modern anthropology asserts--and it seems to have asserted almost everything at one time or another--it is firm in the conviction that men unmodified by the customs of particular places do not in fact exist, have never existed, and most important, could not in the very nature of the case exist. There is, there can be, no backstage where we can go to catch a glimpse of Mascou's actors as "real persons" lounging about in street clothes, disengaged from their profession, displaying with artless candor their spontaneous desires and unprompted passions. They may change their roles, their styles of acting, even the dramas in which they play; but--as Shakespeare himself remarked--they are always performing.

Thus anthropology has attempted to find its way to a more viable concept of man, one in which culture, and the variablity of culture, would be taken into account rather than written off as caprice and prejudice and, at the same time, "the basic unity of mankind," would not be turned into an empty phrase.

Attempts to locate man amid the body of his customs have taken several directions, adopted diverse tactics; but they have all, or virtually all, proceeded in terms of a single over-all intellectual strategy: what I will call, so as to have a stick to beat it with, the "stratigraphic conception of the relations between biological, psychological, social, and cultural factors in human life. In this conception, man is a composite of "levels," each superimposed upon those beneath it and underpinning those above it. As one analyzes man, one peels off layer after layer, each such layer being complete and irreducible in itself, revealing another, quite different sort of layer underneath. Strip off the motley forms of culture and one finds the structural and functional regularities of social organization. Peel off these in turn and one finds the underlying psychological factors--"basic needs," or what-have-you, that support and make them possible. Peel off psychological factors and one is left with the biological foundations--anatomical, physiological, neurological--of the whole edifice of human life. For the eighteenth-century image of man as the naked reasoner that appeared when he took his cultural costumes off, the anthropology of the late nineteenth and early twentieth centuries substituted the image of man as the transfigured animal that appeared when he put them on.

At the level of concrete research and specific analysis, this grand strategy came down, *first*, to a hunt for universals in culture, for empirical uniformities that, in the face of the diversity of customs around the world and over time, could be found everywhere in about the same form, and, *second*, to an effort to relate such universals, once found, to the established constants of human biology, psychology, and social organization. If some customs could be ferreted out of the cluttered catalogue of world culture as common to all local variants of it, and if these could then be connected in a determinate manner with certain invariant points of reference on the subcultural levels, then at least some progress might be made toward specifying which cultural traits are essential to human existence and which merely adventitious, peripheral, or ornamental. In such a way, anthropology could determine cultural dimensions of a concept of man commensurate with the dimensions provided, in a similar way, by biology, psychology, or sociology.

The reason the first of these requirements--that the proposed universals be substantial ones and not empty or near empty categories--has not been met is that it cannot. There is a logical conflict between asserting that, say, "religion," "marriage," or "property" are empirical universals and giving them very much in the way of specific content, for to say that they are empirical universals is to say that they have the same content, and to say they have the same content is to fly in the face of the undeniable fact that they do not. If one defines religion generally and indeterminately--as man's most fundamental orientation to reality, for example--then one cannot at the same time assign to that orientation a highly circumstantial content. Clearly what composes the most fundamental orientation to reality among the transported Aztecs, lifting pulsing hearts torn live from the chests of human sacrifices toward the heavens, is not what comprises it among the stolid Zuni, dancing their great mass supplications to the benevolent gods of rain.

Even if one does try to get down to less abstract levels and assert, for instance, that a concept of the afterlife is universal, the same contradiction haunts one. To make the generalization about an afterlife stand up alike for the Confucians and the Calvinists, the Zen Buddhists and the Tibetan Buddhists, one has to define it in most general terms, indeed--so general, in fact, that whatever force it seems to have virtually evaporates. And as with religion, so with "marriage," "trade," and all the rest of what one writer aptly called "fake universals," down to so seemingly tangible a matter as "shelter." That everywhere people mate and produce children, have some sense of mine and thine, and protect themselves in one fashion or another from rain and sun are neither false nor, from some points of view, unimportant; but they are hardly very much help in drawing a portrait of man that will be a true and honest likeness.

My point is not that there are no generalizations that can be made about man as man, save that he is a most various animal, or that the study of culture has nothing to contribute toward the uncovering of such generalizations. My point is that such generalizations are not to be discovered through a Baconian search for cultural universals, a kind of public-opinion polling of the world's peoples in search of a consensus of mankind that does not in fact exist, and, further, that the attempt to do so leads to precisely the sort of relativism the whole approach was expressly designed to avoid. "Zuni culture prizes restraint, Kwakiutl culture encourages exhibitionism on the part of the individual. These are contrasting values, but in adhering to them the Zuni and Kwakiutl show their allegiance to a universal value; the prizing of the distinctive norms of one's culture."[3] This is sheer evasion, but it is only more apparent, not more evasive, than discussions of cultural universals in general. Once one abandons uniformitarianism, relativism is a genuine danger; but it can be warded off only by facing directly and fully the diversisies of human culture, the Zuni's restraint and the Kwakiutl's exhibitionism, and embracing them within the body of one's concept of man, not by gliding past them with vague tautologies and forceless banalities.

Of course, the difficulty of stating cultural universals which are at the same time substantial also hinders fulfilment of the second requirement facing the consensus of mankind approach, that of grounding such universals in particular biological, psychological, or sociological processes. But there is more to it than that: the "stratigraphic" conceptualization of the relation-

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[3]Clyde Kluckhohn, Culture and Behavior. New York: Free Press of Glencoe, 1962. p. 280.

ships between cultural and non-cultural factors hinders such a grounding even more effectively. Once culture, psyche, society, and organism have been converted into separate scientific "levels," complete and autonomous in themselves, it is very hard to bring them back together again.

Analysis consists of matching assumed universals to postulated underlying necessities, attempting to show there is some goodness of fit between the two. On the social level, reference is made to such irrefragable facts as that all societies, in order to persist, must reproduce their membership and allocate goods and services, hence the universality of some form of family or some form of trade. On the psychological level, recourse is had to basic needs like personal growth--hence the ubiquity of educational institutions--or to panhuman problems, like the Oedipal predicament--hence the ubiquity of punishing gods and nurturant goddesses. Biologically, there is metabolism and health; culturally, dining customs and curing procedures. And so on. The tack is to look at underlying human requirements of some sort of other and then to try to show that those aspects of culture that are universal are "tailored" by these requirements.

The problem here is, again, not so much whether in a general way this sort of congruence exists but whether it is more than a loose and indeterminate one. It is not difficult to relate some human institutions to what science (or common sense) tells us are requirements for human existence. but it is very much more difficult to state this relationship in an unequivocal form. Not only does almost any institution serve a multiplicity of social, psychological, and organic needs (so that to say that marriage is a mere reflex of the social need to reproduce, or that dining customs are a reflex of metabolic necessities, is to court parody), but there is no way to state in any precise and testable way the interlevel relationships that are conceived to exist. With the levels approach, we can never, even by invoking "invariant points of reference," construct genuine functional interconnections between cultural and non-cultural factors, only more or less persuasive analogies, parallelisms, suggestions, and affinities.

However, the question still remains whether such universals should be taken as the central elements in the definition of man, whether a lowest common denominator view of humanity is what we want anyway. This is, of course, now a philosophical question, not as such a scientific one; but the notion that the essence of what it means to be human is most clearly revealed in those features of human culture that are universal rather than in those that are distinctive to a people is a prejudice we are not necessarily obliged to share. Is it in grasping such general facts--that man has everywhere some sort of "religion"--or in grasping the richness of this religious phenomenon or that--Balinese trance or Indian ritualism, Aztec human sacrifice or Zuni rain dancing--that we grasp him? Is the fact that "marriage" is universal (if it is) as penetrating a comment on what we are as the facts concerning Himalayan polyandry, or the fantastic Australian marriage rules, or the elaborate bride-price systems of Bantu Africa? The comment that Cromwell was the most typical Englishman of his time precisely in that he was the oddest may be relevant in this connection, too: it may be in the cultural particularities of people--in their oddities--that some of the most instructive revelations of what it is to be generically human are to be found; and the main contribution of the science of anthropology to the construction--or reconstruction--of a concept of man may then lie in showing us how to find them.

The major reason why anthropologists have shied away from cultural particularities when it came to a question of defining man and have taken refuge instead in bloodless universals is that, faced as they are with the enormous variation in human behavior, they are haunted by a fear of historicism, of becoming lost in a whirl of cultural relativism so convulsive as to deprive them of any fixed bearings at all. And there has been occasion for such a fear: Ruth Benedict's Patterns of Culture, probably the most popular book in anthropology ever published in this country, with its strange conclusion that anything one group of people is inclined toward doing is worthy of respect by another, is perhaps only the most outstanding example of the awkward positions one can get into by giving oneself over rather too completely to "the thrill of learning singular things." Yet the fear is a bogy. The notion that unless a cultural phenomenon is empirically universal it cannot reflect anything about the nature of man is about as logical as the notion that because sickle-cell anemia is, fortunately, not universal it cannot tell us anything about human genetic processes. It is not whether phenomena are empirically common that is critical in science but whether they can be made to reveal the enduring natural processes that underly them.

In short, we need to look for systematic relationships among diverse phenomena, not for substantive identities among similar ones. And to do that with any effectiveness, we need to replace the "stratigraphic" conception of the relations between the various apsects of human existence with a synthetic one; that is, one in which biological, psychological, sociological, and cultural factors can be treated as variables within unitary systems of analysis.

In attempting to launch such an integration from the anthropological side and reach, thereby, a more exact image of man, I want to propose two ideas. The first of these is that culture is best seen not as complexes of concrete behavior patterns--customs, usages, traditions, habit clusters--as has, by and large, been the case up to now, but as a set of control mechanisms--plans, recipes, rules, instructions (what computer engineers call "programs")--for the governing of behavior. The second is that man is precisely the animal most desperately dependent upon such extragenetic, outside-the-skin control mechanisms, such cultural programs, for ordering his behavior.

The "control mechanism" view of culture begins with the assumption that human thought is basically both social and public--that its natural habitat is the house yard, the market place, and the town square. Thinking consists not of "happenings in the head" (though happenings there and elsewhere are necessary for it to occur) but of a traffic in what have been called significant symbols--words for the most part but also gestures, drawings, musical sounds, mechanical devices like blocks, or natural objects like jewels--anything, in fact, that is disengaged from its mere actuality and used to impose meaning upon experience. From the point of view of any particular individual, such symbols are largely given. He finds them already current in the community when he is born, and they remain, with some additions, subtractions, and partial alterations he may or may not have had a hand in, in circulation there after he dies. While he lives he uses them, or some of them, sometimes deliberately and with care, most often spontaneously and with ease, but always with the same end in view: to put a construction upon the events through which he lives, to orient himself within "the ongoing course of experienced things."

Man is in need of such symbolic sources of illumination to find his bearings in the world because the non-symbolic sort that are constitutionally ingrained in his body cast so diffused a light. The behavior patterns of lower animals are, at least to a much greater extent, given to them with physical structure; genetic sources of information order their actions within much narrower ranges of variation, the narrower and more thorough-going the lower the animal. For man, what are innately given are extremely general response capacities, which, although they make possible far great plasticity, complexity, and on the scattered occasions when everything works as it should effectiveness of behavior, leave it much less precisely regulated. This, then, is the second face of our argument: Undirected by culture patterns--organized systems of significant symbols--man's behavior would be virtually ungovernable, a mere chaos of pointless acts and exploding emotions, his experience virtually shapeless. Culture, the accumulated totality of such patterns, is not just an ornament of human existence but--the principal basis of his specificity--an essential condition for it.

Within anthropology some of the most telling evidence in support of such a position comes from recent advances in our understanding of what used to be called the descent of man: the emergence of Homo sapiens out of his general primate background. Of these advances three are of critical importance: (1) the discarding of a sequential view of the relations between the physical evolution and the cultural development of man in favor of an overlap or interactive view; (2) the discovery that the bulk of the biological changes that produced modern man out of his most immediate progenitors took place in the central nervous system and most especially in the brain; (3) the realization that man is, in physical terms, an incomplete, an unfinished, animal; that what sets him off most graphically from non-men is less his sheer ability to learn (great as that is) than how much and what particular sorts of things he has to learn before he is able to function at all. Let me take each of these points in turn.

The traditional view of the relations between the biological and the cultural advance of man was that the former, the biological, was for all intents and purposes completed before the latter, the cultural, began. That is to say it was again stratigraphic: Man's physical being evolved, through the usual mechanisms of genetic variation and natural selection, up to the point where his anatomical structure had arrived at more or less the status at which we find it today; then cultural development got underway. At some particular stage in his phylogenetic history, a marginal genetic change of some sort rendered him capable of producing and carrying culture, and thenceforth his form of adaptive response to environmental pressures was almost exclusively cultural rather than genetic. As he spread over the globe he wore furs in cold climates and loin cloths (or nothing at all) in warm ones; he didn't alter his innate mode of response to environmental temperature. He made weapons to extend his inherited predatory powers and cooked foods to render a wider range of them digestible.

Man became man, the story continues, when, having crossed some mental Rubicon, he became able to transmit "knowledge, belief, law, morals, customs" to his descendants and his neighbors through teaching and to acquire them from his ancestors and his neighbors through learning. After the magical moment, the advance of the hominids depended almost entirely on cultural accumulation, on the slow growth of conventional practices, rather than as it had for ages past, on physical organic change.

The only trouble is that such a moment does not seem to have existed. By the most recent estimates the transition to the cultural mode of life took the genus Homo over a million years to accomplish; and stretched out in such a manner, it involved not one or a handful of marginal genetic changes but a long, complex, and closely ordered sequence of them.

In the current view, the evolution of Homo sapiens--modern man--out of his immediate pre-sapiens background got definitively underway nearly two million years ago with the appearance of the new famous Australopithecines--the so-called ape man of southern and eastern Africa--and culminated with the emergence of sapiens himself only some one to two hundred thousand years ago. Thus, as at least elemental forms of cultural, or if you wish protocultural, activity, (simple toolmaking, hunting, and so on) seem to have been present among some of the Australopithecines, there was an overlap of well over a million years between the beginning of culture and the appearance of the now famous Australopithecines--the so-called ape men of southern and eastern Africa--culminating with the emergence of sapiens himself only some one to two hundred thousand years ago. The precise dates--which are tentative and which further research may alter in one direction or another--are not critical; what is critical is that there was an overlap and that it was a very extended one. The final phases (final to date, at any rate) of the phylogenetic history of man took place in the same grand geological era--the so-called Ice Age--as the initial phases of his cultural history. Men have birthdays, but man does not.

