

# THE UNIVERSITY OF TEXAS BULLETIN

No. 3537: October 1, 1935

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## TALES THAT DEAD MEN TELL

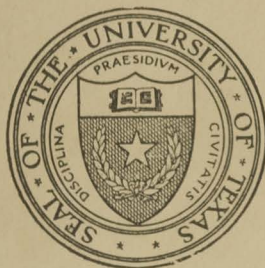
By

J. E. PEARCE

Professor of Anthropology  
and  
Director of Research in Texas Archaeology

Bureau of Research in the Social Sciences  
Study No. 14

Anthropological Papers, Vol. I, No. 1



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**PUBLISHED BY THE UNIVERSITY FOUR TIMES A MONTH AND ENTERED AS  
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**The benefits of education and of useful knowledge, generally diffused through a community, are essential to the preservation of a free government.**

**Sam Houston**

**Cultivated mind is the guardian genius of Democracy, and while guided and controlled by virtue, the noblest attribute of man. It is the only dictator that freemen acknowledge, and the only security which freemen desire.**

**Mirabeau B. Lamar**

**Anthropological Papers of The University of Texas**  
**Vol. I. No. 1**

**Homo sum: humani nihil a me alienum puto**

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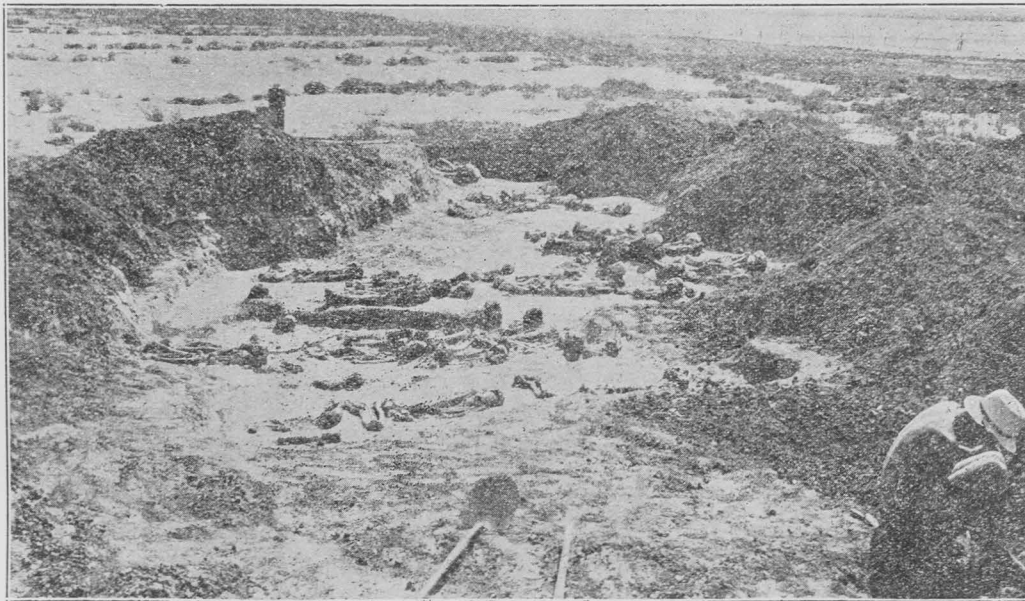


PLATE I

The "bivouac of the dead." A scene on the banks of the Oso, an arm of the Laguna Madre, ten miles south of Corpus Christi, showing thirty-six skeletons uncovered by a University of Texas crew in one portion of an extensive burial ground of the notorious Karankawa Indians. Skeletons of men often indicate a height of more than six feet. We know, therefore, that some Texans grew tall before the white man came. These Indians were the fiercest cannibals north of Mexico, if not in all America. Their chief diversion consisted in binding a victim naked to a tree, building a fire near by, dancing about him, taunting and insulting him for a while, after which they approached him one at a time cutting out portions of his living flesh, spitting it on a wooden skewer, roasting and eating it. This they kept up until the victim was dead and eaten up or all of the populace satiated. As parts of this account came from living witnesses they may not be entirely reliable, but the dead vouch for the statement that they were fond of human flesh.

## FOREWORD

The emphasis put in this paper upon the general principles of science that underlie and run through any and all consistent field work and interpretation in archaeology is essential, in the writer's opinion, to giving this science value and its proper place and importance in the history of human culture. The burden of the writer's plaint throughout this monograph is the fragmentary, disconnected, and therefore illogical and unsatisfactory manner of dealing with civilization employed by many if not most authorities in the so-called social sciences. The historical or dynamic approach is essential to the understanding of society. Just as the evolution of organic life is best studied and understood, when emphasis is put upon physiology or function instead, as was formerly so much the case, upon morphology, so society is best studied in terms of genetics and movement from the simplest early beginnings to the complicated institutions and practices of the present Western World. There is no attempt or desire to belittle the work being done in the other social sciences, only a plea that they make more use and more consistent use of the rapidly increasing knowledge of the early phases of civilizations deriving from archaeology and ethnology.

A subtitle of this paper might well be "a plea for unity and integrity in the treatment of the history of civilization."

This paper was written for the purpose of aiding in the proper orientation of archaeology among the other social sciences and in the world of learning generally. It is meant, therefore, for the intelligent lay reader rather than for the professional archaeologist. The documentation is rather light and there are probably more interesting and more pertinent authorities than some cited. There was little search for or consultation of authorities and there is little pretense at display of learning. There was no time for either as the composition was done in the midst of

pressing multifarious routine duties. Quotations and citations were looked up and used only as they came to mind incident to writing.

There is a large amount of quotation and no permission has been sought