What this means is that culture, rather than being added on, so to speak, to a finished or virtually finished animal, was ingredient, and centrally ingredient, in the production of the animal itself. The slow, steady, almost glacial growth of culture through the Ice Age altered the balance of selection pressures for the evolving Homo in such a way as to play a major directive role in his evolution. The perfection of tools, the adoption of organized hunting and gathering practices, the beginnings of true family organization, the discovery of fire, and most critically, though it is as yet extremely difficult to trace it out in any detail, the increasing reliance upon systems of significant symbols (language, art, myth, ritual) for orientation, communication, and self-control all created for man a new environment to which he was then obliged to adapt.

As a culture, step by infinitesimal step, accumulated and developed, a selective advantage was given to those individuals in the population most able to take advantage of it--the effective hunter, the persistent gatherer, the adept toolmaker, the resourceful leader--until what had been a small-brained, protohuman Homo australopithecus became the large-brained, fully human Homo spaiens. Between the cultural pattern, the body, and the brain, a positive feedback system was created in which each shaped the progress of the other, a system in which the interaction among increasing tool use, the changing anatomy of the hand, and the expanding representation of the thumb on the cortex is only one of the more graphic examples. By submitting himself to governance by symbolically mediated programs for producing artifacts, organizing social life, or expressing emotions, man determined, if unwittingly, the culminating stages of his own biological destiny. Quite literally, though quite inadvertently, he created himself.

Though, as I mentioned, there were a number of important changes in the gross anatomy of genus Homo during this period of his crystallization--in skull shape, dentition, thumb size, and so on--by far the most important and dramatic were those that evidently took place in the central nervous system; for this was the period when the human brain, and most particularly the forebrain, ballooned into its present top-heavy proportions. The technical problems are complicated and controversial here; but the main point is that though the Australopithecines had a torso and arm configuration not drastically different from our own, and a pelvis and leg formation at least well launched toward our own, they had cranial capacities hardly larger than those of the living apes--that is to say, about a third to a half of our own. What sets true men off most distinclty form protomen is apparently not over-all bodily form but complexity of nervous organization. The overlap period of cultural and biological change seems to have consisted in an intense concentration on neural development and perhaps associated refinements of various behaviors--of the hands, bipedal locomotion, and so on--for which the basic anatomical foundations--mobile shoulders and wrists, a broadened ilium, and so on--had already been securely laid.

In itself, all this is perhaps not altogether startling; but, combined with what I have already said, it suggests some conclusions about what sort of animal man is that are, I think, rather far not only from those of the eighteenth century but from those of the anthropology of only ten or 15 years ago.

Most bluntly, it suggests that there is no such thing as a human nature independent of culture. Men without culture would not be the clever savages of Golding's Lord of the Flies thrown back upon the cruel wisdom of their animal instincts; nor would they be the nature's noblemen of Enlightenment primitivism or even, as classical anthropological theory would imply, intrinsically talented apes who had somehow failed to find themselves. They would be unworkable monstrosities with very few useful instincts, fewer recognizable sentiments, and no intellect: mental basket cases. As our central nervous system grew up in great part in interaction with culture, it is incapable of directing our behavior or organizing our experience without the guidance provided by systems of significant symbols. What happened to us in the Ice Age is that we were obliged to abandon the regu- and precision of detailed genetic control over our conduct for the flexibility and adaptability of a more generalized, though of course no less real, genetic control over it. To supply the additional information necessary to be able to act, we were forced, in turn, to rely more and more heavily on cultural sources--the accumulated fund of significant symbols. Such symbols are thus not mere expressions, instrumentalities, or correlates of our biological, psychological, and social existence; they are prerequisites of it. Without men, no culture, certainly; but equally, and more significantly, without culture, no men.

We are, in sum, incomplete or unfinished animals who complete or finish ourselves through culture, and not through culture in general but through highly particular forms of it: Dobuan and Javanese, Hopi and Italian, upper-class and lower-class, academic and commercial. Man's great capacity for learning, his plasticity, has often been remarked, but what is even more critical is his extreme dependence upon a certain sort of learning: the attainment of concepts, the apprehension and application of specific systems of symbolic meaning. Beavers build dams, birds build nests, bees locate food, baboons organize social groups, and mice mate on the basis of

forms of learning that rest predominantly on the instructions encoded in their genes and evoked by appropriate patterns of external stimuli; physical keys inserted into organic locks. But men build dams or shelters, locate food, organize their social groups, or find sexual partners under the guidance of instructions encoded in flow charts and blueprints, hunting lore, moral systems, and aesthetic judgments: conceptual structure molding formless talents.

We live, as one writer has neatly put it, in an "information gap." Between what our body tells us and what we have to know in order to function, there is a vacuum we must fill ourselves, and we fill it with information (or misinformation) provided by our culture. The boundary between what is innately controlled and what is culturally controlled in human behavior is an ill-defined and wavering one. Almost all complex human behavior is, of course, the vector outcome of the two. Our capacity to speak is surely innate; our capacity to speak English is surely cultural. Between the basic ground plans for our life that our genes lay down--the capacity to speak or to smile--and the precise behavior we in fact execute--speaking English in a certain tone of voice, smiling enigmatically in a delicate social situation--lies a complex set of significant symbols under whose direction we transform the first into the second, the ground plans into the activity.

Our ideas, our values, our acts, even our emotions, are, like our nervous system itself, cultural products--products manufactured, indeed, out of tendencies, capacities, and dispositions with which we were born, but manufactured none the less.

Whatever differences they may show, the approaches to the definition of human nature adopted by the Enlightenment and by the earlier, classical anthropology have one thing in common: they are both basically typological. They endeavor to construct an image of man as a model, an archetype, a Platonic idea or an Aristotelian form, with respect to which actual men--you, me, Churchill, Hitler, and the Bornean headhunter--are not reflections, distortions, approximations. In the Enlightenment case, the elements of this essential type were to be uncovered by stripping the trappings of culture away from actual men and seeing what then was left--natural man. In classical anthropology, it was to be uncovered by factoring out the commonalities in culture and seeing what then appeared--consensual man. In either case, the result is the same as tends to emerge in all typological approaches to scientific problems generally; the differences among individuals and among groups of individuals are rendered secondary. Individuality comes to be seen as eccentricity, distinctiveness as accidental deviation from the only legitimate object of study for the true scientist: the underlying, unchanging, normative type. In such an approach, however elaborately formulated and resourcefully defended, living detail is drowned in dead stereotype: we are in quest of a metaphysical entity, Man with a capital "M," in the interests of which we sacrifice the empirical entity we in fact encounter, man with a small "m."

The sacrifice is, however, as unnecessary as it is unavailing. There is no opposition between general theoretical understanding and circumstantial understanding, between synoptic vision and a fine eye for detail. It is,

in fact, by its power to draw general propositions out of particular phenomena that a scientific theory--indeed, science itself--is to be judged. If we want to discvoer what man amounts to, we can only find it in what men are: and what men are, above all other things, is various. It is in understanding that variousness--its range, its nature, its basis, and its implications--that we shall come to construct a concept of human nature that more than a statistical shadow and less than a primitivist dream, has both substance and truth.

It is here, to come round finally to my title, that the concept of culture has its impact on the concept of man. When seen as a set of symbolic devices for controlling behavior, extrasomatic sources of information, culture provides the link between what men are intrinsically capable of becoming and what they actually, one by one, in fact become. Becoming human is becoming individual, and we become individual under the guidance of cultural patterns, historically created systems of meaning in terms of which we give form, order, point, and direction to our lives. And the cultural patterns involved are not general but specific--not just "marriage" but a particular set of notions about what men and women are like, how spouses should treat one another, or who should properly marry whom; not just "religion" but belief in the wheel of karma, the observance of a month of fasting, or the practice of cattle sacrifice. Man is to be defined neither by his innate capacities alone, as the Enlightenment sought to do, nor by his actual behaviors alone, as much of contemporary social science seeks to do, but rather by the link between them, by the way in which the first in transformed into the second, his generic potentialities focused into his specific performances. It is in man's career, in its characteristic course, that we can discern, however dimly, his nature, and though culture is but one element in determining that course, it is hardly the least important. As culture shaped us as a single species--and is no doubt still shaping us--so, too, it shapes us as separate individuals. This, neither an unchanging subcultural self nor an established cross-cultural consensus, is what we really have in common.

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UNIT III

This unit's main area of concentration is the origin and development of man's culture. Introduction of methods and purpose of archaeology as a tool of the anthropologist (#9) should be accomplished followed by the discussion of culture in the Old World (10) and the Western Hemisphere (11). The basic criteria for the study of identified cultures--the aspects of culture: family and kinship arrangements (12), forms of social organization and law (13), religious beliefs and practices (14) and artistic achievements (15). After firmly establishing the framework, various cultures should be investigated in depth (primarily cultures that are small and less technologically oriented than our own, or of western man, per se.) (16) = discussion of past and present methods to the study of culture.

Man is moving toward a greater degree of homogeneity--racially, culturally, and linguistically. As a result of this process the primitive cultures of the world are disappearing--either through assimilation or "modernization". Through the study of these primitive societes we can see some analogies to the prehistory of mankind as an entity, and through them we can observe the particular ways in which customs, social structure, and religions have adapted to different conditions of environments, diverse historical situations, and to technological developments. Modern man is gradually losing this "living evidence" of his past and therefore anthropologists are attempting to preserve them on paper for future study.

Unit III (A)

Objectives	Activities	Resources
Archaeology - To define the scope of archaeology by showing the tools, methods and working conditions of the archaeologist. To emphasize the importance of studying the past and its usefulness of man today. To show one of the many methods used to study man's past.	Show films on archaeology Discussion on archaeology: Importance of "inference" and "educated guessing" Use of artifacts from National Anthropology Project to illustrate what can be deduced from dig finds.	Films The Archeologist and How He Works, Exploring the Unwritten Past, (International Film Bureau 332 S. Michigan Avenue Chicago, Illinois) Salzmann, Anthropology, Chapter 9 Michener, James, The Source Ceram, C. W., Gods, Graves, and Scholars

Unit III (B) Cultural Prehistory of the Old World

Concepts:

1. The sequence of human culture in the prehistoric Old World can be best understood in terms of subsistence and types of implements (tools).

2. The five successive periods of human culture based on the above (subsistence and tools) are:
   a. Paleolithic Era
   b. Mesolithic Era
   c. Neolithic Revolution
   d. Urban Revolution
   e. Industrial Revolution

3. The sequences of Paleolithic cultures are best known for the European area. However, European prehistory is generally characteristic of Paleolithic prehistory elsewhere.

4. The most significant aspect of the Neolithic period is the shift from food gathering (nomadic) to food producing (Agrarian).

5. The major occurences that characterize the Neolithic period first developed in the Eastern Mediterranean, Indus River Valley and the Yellow River Valley (the "Cradles"), and diffused throughout most of the adjacent land masses.

6. Prehistory of the Eastern Mediterranean area best illustrates the manner in which man made his way into the Neolithic.

Objectives	Activities	Resources
The evolution of man to a user and maker of tools was a slow process which can be traced through the various stone cultures.	Reading and discussion of the evolution of man in the tool cultures 1. Pebble-tool tradition 2. Stone tools 3. Lower and Middle Paleolithic Traditions 4. Upper Paleolithic Traditions	Salzmann, Chapter 10 Filmstrips FS-916.1-Ne - Neolithic Folk Today FS-919.403-St - Stone Age People Today FS-919.8-Me - A Mesolithic Age Today FS-913.03-Di - The Discovery of Agriculture

Objectives	Activities	Resources
Tools and containers can be classified in various ways: a. Cutting tools are classified by their function, the material from which they are made, or by the techniques used in their manufacture. b. Metal working includes mining, smelting, alloying, forging, or casting. c. Containers may be grouped as to simple or processed.		Filmstrips (Con't) Epic of Man Series
The production of food is probably the most important step in in the development of civilization. With the adoption of agriculture, a given population could grow and become more sedentary.	Show film: Lascaux; Cradle of Man's Art 5. Mesolithic 6. Neolithic	IMC - Film F3157 - Lascaux; Cradle of Man's Art - I-J-S (17 min. color) The Lascaux Cave paintings, discovered in the Dordogne region in France in 1940, are the subject of this exciting film. Dethlefsen, Edwin S., Art and the Supernatural: The Imagination of Early Man, National Anthropology Project Sackett, James R., The Pleistocene National Anthropology Project Sackett, James R., Some Tool Traditions of the Pleistocene National Anthropology Project Sackett, James R., Hunters and Gatherers of the Middle Pleistocene, National Anthropology Project

Objectives	Activities	Resources
		Sackett, James R., The Magdalenians; Advanced Hunters of the Paleolithic, National Anthropology Project Deetz, James J. R., Stone Tools, National Anthropology Project

Unit III (C) Cultural Prehistory of the New World

Concepts:

1. Man is believed to have evolved in the Eastern Hemisphere and entered the Western Hemisphere as Homo sapiens bringing some basic culture with him (re: absence of monkeys without the pre-hensil tail--dead-end evolution)

2. The time of entry was relatively late. Man was in the Western Hemisphere by at least 10,000 B. C.

3. The route of entry, favored by most authorities, is from northeastern Asia, via the Bering Straits, to Alaska and then spreading to the rest of the Western Hemisphere.

4. Bands of nomads might have entered in an indefinite series of successive waves.

5. Most of the later cultural developments appear to have been independently evolved in the Americas.

6. New World cultural history may be viewed in terms of the following pattern:
   a. Paleo-Indian
   b. Archaic
   c. Classical
   d. Formative
   e. Post-classical
   f. Post-conquest

Objectives	Activities	Resources
Man probably crossed the Straits to Alaska and then populated the Western Hemisphere.	Discussion: 1. Nomads were sailors who came by boat from South Pacific 2. Nomads who crossed the Straits.	Salzmann, Chapter 11 Haag, William G., "The Bearing Strait Land Bridge," Scientific American, Vol. 206, No. 1, (January, 1962), pp. 112-23 Meggers, Betty J. and Clifford Evans, "A Transpacific Contact in 3000 B. C.", Scientific American, Vol. 214, No. 1, (January, 1966), pp. 28-35
Culture in the Western Hemisphere took a different and independent route from the Eastern Hemisphere.	Discussion of the Aztec, Toltec, and Mayan Cultures. Filmstrips	Salzmann, Chapter 11 Filmstrips FS-916.2-He - Heritage of the Maya K FS-918.5-In - The Incas K FS-970.3-In - The Incas, the Mayas, and the Aztecs K Ancient American Indian Civilization Series--Incas, Mayas, and Aztecs

Unit III (D) Kinship, Social Structure, Religion, Economy, The Arts, etc....

Concepts:

1. Kinship, or family organization, is the basis of most social systems.

2. The life cycle is a basic biological phenomenon and cultural responses to these fixed biological events are varied. The stages involved are:
   a. Conception
   b. Pregnancy
   c. Child birth
   d. Puberty
   e. Adulthood
   g. Old Age
   h. Death

3. Kinship is a cultural phenomenon rather than a biological one. Each culture defines the various statuses of kinship and the roles of these statuses according to its unique set of view and values.

4. Psychological factors produce divisions of large populations into units because of the need of companionship, reassurance, emotional security, and the impossibility of establishing close contact or developing habitual attitudes toward any great number of people.

5. Status and role serve to reduce the ideal patterns for social life to individual terms.

6. Political structure deals with power, territory, legal system, warfare, and diplomacy.

7. Religion includes all those patterns of behaving whereby men strive with the aid of the supernatural to reduce the uncertainties of daily living and to compensate for the crises which result from the unexpected and unpredictable. Religious systems exist everywhere.

8. Magic is a body of techniques and methods for controlling the universe on the general assumption that if definite procedures are explicitly followed, there will be definite and inevitable results.

9. All societies, from the simple to the complex, utilize the basic factors of production: land, labor, know how, and tools. All societies are also involved in economic activity that goes beyond bare needs.

Objectives	Activities	Resources
Magic is a body of techniques and methods for controlling the universe on the assumption that if certain procedures are followed minutely, certain results are inevitable.		Salzmann, Chapter 14 *Gluckman, Max, "The Logic of African Science and Witchcraft", Rhodes-Livingston Journal, June, 1944, pp. 61-71 Film - FREE! Funeral Customs the World Over -(Assoc. Instructional Materials)
All societies utilize the basic factors of production: land, labor, know how, and tools.		IMC - Film F4042 - Economics of Under-development *Dalton, George, "Primitive Money", American Anthropologist, Vol. 67, No. 1, 1965, pp. 44-62 "Nash, Manning, "The Organizational Economic Life", Horizons in Anthropology, 1964, pp. 171-180
Kinship is a system of family relationships, but its principle extends to relationships outside the family.	After reading the chapter on kinships have the student draw a kinship diagram and label all those relatives whom they customarily refer to be a kinship term.	Salzmann, Chapter 12 *Keesing, Felix M., "Bontok Social Organization," American Anthropologist, Vol. 51, No. 4, 1949, pp. 578-601 (Difficult)
Kinship systems are the basis of most social systems.	Use dictionary to check on definitions of first cousin, second cousin, first cousin once removed, etc...	*Hocart, A. M., "Kinship Systems", The Life-giving Myth, and Other Essays, Grove Press, n.d., pp. 173-179

Objectives	Activities	Resources
	Discussion of the role of kinship in society.	Filmstrip FS-913.031-Gr - The Growth of Society K
Political organization deals with power in a territory based on a legal system and international relations.	Lecture and discussion as to the "basic need" for some form of political organization.	Salzmann, Chapter 13
Religion includes all those patterns of behaving whereby men strive with the aid of supernatural agencies to reduce the uncertainties of daily living and to compensate for the crises which result from the unexpected and unpredictable.	Establish a background for use in future "area studies".	Salzmann, Chapter 14 Filmstrips FS-291-Da - The Dawn of Religion K FS-291-St - A Stone Age Faith Today K

ASIA

Orientation:

More than half of the world's population lives in the Far East. Each of the major racial and religious groups is represented in the Far East. There are wide variations in living standards.

In comparison with western countries, the Far East is marked by strong respect for tradition and age. Social customs generally differ considerably from those found in the West.

Aims and Objectives:

1. An understanding of the varied populations and cultural backgrounds found among Far Eastern peoples.
2. An awareness of the problems created by the wide variations in living standards among people of the Far East.
3. An appreciation of differences between customs, traditions, and ways of living in this region and those of the Western world.

General Resources:

Cultural Anthropological Materials - General

Vera Michaeles Dean, The Nature of the Non-Western World, Mentor, $.75, 50 copies per building.

Weyer, Edward M., Primitive Peoples Today, Dolphin Books, $.95, 50 copies per building.

Firth, Raymond, Human Types, Mentor Book, $.95.

National Geographic, Vanishing Peoples of the Earth, $4.25.

Objectives	Activities	Resources
India: A study of peasant life in India through case study and use of the novel.		
A. To know that India is attempting to develop its human, natural, and capital resources in order to achieve economic growth. B. To know that traditional values and attitudes based upon caste regulations, Hindu beliefs and practices, and family structure serve as barriers to economic development. C. To know that the British introduced Western technology into India which promoted the growth of industry, cities, and a specialized, interdependent, money economy. D. To know that industrialization and urbanization change traditional social and family structures and caste traditions.	Readings in Tradition and Change in Four Societies. Divide class into five groups, giving each group one section of the reading in Tradition and Change, Unit 3 part 1. Ask each group to identify and to state precisely the problem illustrated. 1. inadequate level of meals 2. laborer's indifference toward improvement 3. farmers refusal to use scientific techniques 4. education alone doesn't improve agricultural methods or production 5. weavers' failure to receive an adequate share of the market value	Ford, Richard B., Tradition and Change in Four Societies, Unit 3 excluding parts 2, 5, 6, and 16 Markandaya, Kamala, Nectar in a Sieve Beals should be used primarily for research and reference for students. Film Undala
To know that India is poor and has a limited supply of some basic natural resources and underdeveloped human and capital resources.		Ford, Richard B., Tradition and Change in Four Societies, Part 1 of Unit 3 Markandaya, Kamala, Nectar in a Sieve Film - FREE! #S-781 - The World of TWA - India, (Assoc. Instructional Materials)

Objectives	Activities	Resources
A. To know that Untouchables live outside the Indian caste structure and that their position is determined by birth. B. To know that caste traditions regulate the entire way of life of an Untouchable--his occupation, residence, social activities, and relationships with other people. C. To know that untouchability acts as a barrier to social mobility and industrialization.	Students should continue to use the novel Nectar in a Sieve and continue to read the readings from Tradition and Change--remaining in their groups. Class discussion on the role of caste in India. Film India: Ramu of Ganapathy Street	Tradition and Change, Part 3 and 4, Unit 3. Srinivas,, M. N., and Andre' Beteille, "The Untouchables of India," Scientific American, Vol. 213, No. 6 (December, 1965), pp. 13-17 Nectar in a Sieve Film GSC-1169 - India: Ramu of Ganapathy Street, (Indiana University)
To know the structure of and relationships within the Indian family. To know that the organization of the Indian family reflects Indian values, in particular the Indian's concern for human relationships and for doing his duties.	How would you compare the Indian family with your own? How is it similar? How is it different? Do family relationships restrict or enlarge the possiblities available to a man? a woman? Does the family restrict the use and sale of property? Show films: North Indian Village India - Writings on the Sand	Nectar in a Sieve Tradition and Change, Chapter 7, Unit 3 Films North Indian Village,(University of Illinois) #NT-717 - India - Writings on the Sand, (Assoc. of Instructional Materials)
To know that village leadership rests upon the leaders' economic influence over the villagers, their social and religious positions within the community, and upon traditional Indian values and customs.		Nectar in a Sieve Tradition and Change, Chapter 8, Unit 3

Objectives	Activities	Resources
To know that the British introduced Western technology to India.		Scofield, John, "Indian Crisis," National Geographic, Vol. 123, No. 5, (May, 1963), pp. 599-661.
To know that the new technology changed the self-sufficient economy to a more specialized, interdependent money economy.		
To know that technological changes spurred the growth of industry, cities, and population.		
To know that industrialization and urbanization have brought changes in social classes, family structure, and caste traditions.	Working in groups students should write an hypothesis about the impact of Industrialization on Indian society--specifics from readings.	Nectar in a Sieve Tradition and Change, Chapter 14, Unit 3
To know that some village Indians resist economic and social changes aimed at breaking down traditional practices.		

China and S. E. Asia

A. To know that Confucian values and traditional Chinese values have endured for centuries in China.

B. To know that Western nations exploited China in the nineteenth century.

Objectives	Activities	Resources
To draw comparisons between peasant conditions in India, China and S. E. Asia--the results of the Western influence on the respective areas.	Individual students (5 per-class per-novel) should read the Good Earth and Anna and the King of Siam, and then present a comparison of this novel to the one read on India and class should work on overall comparisons.	Buck, Pearl S., The Good Earth Landon, M., Anna and the King of Siam

Objectives	Activities	Resources
		Film Siam -(Assoc. Instructional Materials)(produced by W. Disney) WD373 IMC - Films F3179 - China: Feeding 1/4 of the Human Race F9007 - China's Villages in Change Gyodal, Jan, Report From a Chinese Village Koningsberger, Hans, Love and Hate in China Films - FREE! S184 - The World of TWA - Ceylon,(Assoc. Instructional Materials) S300 - The World of TWA - Thailand and Hong Kong, (Assoc. Instructional Materials)

Japan

Objectives	Activities	Resources
To introduce the student to Japan from an anthropological viewpoint and in particular to introduce them to an archaic Caucasoid population that is disappearing--the Ainu.		Norbeck, Edward, Changing Japan, Holt, Rinehart, latest copyright, $1.50, 40 copies per classroom

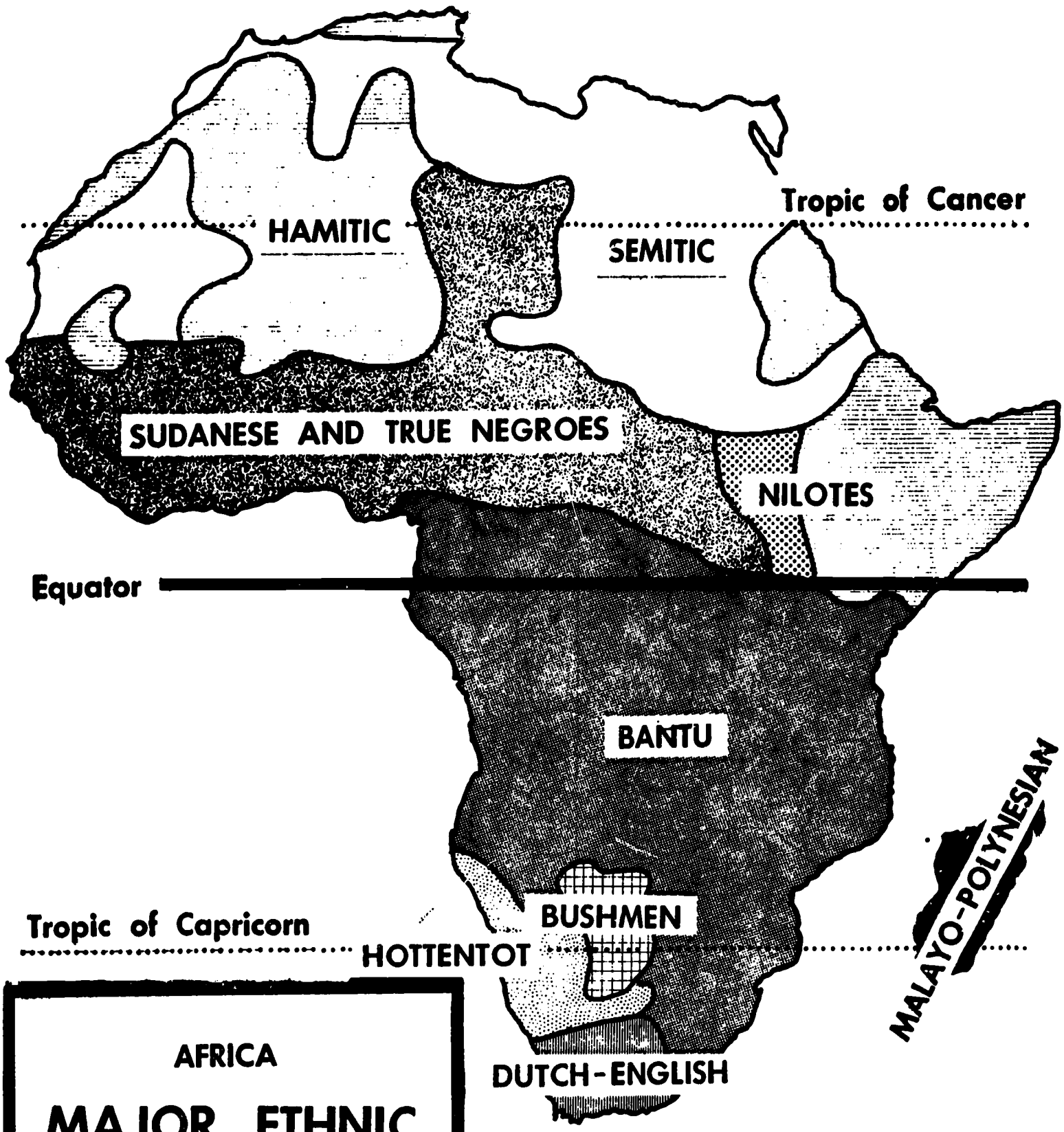
Objectives	Activities	Resources
	This will be primarily research problem for the investigation into the Ainu using the anthropological data that they are familiar with.	Statler, Oliver, Japanese Inn Weyer, Edward M., Primitive Peoples Today
The study of the Japanese should be made--to illustrate the definite difference that exists from pre W. W. II Japan and the Western world.	Using of the Japanese soldier in W. W. II as examples --How does this illustrate a definite cultural difference?	Hilger, Sister Mary Inez, "Japan's Sky People, the Vanishing Ainu", National Geographic, Vol. 131, No. 2 (February, 1967), pp. 268-96 Takkakura, Shindichiro, "Vanishing Ainu of North Japan," Natural History, Vol. LXXV, No. 8, (October, 1966), pp. 16-25 Film CS 1261 - Personality in Culture, (University of Indiana) Wx 510 - Japan, (Assoc. Instructional Materials), Produced by W. Disney IMC - Film F3208 - Family in Tokyo

AFRICA

Orientation

Africa, which is believed to be the place of origin for Man, and which for centuries has reflected much of man's misery, is now racing towards modernization. It is in Africa that man has become "caught between two worlds"--for here, ancient patterns of life are being challenged because of the desire to achieve new goals. Even though modernization is coming, the "New Africa" will be shaped by its old culture, and therefore sampling studies of the Old African cultures are desirable.

Objectives	Activities	Resources
1. A knowledge of the various races and nationalities of Africa South of the Sahara.	This unit should be primarily one of individual group research--the use of four groups--one per case study.	Dostert, Pierre, Africa 1969, Stryker--Post Publications, Washington, D. C., $1.25, 50 copies per building
2. An understanding of the fact that religion plays an important role in the life of many Africans.		Beattie, John, Bunyoro, An African Kingdom, Holt, Rinehart, 1963. $1.50, 40 copies per building
3. An appreciation of the influence of topography and climate in the development of various African tribes.		Kuper, Hilda, The Swazi, A South African Kingdom, Holt, Rinehart, 1963, $1.50, 40 copies per building
4. An appreciation of the influence of topography and climate in restricting progress of the African peoples.		Uchendu, Victor Chikenzie, The Igbo of Southeast Nigeria, Holt, Rinehart, 1965, $1.50



AFRICA

MAJOR ETHNIC GROUPS

CARTOGRAPHER: TOM STEVENS

SOURCE: STAMP

IMAGES OF AFRICA

by E. Perry Hicks and Barry K. Beyer

American secondary school students view Africa south of the Sahara as a hot, primitive land where wild beasts prowl the steaming jungles stalking and being stalked by black savages armed only with spears and poison darts. They see it as a strange land of huts and drums and mystery. Their image of this region is filled more with diamonds and precious minerals than with such staples as groundnuts, yams, manioc, and sorghum. It is built more upon the adventures of explorers and missionaries than upon the quiet routines of farming and fishing or the hurly-burly routines of urban trade and commerce.

This image emerges from a study conducted during the fall of 1967 by Project Africa, a social studies curriculum development project commissioned to design instructional materials and techniques for use in improving instruction about Africa south of the Sahara in American secondary schools.[1]

The preparation of effective programs of study requires an awareness of the knowledge and impressions already held about the topic of study by prospective students. In order to determine these relative to Africa south of the Sahara, Project Africa surveyed 3,259 average-ability, seventh and twelfth graders in school districts across the United States in October 1967.

Seventh and twelfth graders were selected as subjects for this study because the Project wished to identify knowledge and impressions that exist both *before* and *after* any formal study of this region at the secondary level. Africa south of the Sahara, if it is studied at all in these grades, is customarily studied in either a world geography, world history, or a world cultures course. The former is usually studied first, most frequently at the seventh- or ninth-grade level. In many schools it is required of all students. Thus, it was necessary to survey seventh graders early in the academic year before they had commenced any formal study about this region.

Africa is also frequently a subject of study in ninth- or tenth-grade world history or world cultures. It is occasionally studied indirectly in relation to American history during the junior year. Rarely is it studied in the twelfth grade. For the vast majority of high school students, therefore, whatever formal study of Africa south of the Sahara they might have would have been prior to their final year of schooling. Thus twelfth graders were selected in order to determine the images of Africa students held *after* formal study about this region in secondary school.

Students in 28 school districts in 24 states were surveyed. These districts were selected from a list of districts chosen to represent the

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[1]The research reported herein was performed pursuant to a contract with the U. S. Department of Health, Education, and Welfare, Office of Education. A copy of the complete technical report can be obtained from Project Africa, Baker Hall, Carnegie-Mellon University, Pittsburgh, Pennsylvania, 15213.

general distribution of types of schools in the major sections of the United States. The schools in which the surveys were administered ranged in size from the largest metropolitan schools to suburban districts and very small rural schools where a single room included more than one grade level. Twenty-six of these were public school systems. Two were private parochial systems. Of the total number of survey schools, eight were located in the Northeast, six in the South, eight in the Middle West and six in the Far West.

INSTRUMENTS

Two instruments were used to collect data for this study. The first was a "World Regions Perception Survey" designed by the staff of Project Africa. Its purpose was to determine what, if any, general image or concept of Africa south of the Sahara existed among the population surveyed.

In order to obtain a valid measure of this image, it was considered necessary that the students be unaware that Africa south of the Sahara was the prime focus of the survey. Therefore, the instrument made no reference to Project Africa. It consisted primarily of an outline map of the world and a deck of stimulus cards. The students were asked to match each stimulus card with the area outlined on the map which it seemed to describe best.

The map was a two-color, 9" by 16" outline map of the world. It was divided into seven regions: North America, South America, Europe, Middle East, Africa south of the Sahara, Russia, and Asia. Labels such as "Middle East" and "Russia" were used because it was felt that students would correctly understand what region was being referred to, whereas terms such as "Arab World" or "U.S.S.R." might be confusing.

The deck of stimulus cards consisted of 90 cards, each containing a different word or phrase. Twenty-five of these cards represented the survey designers' estimate of what the typical student view of Africa south of the Sahara would be. This estimate was based on teaching experience, surveys of the literature, and a pilot study conducted during the summer of 1967. The remaining 65 stimulus cards contained several different types of words or phrases. Some were descriptive of parts of Africa south of the Sahara, but commonly associated, at least by Americans, with other parts of the world. Some were terms normally associated with modern industrial nations such as the United States. Several were adjectives that could apply to any region depending on one's point of view; these included such terms as *friend*, *enemy*, *brave*, and *cowardly*. Finally there were terms which could apply to almost any region--such as *trade*, *art*, *music*, and *religion*. The words and phrases printed on the stimulus cards are shown in Table I.

The second survey instrument, entitled "Africa South of the Sahara," was also designed by the staff of Project Africa. This was a simple paper-and-pencil objective test of students' specific and general knowledge about Africa south of the Sahara. It was designed to measure various types of knowledge about six aspects of the geography, history, and culture of this region.

These were:

Physical geography: size, climate, landforms, major rivers, animal life, and map locations.

History before the European penetration: ancient civilizations; the Sudanic, forest, and other kingdoms; and conditions at the time of the European penetration.

History of the Europeans in Africa: exploration; the slave trade, colonialism, imperialism, and independence.

Indigenous society: ethnic groups, language, religion, music and the plastic arts.

Economic development: resources, products, infrastructure, and problems and present levels of development.

Current affairs: political leaders, major nations, foreign and domestic policies of various nations, and current events.

In its final form the instrument consisted of 60 items, grouped together in six sub-tests each of which represented one of the general topics described above. All items were of a multiple choice type with at least four alternative responses. The first sub-test, on physical geography, included a map on which students were asked to locate specific data.

RESULTS

To American seventh and twelfth graders, Africa south of the Sahara appears as a *primitive, backward, underdeveloped* land with *no history--a hot, strange* land of *jungles* and *deserts*, populated with *wild animals* such as *elephants tigers*, and *snakes* and by *black, naked savages, cannibals*, and *pygmies*. *Missionaries* and *witch doctors* vie for control of the *natives*, who live in *villages*, are prone to *superstition* and *disease*, and who hunt with *spears* and *poison darts* when not sitting in front of their *hut* beating on *drums*. twelfth-grade students add that the natives are illiterate. Seventh-grade students make them out to be *poor* and *dirty*.

This description is based on those terms from the "World Regions Perception Survey" which at least 25 percent of the students chose as describing Africa better than any other region. On a purely chance basis, each term could be expected to be associated with this region, or any other region, by less than 15 percent of the students. Those terms chosen by at least 25 percent of the students are listed in Table II.

The hypothesized student image of Africa south of the Sahara was substantiated. If students had distributed the 25 items which were considered to represent the typical concept of Africa in a random manner among the seven world regions, less than 15 percent of the items would have been placed in Africa. When the responses of all students were taken together, 66.58 percent of the stereotype terms were seen as describing Africa south of the Sahara better than any other

region. The percentage ranged from a low of 52.12 percent among rural, mid-western seventh graders to a high 73.82 percent among suburban northeastern twelfth graders. These results are shown by Table III.

The results of the multiple choice instrument, "Africa South of the Sahara," suggest that, when students enter the seventh grade they have a very limited and superficial knowledge of Africa south of the Sahara. They know most about economic development and physical geography and almost nothing about the history of the region, except as it pertains to European penetration. Students in the final year of secondary school generally know more than students in the seventh grade, but even in the twelfth grade this knowledge is limited. The mean number of correct responses on the instrument at the seventh grade level was 18.78 of a possible 60. The mean number of correct responses at the twelfth grade was 25.11 of a possible 60. Although at neither grade level was the score above the chance level of 15 of a possible 60, the difference between the seventh graders and the twelfth graders was significant at the .001 level.

Table IV shows the mean number of correct responses, expressed as a percentage, for each grade level on each of the six sub-tests. In five of the six sub-tests, the mean correct scores for the twelfth grade students ranged from seven to over 14 percentage points higher than the scores for seventh-grade students. The greatest difference was on questions related to the period of European colonialism and imperialism; here twelfth graders demonstrated considerably more correct knowledge than did seventh graders. The least difference appeared on questions related to physical geography and map location. Only in the sub-test for African history before European penetration, where both seventh- and twelfth-grade scores were very low, did the seventh-grade students score higher than the twelfth graders.

In addition, this analysis illustrates that students have greater knowledge about some topics than about other topics. The relative ranking of the sub-tests is similar for students at both grade levels. Both scored highest on questions related to economic development, trade and products. The sub-test on physical geography and that on society and culture ranked second and third respectively, for seventh graders; this ranking was reversed for the twelfth grade. Questions related to European colonialism and imperialism, and current political situations and events were next highest, in that order. Both groups scored lowest on questions related to the history of Africa before the European penetration.

Further analysis of these results reveals that certain misconceptions about Africa south of the Sahara are held by both groups of students. These misconceptions generally fall into the pattern of a land of jungles, inhabited by wild animals and peoples who practice primitive religious rites--a land as rich in minerals and precious stones as it is poor in indigenous, political and economic institutions. These are similar to the impressions of Africa revealed by the "World Regions Perception Survey."

Items to which approximately 45 percent of the students selected the same incorrect response were chosen as misconceptions commonly held about Africa south of the Sahara. These are described here by giving the stem of the item, the response chosen by most of the students, and then the correct response. For example, item 21 on the instrument read as follows: Timbuctu was important for: (A) its diamond mines, (B) its cool refreshing climate, (C) its university, (D) its oil refinery. Most students chose response A rather than the

correct response C. Therefore, this is reported, "Timbuctu was important for its diamond mines rather than for its university."

Table V describes the major misconceptions of the seventh-grade and twelfth-grade students. Five of the six misconceptions are the same for both groups, although their relative ranking is not similar.

Those students who are most informed about Africa south of the Sahara are likely also to be the most misinformed about this region. The students who scored highest on the instrument tended to choose particular incorrect responses to those items identified as relating to misconceptions more often than did those students who scored lowest. Twelfth-grade students scored higher than seventh-grade students; yet, of the five identical misconceptions held by students at both levels, every one was supported by a greater percentage of twelfth graders than seventh graders. This suggests that somewhere students are learning misinformation.

While certain patterns emerged in the analysis of the data by types of schools and regions of the country, it is not possible to make any clear-cut generalizations. Generally both knowledge and stereotyped images are more evident in urban and suburban schools than in rural schools. Both knowledge and the tendency to stereotype are least strong in the West. Since no Southern rural or Western suburban schools were represented in either survey, it is not possible to ascertain whether region of the country or type of school or some combination of the two accounts for the variance in the scores. In addition, although the samples included many students, only a few schools in each section and of each type were sampled. Therefore, it is very possible that the results reflect differences between schools rather than differences between sections of the country or types of schools.

CONCLUSIONS

The results of this study demonstrate that American secondary schools students have limited and often superficial knowledge about Africa south of the Sahara. They reveal that these students have a stereotyped image of the region and that this image contains many misconceptions. The survey of basic knowledge reveals further that, while a limited amount is known about some topics, there are other topics about which students know virtually nothing.

The image of Africa south of the Sahara described by the results of the "World Regions Perception Survey" and supported by the misconceptions identified through the survey of basic knowledge is hardly a balanced picture of the present African scene. Indeed, it is not a balanced picture of the African scene past or present!

In part, this image, like any image, is based on information, misinformation, and lack of information. For example, it is no wonder that students see Africa south of the Sahara as a land of "no history" when the survey of basic knowledge shows that they have virtually no knowledge of the region before the coming of the Europeans. Students simply have never heard of Zimbabwe, Benin, and Ashanti, or of Sonni Ali, Osei Tutu, or Mansa Musa.

The misinformation that students have about Africa may come primarily from the popular media. Students may never have heard of Africa's Sudanic kingdoms, but they probably have heard of Tarzan, Jungle Jim, and King Solomon's mines. If Tarzan lives in the jungle along with his lion and elephant friends, and this is all that a student knows about Africa, the student's image of Africa will certainly not be accurate. If a student has seen numerous drawings of animated cartoons of missionaries in the cooking pot with savages dancing around the fire, but has never seen a photograph of an African farmer or fisherman, he will not have a balanced image of the region. As long as students go to camp and sing about Zulu kings sitting underneath coconut trees, and as long as such songs are their chief source of information, their image of Africa south of the Sahara will be distorted.

No doubt the current content of the popular media presents a somewhat more accurate view than has been true in the past. *Daktari* and *Cowboy in Africa* may very well still "o'er unhabitable downs, place elephants for want of towns," but at least people travel by jeep and plane rather than by swinging vine and the Africans communicate in languages rather than by grunts and beating on hollow logs. However, it will take more than Clarence the Cross-eyed Lion to erase the image of Africa south of the Sahara that American students presently hold.

Much of the information about Africa that students receive, they receive from formal instruction in social studies classrooms. Since the majority of social studies teachers are not well informed about the region, the type of information that students receive is determined primarily by the instructional materials used in these classrooms. Usually the information contained in commercial instructional materials--textbooks, paperback books, films, filmstrips, records--is accurate, although sometimes certain misconceptions about Africa are so widely held that they will slip in. For example, one otherwise accurate filmstrip-record combination names tigers as one of the many wild animals to be found in Africa. The problem, therefore, with instructional materials is usually less one of accuracy of information, than it is one of lack of balance and up-to-dateness in the information presented, for what may have been true of Africa five years ago may very well not be true of it today.

This lack of balance is especially noticeable in the elementary grades. Here instruction about Africa south of the Sahara tends to focus on the strange and the bizarre. There are very few pygmies in Africa in relation to the total population; yet they often are the only Africans studied by students in these grades. As a result these students get the impression that pygmies are a major segment of the population--or, in some cases, the total population. Since pygmies live for the most part in rainforest areas, the image of Africa as a land covered by jungle is reinforced.

Where broader coverage is given to Africa, the strange animals, the gold and diamonds of Southern Africa, and the tall, graceful Tutsi warriors are other favorite topics of study. There are text materials, pictures, films, and filmstrips available about all of these. For the most part, the specific information is accurate, or at least was, when the material was prepared. However, when the study of Africa south of the Sahara focuses on these and only these topics, the resultant image is inaccurate and misleading.

In the secondary grades, Africa is most often studied in a course on world geography in which the emphasis is on the physical and economic geography of various world regions. Sometimes it is the intent of the course to focus on human or cultural geography, but, even then, places and products play a major role.

The lack of balance in such courses results partly from attempting to survey all of Africa south of the Sahara in a limited amount of time. Facts which can be easily isolated and memorized tend to become the goals of such surveys. Capital cities, chief products, major rivers, and leading political figures can be gleaned from a 21-day travelogue of any continent. Besides, these are all facts that are either correct or incorrect--there is little need for depth of knowledge or interpretation on the part of the student or teacher. Topics which require deeper understanding, topics such as historical development, cultural diversity, or problems of modernization, are passed over for lack of time, for lack of teacher knowledge, and for lack of instructional materials.

Sometimes Africa south of the Sahara is studied in the world history course that is taught in most secondary schools. However, in this course it is studied from the point of view of European exploration, colonialism, and imperialism. The students see the region and its peoples through the eyes of explorers, missionaries, entrepreneurs, and adventurers. They study it only as an appendage of European history, as an arena in which the destinies of western civilization were enacted. This culture-bound view distorts Africa's past and gives little insight into the present.

Seen in this perspective, the results of Project Africa's surveys are not particularly surprising. Limited and superficial student knowledge is the logical consequence of limited and superficial study in school, especially as in this instance, where experiences outside of formal instruction present an even more distorted image of the region. The finding that the better students--those who know the most about Africa south of the Sahara--tend to hold the most misconceptions and to be the most stereotyped in their thinking suggests that poor lessons have been learned well.

Teachers need to be aware of the nature and prevalence of this image of Africa south of the Sahara so that they can guard against its slipping into their teaching. They should attempt to have their class presentations, whether these be through lectures, films, or textbooks, present a balanced view of the African scene. Perhaps they should even attempt to destroy stereotyped images by presenting material which contradicts, rather than reinforces, what students think is true about this region.

Assuming that social studies teachers, curriculum planners, and producers of instructional materials believe that it is important that students leave secondary school with a basic understanding of the geography, history, culture and current affairs of Africa south of the Sahara, and assuming that this understanding should be as correct as possible, the results of this research indicate that Africa should of the Sahara must receive more adequate treatment in elementary and secondary schools than it presently does--both in quantity and quality. Ideally, this would begin to change the image of Africa that is presently held. At the very least it ought to help students see this image for what it is--an unbalanced distortion built up through centuries of ignorance and viewed through the culture-bound prejudice of Western eyes.

TABLE I

Stimulus Words Used in World Regions
Perception Survey

*Strange	*Wild Animals	Dirty
Department Store	Folk Songs	Cold
*Villages	Plantations	Backward
Disease	*Tigers	Well-Educated
Enemy	Christian	Fishing
*Snakes	White	Racial Problems
Brave	Glorious Past	*Elephants
Art	*Spears	Buddhist
*Mineral Wealth	Democracy	*Natives
Houses	Beautiful	Friend
Clean	*Black	Temples
*Huts	Overpopulated	*Tribe
Automobiles	Lakes	Illiterate
*Missionaries	Capitalism	Mountains
Civilized	*Jungles	*Pygmies
*Hot	Poor	Sculpture
Farms	Forests	Underdeveloped
Industry	Freedom	Grasslands
*Naked	*Deserts	*Witch Doctors
Music	Hindu	Television
Churches	Bonanza	Dance
No History	*Poison Darts	Malnutrition
Peace	Cities	Powerful
Palm Trees	Oil	Religion
Trade	*Drums	*Cannibals
Daktari	Muslim	Rich
Socialism	Weak	*Primitive
*Superstition	Railroad	Violence
Dictatorship	*Savages	Cattle
Cowardly	Schools	Neutrality

*Stimulus words which reflect the hypothesized student image.

TABLE II

Stimulus Terms Placed in Africa South of the Sahara
by at Least 25 Percent of the Students

Seventh Grade		Twelfth Grade	
Stimulus terms	Percent	Stimulus terms	Percent
Wild Animals	87.25	Witch Doctors	92.78
Daktari	85.32	Wild Animals	91.40
Elephants	84.32	Drums	91.00
Witch Doctors	84.66	Daktari	90.69
Jungles	79.64	Black	89.45
Tigers	79.38	Spears	89.72
Spears	79.17	Tribe	88.19
Tribe	78.36	Savages	88.08
Natives	77.98	Elephants	86.65
Poison Darts	77.57	Natives	86.49
Drums	77.33	Cannibals	84.90
Black	76.94	Pygmies	84.11
Savages	75.90	Poison Darts	82.06
Cannibals	69.14	Naked	78.21
Naked	67.96	Tigers	77.66
Pygmies	64.94	Jungles	76.12
Huts	59.00	Huts	69.41
Snakes	55.36	Primitive	69.03
Villages	49.40	Superstition	68.82
Superstition	48.47	Snakes	56.35
Disease	46.46	Missionaries	52.50
Primitive	45.99	Strange	44.20
Hot	42.02	Backward	43.61
Strange	40.58	Illiterate	42.41
Deserts	35.80	Villages	41.39
Dirty	35.21	Hot	39.02
Underdeveloped	33.62	Disease	39.00
Missionaries	33.57	No History	38.15
No History	26.90	Underdeveloped	32.09
Poor	26.22	Deserts	29.27
Backward	25.06		

TABLE III

Percentage of Hypothesized Terms Actually Seen as Describing Africa South of the Sahara Better Than Any Other World Region

Section of the United States	Type of School							
	Urban		Suburban		Rural		Total	
	Seventh Grade	Twelfth Grade	Seventh Grade	Twelfth Grade	Seventh Grade	Twelfth Grade	Seventh Grade	Twelfth Grade
Northeast	64.38%	71.96%	62.64%	73.82%	60.77%	68.00%	62.94%	71.45%
Midwest	64.50	71.03	60.00	73.58	52.12	69.45	62.32	71.16
South	66.24	71.57	67.26	69.81	---	---	66.40	71.28
West	60.96	69.33	---	---	55.92	64.53	59.42	68.13
Total	64.23	70.98	62.94	72.72	57.24	67.31	62.79	70.67

Total of all students, 66.58%

TABLE IV

Mean Scores on Various Subtests for Seventh- and Twelfth-Grade Students

Subtest	Number of items	Seventh Grade		Twelfth Grade	
		Mean number of items correct	Percent of Subtest	Mean number of items correct	Percent of Subtest
Economic Development	10	4.00	40.00	5.41	54.10
Physical Geography	16	5.85	36.56	6.97	43.56
Indigenous Society	8	2.58	32.25	3.72	46.50
History of Europeans in Africa	6	1.72	28.67	2.58	43.00
Current Affairs	14	3.80	27.14	5.72	40.86
History before the European Penetration	6	.96	16.00	.84	14.00

* Note that the rankings of Physical Geography and Indigenous Society are reversed for the twelfth grade.

TABLE V

Major Misconceptions

Misconception	Percent	
	Grade 7	Grade 12
Large wild animals---such as lions, elephants, and giraffes---would more likely be found deep in in the African jungles than roaming through African parks and game reserves.	56.67	----
Most of Africa south of the Sahara is covered by jungles rather than grasslands.	55.12	56.05
Traditional religions of Africa South of the Sahara stress a belief in the necessity of human sacrifice to please the gods when they are angry rather than a belief in a Supreme Force or Being who created the universe.	50.48	63.35
Timbuctu was important for its diamond mines rather than for its university.	48.45	63.48
When European explorers first came to Africa they found no towns or cities--only small villages of huts, rather than many strong kingdoms.	46.67	55.54
In terms of dollar value, the most important exports of Africa South of the Sahara are mineral products rather than agricultural products.	43.45	74.31
A chief product of the Congo (Kinshasa) is petroleum rather than copper.	---	51.89

Objectives	Activities	Resources
		Thomas, Elizabeth M., The Harmless People, Vintage, $1.95, 40 copies per building (Note: Available Film - The Hunter, Peabody Museum - See Macmillan bibliography)
		Achebe, Chinuea, Things Fall Apart, Honor Books, $1.95
		Paton, Alan, Cry the Beloved Country, Scribner, $1.45
		Paton, Too Late the Phalatrope, Scribner, $1.45
		Bowen, Elizabeth Smith, Return to Laughter
Igbo		
To understand that the Igbo are a culture located in Western Africa.	Students studying Uchendu'a, The Igbo of Southeast Nigeria, should also be reading Achebe's, Things Fall Apart.	Things Fall Apart will be extremely popular--See Social Education, Vol. 33, No. 4 (April, 1969), pp. 418-424
To understand how the Igbo differ from other tribes in Nigeria and the resultant Biafran conflict over such.		
An understanding of the gov't. marriage and family kinship, non-kin relationships and religion of the Igbo and why they were not a culturized by the whites.		

Objectives	Activities	Resources
Bantu, Bushmen, Hottentots To know that the tribes were a simple people who lived in a traditional society organized around small herds of cattle and/or hunting and gathering. To know that the most important character trait of a Zulu was courage in battle. To know the major aspects of Bantu and Hottentot culture: small villages, largely pastoral economy, traditional government, status dependent upon ownership of cattle, relative rigidity of the society. To know that the S. E. people could adjust to a modern society only with great difficulty and would probably require special educational programs.	Students studying the Bushmen and/or Hottentots should be reading The Harmless People by Elizabeth Thomas.	The Harmless People Tradition and Change in Four Societies, Unit 1, Problem 2, 6, 9, & 10 Section 2 - pp. 12-16 Section 6 - pp. 30-35 Section 9 & 10 - pp. 48-57 Film GSC1209 - Bushmen of the Kalahari (Indiana University) Thomas Elizabeth Marshall, "Bushmen of the Kalahari," National Geographic, Vol. 123, No. 6 (June, 1963), pp. 866-88 Friendly, Alfred, "Africa's Bushmen Art Treasures," National Geographic, Vol. 123, No. 6 (June, 1963) , Lee, Richard B., "France Cure of the King Bushmen," National History, Vol. LXXVI, No. 9, (November, 1967), pp. 30-37 Anthropology Curriculum Study Project, Nomadic Pastoralism

THE CLASSROOM POTENTIAL OF WEST AFRICAN LITERATURE

by Nancy M. Hoon and Richard P. Abell

Why emphasize West African literature in the classroom? Why use fiction, drama, or poetry to develop an understanding of other people? What resources are available for teaching about West African life? These key questions are answered by Nancy M. Hoon, *Teacher of English, and* Richard P. Abell, *Chairman of the Social Studies Department, both at Walt Whitman High School, Bethesda, Maryland, in a stimulating article that will open new vistas for social studies teachers.*

The imaginative literature written by contemporary West Africans represents a large, untapped source of fresh, relevant materials. This literature may prompt students to inquiry into, and apprecation of, cultures different from their own. It may help them to understand the processes, dangers, and potentials of rapid social change. It may help them to see their own culture and their own values from a different perspective. It may give black students a new pride in the peoples, cultures, and region from which they came and white students a new respect for them, too.

All of these are widely accepted as desirable goals, but the advocate of West African literature must answer several questions: First, why emphasize West African rather than, say, Asian or Latin American literature? Secondly, why introduce fiction, drama, or poetry into the classroom at a time when economic statistics, primary source documents, anthropological studies and the like are becoming widely available? Why, indeed, advocate printed material at a time when we have become so aware of the teaching limitations of printed material and the potential of photographs, recordings, film, and artifacts? Thirdly, have these materials been tested in the classroom? What have been the reactions of students and teachers? What suggestions would they make for their use? Finally, what resources are, in fact, available?

To answer the first question, we must recognize that the West African cultures have a claim on our attention greater than those of Asia or Latin America because of West Africa's special relationship to America. There is, first of all, the sad fact that while Asia and Latin America may be blank on the typical American student's mental map, Africa is a dark patch filled with images of threatening jungles, black savages, snakes, monsters, and Tarzan. We must, therefore, contend not with ignorance but with misconceptions, myths, and stereotypes that are perhaps deeply embedded in the mind. The task is even more compelling becuase these very stereotypes and misconceptions are at the root of our present racial conflict. Indeed, it is a paradoxical fact that the West African cultures are both intrinsically a part of and yet radically different from our own. With the slave trade came an infusion of West African peoples and their cultural elements into our American heritage, yet these elements have been scorned and generations have been taught to assume the inferiority of African people and their cultures. In a fair-minded study of West African cultures, black students can take pride in and, perhaps even more important, white students can respect the successful adaptation of African cultures to their environments, the complexity of their social organization, the richness and dignity of individual lives, the achievements in politics and the arts, and the concern for human and spiritual values.

Black and white students, like their adult counterparts who have visited Africa, may also discover just how American and how little African "Afro-Americans" are. They may recognize how much more powerful than "race" is culture in shaping the personality, life style, and values of a man. Such a recognition may qualify some of the currently fashionable ideas of "blood brothers" and of a return to Africa.

Benefits from Study of Afican Literature

While it is their place in our culture that makes the study of West African cultures relevant, it is their differences that make them teachable. The concept of the family and the significance of family structure, for example, becomes more interesting when one confronts the concept of the "extended family" and observes its educational economic, religious, and nomative functions in a particular West African culture. The student may then return his attention to his own culture and examine the functions of the family in it. He may also reconsider his own attitudes and values toward his family, admire a society where the orphaned or the infirm are never placed in an impersonal institution because they always have family to care for them, and finally come to recognize that the word *extended* itself reflects an ethnocentric point of view. Moreover, as he recognizes how child-rearing practices shape personality, how shame and guilt control behavior, or how a particular worldview orients a man to his environment, he discovers both important generalizations about human behavior and the common strands of human experience.

There are still further potential benefits from the study of West African literature. Although it is far from a uniquely African experience, various West African cultures can serve as case studies of what happens when cultures come into contact, how a technologically superior culture can change not only the technological base but also the entire cultural fabric of the less advanced one, and how one culture can exploit traits of another. And, paradoxically, it is often in the very process of cultural disintegration and change that students can most clearly see how the original parts of the culture had been interwoven. Students may also observe which elements of European culture were most readily assimilated and they may hypothesize the causes, or they may study several different cultures and compare the different rates of speed and degrees of success which these cultures have had in assimilating or resisting European culture. Why, for example, were the Hausa of Nigeria much more resistant to European influence than the Ibos? Similarly, they may observe that the British, French, and other Europeans were relatively impervious to the African cultures. They may seek the reasons and then proceed to speculate upon how impervious Peace Corps volunteers may be. The conclusions that students reach about the nature of cultural contact and conflict, about the possiblity of one society consciously controlling its effects upon another, about the kind of knowledge and sensitivity that Americans working abroad to achieve economic or cultural change should have, about the role of the social sciences in providing both the data and the concepts that may help to shape public policy--all of these conclusions will affect their responses to the practical problems of foreign policy, foreign aid, economic development, and the export of our religious and political ideals.

There is still further possible relevance of the West African experience to our own. Many West African communities have been precipitated in two

generations from the Iron to the Machine Age. Our own technology may now be accelerating at an equally rapid rate. As students observe in a West African society the shattering of the traditional religion with its world-view and values, the erosion of family bonds, the obsolescence of traditional roles and skills, students may develop a set of concepts that will help them to comprehend their own society. They might, for example, observe the different patterns of response to the British intrusion into the Ibo culture in Chinua Achebe's *Things Fall Apart*, note the relationship of these patterns of behavior to the personality structure, age, and social position of the individuals, and assess the success of these different kinds of responses. They might then return to the personality structure, age, and social position various of their teachers to the student power movement or of political figures and pressure groups to changes in our economy.

Literature and the Social Studies Classroom

The second question, the place of literature in the social studies classroom, is easier to anwer. It is, first of all, only one of the available resources. Its advocacy does not deny the value of having students examine artifacts, nor the place of photography and film, economic data, historical document, anthropological monograph, and the like. But a study of artifacts usually gives little feel for how a particular individual fulfills his personal needs, performs his roles, responds to group pressures, or even violates the norms of the society. The economic, political, and historical data likewise give little feeling for the life of people; even the sociological and anthropological studies tend to concentrate on the social group and norms of behavior. They are all, moreover, essentially outsiders' views. An excellent, authentic novel written by a West African, on the other hand, presents a view of the society which is, at one and the same time, both holistic and inside. The student enters the society with his imagination and his emotions as well as his intellect. In an important sense, he *lives* in that society as it is represented to him by one of its members.

There is a final potential benefit of the inclusion of West African literature: it raises the possibility of cooperative or team teaching with English and other teachers. A really broadly conceived course might, in fact, draw upon literature, art, and music as well as history and the social sciences.

Fortunately, at this time there is more than theory and wishful thinking to go on. There have been a number of efforts in many areas of the nation and with different age groups to incorporate West African literature into the curriculum. Dr. Milton E., Ploghoft of Ohio University, for example, used portions of Chinua Achebe's Man of the People with eighth and ninth grade pupils in Eugene, Oregon. The authors of this paper used West African literature as the core of a six week unit with college-bound seniors in a combined Cultural Anthropology/Senior English course at Walt Whitman High School, Bethesda, Maryland.

In demonstrating how the literature might be incorporated into the curriculum, it is easiest to deal in the specifics of a particular novel and course. The unit about to be described comes midway in a yearlong course in Cultural Anthropology. With some changes in emphasis, it might, however, fit into a sociology, African studies, non-Western cultures, or world geography course.

With the substitution of one of the novels of modern life and some modification, it might well become part of a twentieth century problems course.

Seniors in a combined Anthropology/English class have an excellent opportunity to study *Things Fall Apart* as an example of West African literature and as an anthropological source. If they have already met ethnographic and ethological studies of other cultures, *Things Fall Apart* can be used by students as a different kind of ethnographic source for the study of a culture removed in time and space. Hence the novel can be used as a case study in which students have to write their own ethnographic descriptions of Ibo culture and then analyze that culture. In addition, *Things Fall Apart* provides an excellent example of cultural change in Africa and an opening for a study of cultural change in our own society.

The Social Studies Curriculum

The following outline suggests the directions that may be taken. It should be noted that they parallel many of the directions taken in English.

I. How may this novel, *Things Fall Apart*, be used as a source of cultural data?
   A. How do anthropologists usually gather data and study comtemporary cultures? Non-contemporary cultures?
   B. Is a novel a good source of cultural data? What factors would influence the value of the novel as a source.
   C. Using the common standards employed by the historian, how credible is the document? (See Louis Gottschalk, *Und rstanding History.*)
      1. Is the author able to tell the truth? (Is he near in time and place? Is he competent?)
      2. Is the author willing to tell the truth? (Is he interested, biased? Does he desire to please? Does literary style conceal of affect willingness?)
      3. Is the author disinterested? (Does he provide testimony prejudicial to his people?
      4. Is independent corroboration of information possible?

II. The acquisition of cultural data from *Things Fall Apart.*
   A. What is the historical and geographic background? This may be developed by lecture.
   B. The class may be divided into small groups of three to five persons with each group responsible for one of the following topics?
      1. Subsistence patterns and technology
      2. Sex and marriage
      3. Family and kinship
      4. Status and role
      5. Personality structure
      6. Religion and the supernatural
      7. Social and political organization
      8. Proverbs and myths

After reading the novel, the groups can meet to try to write a brief *generalized* description of that portion of the culture for which they are responsible.

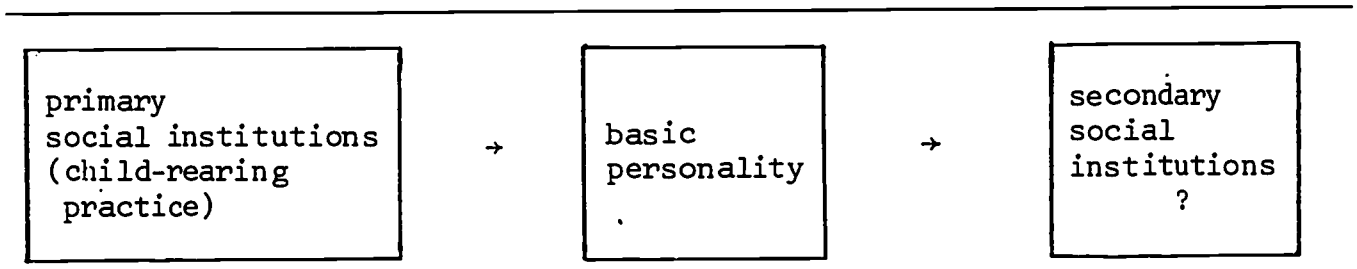
III. Analysis and application. With descriptions assembled and duplicated for class distribtuion, the materials may be used for extensive discussion and analysis.

A. Do you find any major errors or omissions from any of the descriptions? Are they adequate cultural descriptions?

B. How are various parts of social structure and culture related to one another functionally?

1. How is the family and kinship system related to subsistence patterns?
2. How is one's role in the family affected by basic personality structure?
3. How are the religious ideas and practices related to subsistence and to social structure?
4. Can Ibo proverbs and myths be categorized and analyzed in a manner that will provide insight into their culture? Which categories are most useful?
5. How can one be a successful Ibo?
6. Using Kardiner's concept that basic personality is molded by primary social institutions, such as child-rearing practices, how do child-rearing practices seem to lead to the development of basic adult Ibo personality? In addition, what secondary social institutions are the outcome of this personality type? Applying Kardiner's concept, if in Ibo culture the following process is applied,

FIGURE I:



what are the resulting secondary social institutions (family organization, for example)? (See Abram Kardiner, *The Individual and His Society.*)

7. What traits in Ibo culture made it possible for some to be converted to Christianity?

C. Which culture traits and complexes made Ibo culture and society susceptible to change as a consequence of Western influence?
   1. Which adjectives best describe the ideal Ibo personality? Western male personality? Does the similarity in the lists suggest why culture change was likely?
   2. What values in Ibo culture are most important? How might any of these values be achieved through alternative routes supplied by the imposed British culture?
   3. How did the Ibo social and political structure make cultural change likely?
   4. Why was missionary education of importance to the Ibo? What were the consequences?

D. Compare change in Ibo culture with that in our own.
   1. What are the causes of change in each?
   2. How do the directions differ, if at all?
   3. What are the effects of cultural change on the Ibo individual? on the American individual?
   4. In *The Lonely Crowd*, David Riesman provides a theory that in traditional cultures the individual is controlled by *shame*, in older Western cultures inner-directed persons are controlled by *guilt*, while in our modern culture other-directed persons are controlled by *anxiety*. Is there any evidence in *Things Fall Apart* of what the control mechanisms were in Ibo society? Is there any evidence that personality types were undergoing change?

IV. Verification and extension of knowledge.
   A. Interviewing of a native informant:
      Ibo students living in the United States can be invited to answer questions. In a real sense students will be in the position of a working anthropologist.
      Reading: Uchendu's *Igbo of Southeastern Nigeria* to validate their generalizations.
   B. Individual or small group research on art, music, dancing, women's rights, title societies, the background of the Nigerian Civil War, etc,; reading of other novels of Ibo life in the mid-twentieth century to see the adaptation of traditional forms to meet the demands of modern life.

The English Curriculum

A frequent criticism of "core" or "humanities" programs is their tendency to slight the English objectives. It is our contention that this need not happen. We are, therefore, presenting the English curriculum separately, recognizing that the two disciplines are mutually enriching. Based upon our experience with *Things Fall Apart*, the English teacher with his concern for literature, composition, and language might concentrate on the following points?

I. Themes of the novel
   A. Personal achievement or success.
      1. What theme is announed in the first paragraph? How is it developed in the course of the novel?
      2. How is it earned in Ibo culture? Marked? How does the individual acquire this ideal? Composition: The Ibo Ideal of Success.
      3. What statements does the novel make about success? What are its satisfactions? What is its cost to the individual, his family and associates? How can its pursuit be self-defeating?
      4. Film: "Sixteen in Webster Grove"--same questions as for the Ibo culture. What similarities exist between the American and Ibo ideals of success? Differences? Does the novel's statements about success have any relevance to our American experience?
   B. The individual in a period of rapid social change.
      1. What responses are made to the British intrusion? By whom? How can you classify these responses? How can you explain why individuals responded differently? Composition: Three Patterns of Response to the British Intrusion.
      2. What evaluation does the novel make of each kind of response?
      3. Can you apply your categories and concepts to reactions to the "student power" movement. To the "hippie" movement?

II. Structure
   A. Point of view. What is it? Why did Achebe choose it over the others?
   B. Parts. What is the function of each part? What differences in texture can you detect? How can you account for these?
   C. Digressions. Identify them. What functions does each perform? Would the novel be better if the folk tales and accounts of festivals were removed?

III. Theory of tragedy
   A. Reading: excerpts from Aristotle's *Poetics*. At what points and to what degree does the novel conform to the classical definition of a tragedy? Composition: An African Tragedy?
   B. The traditional hero and the modern anti-hero.
      1. In Achebe's traditional novel he portrays a hero, but in his modern novel, *No Longer at Ease*, he portrays an anti-hero.
      2. Parallels to Arthur Miller, Camus, and other representative modern writers. Is there any significance in the fact that many contemporary writers seem unable to conceive of heroes in modern society?

IV. Language
   A. What is the tone of the passages describing the traditional activities? How is this tone conveyed? What does it signify? Composition: Description of an American Ritual.
   B. What functions do proverbs perform? What devices do we use to perform the same functions?
   C. Compare the speech of one of the elders in *Things Fall Apart* with one of the speakers at a Umuofia Progressive Union in *No Longer at Ease* or with the politician in *Man of the People*.

V. Relationship of the novel to the Western Literatry Tradition
   A. The choice of language.
      1. Why English? What evidence is there in the novel that Achebe foresaw a non-Ibo leadership?
      2. Comparison with subliterary forms from the Onitsha "penny press." Why did Achebe choose literary English?
   B. The choice of form.
      1. The novel. In what cultures is it indigenous? What forms are indigenous to the Ibo?
      2. Its similarities to classical tragedy.
   C. His titles.
      1. Readings and discussion of Yeats' *The Second Coming* and Eliot's *Journey of the Magi* (the sources of his titles, *Things Fall Apart* and *No Longer at Ease*). With what ideas or feelings did he perhaps wish to associate his novels?
      2. What do the sources of his titles suggest about his education? About the possible development of an international literary culture?
   D. What bearing do these conclusions have on your social studies question of the novel's validity as a source of data on the Ibo?

VI. Ultimate Purpose
   A. Reading: Achebe's "The Role of the Writer in a New Nation."
      1. To what degree do you think Achebe's stated purposes are valid? To what degree did he accomplish them?
      2. How do Achebe's intentions and accomplishments compare with those of pioneering American writers such as Irving and Cooper?
      3. In what ways does the novel fail to meet the criteria of a good or great novel?

One need not, of course, limit his teaching to the Achebe novel nor, indeed, to the Ibo culture. There is now a considerable body of literature and other resources awaiting exploration and use.

RESOURCES

Books by West Africans

This list is limited to a few works that the authors believe most likely to be useful in the classroom. For fuller lists see the books by Abrash and Gleason noted later.

Books on Traditional Village Life

Achebe, Chinua, *Things Fall Apart*, New York, McDowell Oblensky, 1959, and Honor Book (paper), 1965. (Ibo tribe, Nigeria/Biafra). The first half of this short, powerful novel evokes traditional Ibo village life. In the latter parts the British intrude and the "falling apart" of the traditional culture begins. Recommended for grades 7-12.

----------, *Arrow of God*, New York, Day, 1967. This novel richer than *Things Fall Apart*, gives a fuller picture of religion and family structure. Because it is set in a village which has had closer contact with the British, cultural disintegration and assimilation are further along. Recommended...9-12.

Laye, Camara, *L'enfant noir*, Paris, 1954 and J. A. Hutchinson, ed., Cambridge, Cambridge University Press, 1966. Has also appeared under the titles *The Dark Child* and *The African Child*. (Manlinke tribe/Guinea) This fine autobiography evokes the author's childhood in Kouroussa, an ancient city at the headwaters of the Niger. It has fascinating accounts of Manlinke beliefs and ceremonies and it reveals the integration of African and Islamic religious beliefs. Recommended...7-12.

Nwapa, Flora, *Efuru*, London, Heineman, 1966. (Ibo, Nigeria/Biafra). Written by a teacher for her high school students, this novel reveals a fuller picture of the lives of women that Achebe's writings do. Recommended... 7-12.

Novels of Colonial Life and the Modern City

These novels reveal the impact of Western civilization on all facets of life and especially the disruption of traditional values. Teachers should beware that these do not reinforce stereotypes of the African as amoral, over-sexed, or corrupt.

Achebe, Chinua, *No Longer at Ease*, New York, Ivan Obolensky, 1961, and Honor Book (paper), 1967. This novel follows the fortunes of the British-educated grandson of the hero of *Things Fall Apart*. Particularly valuable for the way it reveals the adaptation of traditional Ibo forms and values to the exigencies of modern urban life. Recommended...9-12.

Ekwensi, Cyprian, *Jagua Nana*, London, Hutchinson, 1961. (Ibo, Nigeria/Biafra). Jagua is a high-class Lagos prostitute "with all the style of a Jagua' car." Most interesting is her sterility in Lagos but her fertility when she returns to her native village. Ekwensi's novels are much lower in quality than Achebe's. Recommended for individual study, 10-12. Potentially objectionable to some.

---------, *People of the City*, Evanston, Northwestern University Press, 1967. This novel about a Lagos journalist contains some brilliant character sketches that reveal the color, variety, and social problems of the modern city, but the novel is on the whole disappointing. Recommended for individual study, 10-12. Possibly objectionable to some.

Kane, Cheikh Hamidou, *Ambigous Adventure*, trans. Katherine Woods, New York, Walker, 1963. (Tukulor tribe, Senegal). The hero, a brilliant, aristocratic, and spiritual young man, was originally destined to be a Moslem scholar and aesthete, but the pressures of Europeanization forced his family to deflect him into a French education. Valuable for its sympathetic portrait of Islamic West Africa, its hints of the richness of the African past, and its suggestion of the emptiness of the Europeanized present. Recommended for individual study, 11-12.

Nzkewu, Onuora, *Wand of Noble Wood*, New York, Signet (paper), 1963. (Ibo, Nigeria/Biafra). A Lagos-based journalist returns to his native village in search of a wife. This plot provides opportunity for extensive revelation of kinship, marriage, and religious customs and belief. Of little literary value, but a splendid source of anthropological data. Recommended...9-12.

Novels of Independent Africa

Detribalization is far advanced and a new, more generalized culture of more or less Western-educated West Africans emerges in these novels. The authors shift from an attempt to recapture the values of traditional life to an exploration of contemporary, urban political and personal problems. The themes of corruption and disillusionment dominate these novels.

Armah, Ayi Kwei, *The Beautiful People Are Not Yet Born*, Boston, Houghton Mifflin, 1968. (Ghana). This powerful novel is set in the later period of Nkrumah's power and the first days of the coup. The protagonist is a clerk who heroically resists the demands of his family to become "a big man" through bribery. The novel reeks of decay, disillusionment, and corruption. Recommended for individual study, 11-12. Many parents and some students will find some of the language and imagery offensive.

Canton, William, *The African*, Boston, Little, Brown, 1960 and New York, Signet (paper), n.d. (Gambia). This novel, set in a mythical West African nation, was apparently written to explain and justify West African customs, politics, and viewpoints to non-Africans. Self-conscious and labored, it may still be useful. Recommended...7-12.

Ekwensi, Cyprian, *Beautiful Feathers*, London, Hutchinson, 1953. In this novel a rising political leader discovers that he must put his own soul and personal life in order before he can lead his nation successfully. Recommended for individual study, 10-12.

Plays, Poems, Essays and Anthologies

These books suggest varied classroom activities such as dramatizations and offer a variety of viewpoints.

Atlantic Monthly, April, 1959.

Drachler, Joseph, ed., *African Heritage: Intimate Views of the Black African from Life, Lore and Literature,* New York, Colliers (paper), 1964. Selections tend to be chopped up.

Hughes, Langston, ed., *African Treasury,* New York, Pyramid Books (paper), 1961. Cheap, but varied and good selections.

---------, ed., *Poems from Black Africa,* Bloomington, Indiana University Press (paper), 1963. Handsome format, good selections.

Moore, Gerald, ed., *Modern Poetry from Africa,* London, Penguin (paper), 1963. Cheap, widely available and excellent. Good introductory essay.

Mphaelele, Ezekiel, ed., *African Writing Today,* Baltimore, Penguin (paper), 1967. Wide-ranging prose collection.

Rutherford, Peggy, ed., *African Voices,* New York, Vanguard, 1958. Especially strong in traditional literature.

Soyinka, Wole, *Five Plays,* London, Oxford University Press, 1964. (Yoruba/ Nigeria). Soyinka has been featured on TV and had two of these plays on Broadway.

Non-Fiction Resources

On West African Literature

Abrash, Barbara, *Black African Literature in English Since 1952: Works and Criticism,* New York, Johnson Reprint Corporation, 1967. Bibliography for scholars, librarians, and curriculum planners.

Achebe, Chinua, "The Role of the Writer in a New Nation," *Africa Is People,* ed. Barbara Nolen, New York, Dutton, 1967. Achebe's statement on the writer's role and on his intentions in his four novels. Suitable for student use.

Beier, Ulli, ed., *Introduction to West African Literature,* Evanston, Northwestern University Press, 1967. Highly recommended. Beier has lived in Nigeria for almost 30 years. He is editor of *Black Orpheus* and a founder of Mbari, the writers' club.

Gleason, Judith Illsley, *This Africa: Novels by West Africans in English and French,* Evanston, Northwestern University Press, 1965. Contains plot summaries and excellent sociological and literary commentary on over 30 books. Invaluable.

Hoon, Nancy M., *Introducing West African Literature into Our Social Studies Classes,* Athens, Ohio, Cooperative Center for Social Science Education, Ohio University, (paper), 1967. Covers similar ground to this essay but suggests teaching strategies for all four Achebe novels and for junior and senior high classes of varying emphasis.

Moore, Gerald, *Seven African Writers*, London, Oxford University Press (paper), 1962. An excellent introduction, it contains biographical and background material plus reliable literary commentary. Also suitable for student research.

On Ibo Culture

Since so many of the novels are written by Ibos, their culture will probably be the choice of most teachers.

Basden, G. T., *Among the Ibos of Southeastern Nigeria*, New York, Barnes and Noble, 1965. Orig. published 1921. Written by a missionary who worked in the hinterland in the early part of the century.

-------, *Niger Ibos*, New York, Barnes and Noble, 1965. Orig. published 1938. Ethnographic survey and mapping.

Beier, Ulli, *African Mud Sculpture*, Cambridge, Cambridge University Press, 1963. Excellent introduction to the functions of the art in Ibo and other West African cultures. Fine photographs. Suitable for student research.

Echezona, W. W., "Ibo Music," *Africa Is People*, ed. Barbara Nolen, New York, Dutton, 1967. Written by an American-educated musicologist who is himself an Ibo.

Green. M. M., *Ibo Village Affairs*, New York, Praeger (paper), 1964. Field work done in 1934 and 1937. Valuable for its analysis of the socio-political system and its picture of women's activities. If students use this source, they should be warned about the questionable status of the author's theory of "Ibo personality."

Leith-Ross, Sylvia, *African Women: A Study of the Ibo of Nigeria*, New York, Praeger, 1965. Field work, 1934. This study was made not by an anthropologist but by an "old coaster." Her intent was to gain knowledge useful to the Colonial Administration in controlling and manipulating the Ibo. Students should be helped to view this source critically.

Ottenburg, Phoebe V., "The Changing Economic Position of Women among the Afikpo Ibo," *Continuity and Change in African Cultures*, W. Bascom and M. Herskovits, eds., Chicago, University of Chicago Press, 1959. Field work among a rural group in 1951-3. Excellent source on women's functions and status.

Ottenburg, Simon, "Ibo Receptivity to Change," *Continuity and Change in African Cultures*. This essay describes the historical roots and those unique features of Ibo culture which have made it particularly susceptible to changes engendered by Western imperialism and influences.

Uchendu, Victor, *Ibo of Southeastern Nigeria*, New York, Holt (paper), 1965. Written by an American-trained anthropologist who is himself an Ibo. Clear, comprehensive, and readable. Excellent source for students as well as teachers.

Non-Print Resources

Teaching Materials

1. The Anthropology Curriculum Study Project, 5632 Kimbark Avenue, Chicago, Illinois, 60637, and the Educational Development Center, 55 Chapel Street, Newton, Massachusetts, 02169.

2. Project Africa, Social Studies Curriculum Center, 296 West Lane Avenue, The Ohio State University, Columbus, Ohio, 43201, and the Educational Materials Project, Room 513, 1790 Broadway, New York, 10019.

3. "Cultures and Continents" TV series, distributed by National Educational Television.

Speaker Sources

1. Local colleges and universities. Contact the Foreign Student Advisor or the Black student Union for names, nationalities, and phone numbers of African students.

2. African-American Institute. National headquarters, 1346 Connecticut Avenue, N. W., Washington, D. C., and local chapters in most major cities.

3. Returned Peace Corps Volunteers, diplomats, missionaries, and businessmen.

Art Exhibits and Artifacts

1. Specialized museums such as Museum of Primitive Art, New York City, and Museum of African Art, Washington, D. C.

2. Local university art or anthropology collections.

3. Private collections from returned Peace Corps Volunteers and others.

Social Education, XXXIII, No. 4
April, 1969

Objectives	Activities	Resources
Swazi		GENERAL FILMS FOR AFRICA:
To understand and study the high degree of development in this culture. (Highly structured social system, well developed political system, and complex cultural patterns)	Students studying Dupers', The Swazi, A South African Kingdom, should be reading either one of Alan Paton's books.	Life of a Primitive People, (University of Illinois) GS-1165 - Medicine Men of Africa, (University of Indiana Films)
To gain an understanding into the problems of these people when they came into contact with the West (a misfit between their life ways and those of the West).		IMC - Films F3091 - African Continent - An Introduction F9010 - Continent of Africa F3155-- The Continent of Africa F9058 - The Pygmies of Africa F4117 - South African Essay: Fruit of Fear Turnbull, Colin M., "Children of The Forest," Vol. LXIX, Nos. 7 and 8, Natural History, (August-September of 1960 and October, 1960), pp. 24-35 and pp. 52-65. Putnam, Anne Eisner, "My Life with Africa's Little People," National Geographic, Vol. 117, No. 2 (February, 1960), pp. 278-302

Objectives	Activities	Resources
To achieve an understanding of two cultures on opposite sides of Africa--and yet find similarities in them. To delve into the practices of witchcraft, magic, and primitive religion among these tribes. To develop an understanding of the problems traced by these people when they came into contact with the "civilized" man of the Western World.	Students studying Middleton's, The Lugbara should read, Elinore Smith Bowen's, Return to Laughter. Although not about the Lugbara, there can be comparisons drawn as to social structure, and especially religious matters--supernatural, magic, and cult of the dead.	

POLYNESIA

For anthropological study probably the most primitive cultures to be found in the modern world are in the South Pacific. Because of the relatively late invasion of this area by Western man, these societies developed on independent strains, from areas already studied, and the most primitive of cultures can still be found, relatively untouched by the West.

Objectives	Activities	Resources
A knowledge of the influence of geography on human evolution in the Pacific.	The same general pattern that was established for the Unit on Africa would work well in this unit, too.	Anthropology Curriculum Study Project, Hunters
An appreciation of the fact that no matter how primitive, how "undeveloped", how "uncivilized" these cultures might appear to be, they still have definite structure and purpose--even if it is merely subsistence survival.	The main emphasis should be, however, after having studied the case studies, by groups, the novels should be read--no special assignment by case study--and the impact of the West should be studied and influences drawn on what might happen to those people not already affected.	Barnett, Homer G., Being a Paluan, Holt, Rinehart, 1960, $1.50, 40 copies per classroom.
To understand the importance of Australia as a "key" to the primitive world and pre-history.		Hart, Charles W., The Tiwi of North Australia, Holt, Rinehart, 1960, $1.50, 40 copies per classroom
		Hogbin, Herbert, A Guadalcanal Society, The Kaoka Speakers, 1964, $1.50, 40 copies per classroom
		Newman, Phillip, Knowing the Gururumba, Holt, Rinehart, 1965, $1.50
		Meade, Margaret, Coming of Age in Samoa, Dell, $.95, 10 copies per building (optional)
		Benedict, Ruth, Patterns in Culture, Houghton-Mifflin, $1.95, 10 copies per building (optional)

Objectives	Activities	Resources
Margaret Meade's book, ...Samoa, and Benedict's book, Patterns... should be used for independent research by students, primarily to boost up information gained from case studies.	Cultures to be studied: Paluans - Palua Tiwi - Northern Australia Kaoka - Guadalcanal Gururumba - New Guinea (Maori - New Zealand) (Aboriginies - Australia) The impact of the west on a Polynesian culture is best indicated by Moorehead's, Fatal Impact. For the investigation, by the students of the "populating" of the islands, Kon-Tiki and Aku, Aku are both desirable although both should not be assigned. Hawaii gives a good "anthropological" history of a melting pot in the South Pacific and the impact ofthe West on these people.	Moorehaed, Alan, Total Impact, Dell, $.75, 40 copies per building Heyerdahl, Thor, Kon-Tiki, Pocketbooks, $.75, 40 copies per building Michener, James, Hawaii, Bantam, $1.65, 20 copies per buildung Lisitzky, Gene, Four Ways of Being Human National Geographic Society, Australia National Geographic Society, Isles of the South Pacific Periodicals Scougall, Stuart, and Philip C. Gifford, "Aboriginal Art and Mythology," Natural History, Vol. LXXIV, No. 2 (February, 1965), pp. 46-53 Barthel, Thomas S., "The Talking Boards of Easter Island," Scientific American, Vol. 198, No. 6, (June, 1958), pp. 61-68 Goodall, Jane C., "Blowgun Hunters of the South Pacific," National Geographic, Vol. 129, No. 6, (June, 1966), pp. 792-817

Objectives	Activities	Resources
		Gould, Richard A., "Chipping Stones in the Outback," Natural History, Vol. LXXVII, No. 2, (February, 1968), pp. 42-49 Scofield, John, "Australian New Guinea: Civilization Challenges the Stone Age," National Geographic, Vol. 121, No. 5, (May, 1962), pp. 604-637 Films S536 - People of Kolevu - FREE! (Association Instructional Materials) WX-519 - Samoa (Association Instructional Materials) Produced by W. Disney 5S0139 - Polynesian Culture, (University of Minnesota) Trance and Dance in Bali, (University of Illinois) Five Aboriginal Dances from Cape York, (Indiana University) ESC-938 - Teiva: A Boy Prepares for Manhood (Polynesian), (Indiana University) IMC - Film F3141 - A Child of Hawaii

LATIN AMERICA

In dealing with Latin America two approaches can be taken: a study of the ancient civilizations of the area (Aztec, Toltec, Inca, Maya), or a study of poverty in the area. The sources that have been identified are for the latter. In addition to the works by Oscar Lewis, there is another book by Holt, Rinehart and Winston which deals with poverty in the Mexican culture: The Mexico-Americans of South Texas by William Madsen. Lewis' books should be used with some care because of the bluntness exhibited in them.

For use in a study of the primitives of Latin America, the following books would be beneficial:

Foster, George McClelland, Empire's Children, The People of Tzintzuntzan. Free upon request from Smithosonian Institution, Inst. of Social Anthropology, Publication #6. Mexico: Impr. Nuevo Mundo, 1948.

Madsen, William, The Virgin's Children, Life in an Aztec Village Today, Austin: University of Texas Press, 1960.

Thompson, John E., The Civilization of the Mayas, Chicago Natural History Museum Press, $.75.

Von Hagen, Victor Wolfgang, The Incas; People of the Sun, Cleveland: World Publishing, 1961.

Von Hagen, Victor Wolfgang, Maya, Land of the Turkey and the Deer, Cleveland: World Publishing, 1960.

Von Hagen, Victor Wolfgang, The Sun Kingdom of the Aztecs, Cleveland: World Publishing, 1958.

Lewis, Oscar, Tepoztlan: Village in Mexico, Holt, Rinehart, $1.50.

Lewis, Oscar, Five Families, Mentor, $.95.

Lewis, Oscar, Children of Sanchez, Vintage, $2.95.

Lewis, Oscar, Pedro Martinez: A Mexican Peasant and His Family, Vintage, $2.95.

INFORMATION SERVICES AND EMBASSIES IN THE UNITED STATES
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Embassy of Afghanistan
2001 24th Street, N. W.,
Washington, D. C.

Albania
Permanent Mission of the People's
Republic of Albania to the U. N.
446 East 86th Street, 10th Floor
New York 28, New York

Algeria
Permanent Mission of Algeria to
the U. N.
750 Third Avenue, 14th Floor
New York, New York 10017

Argentina
Embassy of the Argentine Republic
1600 New Hampshire Avenue, N. W.
Washington, D. C.

Australia
Australian News and Information Bureau
636 Fifth Avenue
New York, New York

Austria
Austrian Information Service
31 East 69 Street
New York, New York

Belgium
Belgian Government Information Center
50 Rockefeller Plaza
New York, New York

Bolivia
Consulate General of Bolivia
10 Rockefeller Plaza
New York, New York

Brazil
Brazilian Government Trade Bureau
551 Fifth Avenue
New York, New York

Bulgaria
Legation of the People' Republic
of Bulgaria
2100 Sixteenth Street, N. W.
Washington, D. C.

Burma
Consulate General of Burma
10 East 77th Street
New York, New York

Burundi
Permanent Mission of the Kingdom
of Burundi to the U. N.
60 East 42nd Street, Room 763
New York 17, New York

Byelorussian Soviet Socialist
Republic
See Union of Soviet Socialist
Republics

Cambodia
Embassy of Cambodia
4500 Sixteenth Street, N. W.
Washington D. C.

Cameroun
Permanent Mission of the Federal
Republic of Cameroon to the U. N.
757 Third Avenue, Room 606
New York, New York

Canada
Consulate General of Canada
Press and Information Service
680 Fifth Avenue
New York, New York

Central African Republic
Permanent Mission of the Central
African Republic to the U. N.
386 Park Avenue South, Room 1614
New York, New York

Ceylon
Embassy of Ceylon
2148 Wyoming Avenue, N. W.
Washington, D. C.

Chad
Permanent Mission of the Republic
of Chad to the U. N.
150 East 52nd Street, Apt. 5-C
New York 22, New York

Chile
Consulate General of Chile
61 Broadway
New York, New York

China
Chinese News Service
1270 Avenue of the Americas
New York, New York

Colombia
Consulate General of Colombia
444 Madison Avenue
New York, New York

Congo (Brazzaville)
Permanent Mission of the Republic of the Congo (Brazzaville) to the U. N.
444 Madison Avenue, Room 1604
New York, New York

Congo
Permanent Mission of the Democratic Republic of the Congo to the U. N.
2[illegible] East 43rd Street, 14th Floor
New York, New York

Costa Rica
Consulate General of Costa Rica
211 East 43rd Street
New York, New York

Cuba
Permanent Mission of Cuba to the U. N.
6 East 67th Street
New York 21, New York

Cyprus
Permanent Mission of Cyprus to the U. N.
165 EAst 72nd Street, Apt. 19-J
New York, New York

Czechoslovakia
Embassy of the Czechoslovak Republic
2349 Massachusetts Avenue, N. W.
Washington, D. C.

Dahomey
Permanent Mission of the Republic of Dahomey to the U. N.
4 East 73rd Street
New York, New York

Denmark
Danish Information Office
588 Fifth Avenue
New York, New York

Dominican Republic
Consulate General of the Dominican Republic
1270 Avenue of the Americas
New York, New York

Ecuador
Consulate General of Ecuador
1270 Avenue of the Americas
New York, New York

El Salvador
Consulate General of El Salvador
211 East 43rd Street
New York, New York

Ethiopia
Embassy of Ethiopia
2134 Kalorama Road, N. W.
Washington, D. C.

Finland
Finnish National Travel Office
10 East 40th Street
New York, New York

France
Embassy of the French Republic
Cultural Division
972 Fifth Avenue
New York, New York

Gabon
Permanent Mission of the Republic of Gabon to the U. N.
866 United Nations Plaza, Room 536
New York, New York

Ghana
Ghana Information and Trade Center
565 Fifth Avenue
New York, New York

Greece
Greek Press and Information Service
69 East 79th Street
New York, New York

Guatemala
Consulate General of Guatemala
1270 Avenue of the Americas
New York, New York

Guinea
Permanent Mission of Guinea to the U. N.
17 East 73rd Street
New York, New York

Haiti
Haiti Government Tourist Bureau
30 Rockefeller Plaza
New York, New York

Honduras
Consulate General of Honduras
30 East 42nd Street, Room 1003
New York, New York

Hungary
Legation of the Hungarian People's Republic
2437 Fifteenth Street, N. W.
Washington, D. C.

Iceland
Consulate General of Iceland
551 Fifth Avenue
New York, New York

India
India Information Service
3 East 64th Street
New York, New York

Iran
Consulate General of Iran
630 Fifth Avenue
New York, New York

Iraq
Consulate General of the Republic of Iraq
14 East 79th Street
New York, New York

Ireland
Consulate General of Ireland
33 East 50th Street
New York, New York

Israel
The Israel Office of Information
11 East 70th Street
New York, New York

Italy
Italian Information Center
686 Park Avenue
New York, New York

Ivory Coast
Permanent Mission of Ivory Coast to the U. N.
46 East 74th Street
New York 21, New York

Jamaica
No information Service in the United States (Jamaica Public Relations Office, East Street, Kingston, Jamaica)

Japan
Japan Information Service
Consulate General of Japan
235 East 42nd Street
New York, New York 10017

Jordan
Embassy of the Hashemite Kingdom of Jordan
4444 Hadfield Lane, N. W.
Washington, D. C.

Kenya
Permanent Mission of Kenya to the U. N.
733 Third Avenue, Room 205
New York, New York

Kuwait
Permanent Mission of the State of Kuwait to the U. N.
235 East 42nd Street, 27th Floor
New York 17, New York

Laos
Embassy of Laos
2222 "S" Street, N. W.
Washington, D. C.

Lebanon
Consulate General of Lebanon
9 East 76th Street
New York, New York

Liberia
Consulate General of Liberia
1120 Avenue of the Americas
New York, New York

Libya
Embassy of Libya
1611 Upshur Street, N. W.
Washington, D. C.

Luxembourg
Consulate General of Luxembourg
200 East 42nd Street
New York, New York

Madagascar
Permanent Mission of the Malagasy Republic to the U. N.
Embassy House
301 East 47th Street, Apt. 2-H
New York, New York

Malawi
Permanent Mission of Malawi to the U. N.
777 Third Avenue, 24th Floor
New York 17, New York

Mali
Permanent Mission of Malaysia to the U. N.
845 Third Avenue, 16th Floor
New York 22, New York

Mali
Permanent Mission of the Republic of Mali to the U. N.
111 East 69th Street
New York, New York

Malta
Permanent Mission of Malta to the U. N.
155 East 44th Street, 22nd Floor
New York, New York

Mauritania
Permanent Mission of the Islamic Republic of Mauritania to the U. N.
150 East 52nd Street
New York, New York 10022

Mexico
Mexican Government Tourist Bureau
630 Fifth Avenue
New York, New York

Mongolia
Permanent Mission of the Mongolian People's Republic to the U. N.
6 East 77th Street
New York, New York

Morocco
Embassy of Morocco
1601 21st Street, N. W.
Washington, D. C.

Nepal
Embassy of Nepal
2131 Leroy Place, N. W.
Washington, D. C.

Netherlands
Netherlands Information Service
711 Third Avenue
New York, New York

New Zealand
Consulate General of New Zealand
630 Fifth Avenue
New York, New York

Nicaragua
Consulate General of Nicaragua
1270 Avenue of the Americas, Suit 1701
New York, New York

Niger
Permanent Mission of Niger to the U. N.
205 East 42nd Street, Suite 1222
New York, New York

Nigeria
Consulate General of Nigeria
575 Lexington Avenue
New York 22, New York

Norway
Norwegian Information Service
290 Madison Avenue
New York, New York

Pakistan
Pakistan Mission to the U. N.
Pakistan House
8 East 65th Street
New York, New York

Panama
Consulate General of Panama
1270 Avenue of the Americas
New York, New York

Paraguay
Consulate General of Paraguay
32 Broadway
New York, New York

Peru
Consulate General of Peru
10 Rockefeller Plaza
New York, New York

Phillippines
Consulate General of the Phillippines
15 East 66th Street
New York, New York

Poland
Embassy of the Polish People's Republic
2640 Sixteenth Street, N. W.
Washington, D. C.

Portugal
Casa de Portugal
447 Madison Avenue
New York, New York

Romania
Embassy of the Romanian People's Republic
1601 23rd Street, N. W.
Washington, D. C.

Rwanda
Permanent Mission of the Rwandese Republic to the U. N.
120 East 56th Street, Room 630
New York, New York

Saudi Arabia
Consulate General of Saudi Arabia
633 Third Avenue, room 2300
New York, New York

Senegal
Permanent Mission of the Republic of Senegal to the U. N.
46 East 66th Street
New York, New York

Sierra Leone
Consulate General of Sierra Leone
30 East 42nd Street, Room 608
New York, New York

Singapore
Singapore Government Information Service
530 Fifth Avenue, 7th Floor
New York, New York

Somalia
Permanent Mission of Somalia to the U. N.
236 East 46th Street, 3rd Floor
New York, New York

South Africa
South African Information Service
655 Madison Avenue, 14th Floor
New York, New York

Spain
Embassy of Spain
Office of the Cultural Counselor
2700 15th Street, N. W.
Washington, D. C.

Sudan
Consulate General of the Republic of Sudan
757 Third Avenue
New York, New York

Sweden
Swedish Information Service
8 East 69th Street
New York, New York

Syria
Consulate General of the Syrian Arab Republic
527 Madison Avenue, Room 1420
New York, New York

Thailand
Embassy of Thailand
2490 Tracy Place, N. W.
Washington, D. C.

Togo
Permanent Mission of Togo to the U. N.
801 Second Avenue
New York, New York

Trinidad and Tobago
Permanent Mission of Trinidad and Tobago to the U. N.
801 Second Avenue
New York, New York

Tunisia
Permanent Mission of Tunisia to the U. N.
40 East 71st Street
New York, New York

Turkey
Turkish Information Office
500 Fifth Avenue, 58th Floor
New York, New York

Uganda
Permanent Mission of Uganda to the U. N.
801 Second Avenue
New York, New York

Ukrainian Soviet Socialist Republic
See Union of Soviet Socialist Republics

Union of Soviet Socialist Republics
Embassy of the Union of Soviet
Socialist Republics
1125 Sixteenth Street, N. W.
Washington, D. C.

United Arab Republic
United Arab Republic Tourist Office
630 Fifth Avenue
New York, New York

United Kingdom
British Information Services
845 Third Avenue
New York, New York

United Republic of Tanzania
Permanent Mission of the United
Republic of Tanzania to the U. N.
205 East 42nd Street, Room 1300
New York 17, New York

United States
Department of State
Public Services Division
Washington, D. C.

Upper Volta
Permanent Mission of the Republic
of Upper Volta to the U. N.
236 East 46th Street
New York 17, New York

Uruguay
Consulate General of Uruguay
17 Battery Place
New York, New York

Venezuela
Consulate General of Venezuela
600 Fifth Avenue
New York, New York

Yemen
Permanent Mission of the Arab Republic
of Yemen to the U. N.
211 East 43rd Street, 19th Floor
New York 17, New York

Yugoslavia
Yugoslav Information Center
816 Fifth Avenue
New York, New York

Zambia
Permanent Mission of the Republic
of Zambia to the U. N.
641 Lexington Avenue
New York, New York

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ACCREDITED OBSERVERS NON-MEMBER STATES - INFORMATION SERVICES

Germany (Federal Republic)
German Information Center
410 Park Avenue
New York 22, New York

Holy See
Office of the Permanent Observer of
the Holy See to the U. N.
323 East 47th Street
New York 17, New York

Korea
Consulate General of Korea
9 East 80th Street
New York, New York

Monaco
Monaco Information Center
610 Fifth Avenue
New York, New York

Switzerland
Swiss National Tourist Office
10 West 49th Street
New York, New York

Viet-Nam
Office of the Permanent Observer
of Viet-Nam to the U. N.
866 United Nations Plaza, 5th Floor
New York, New York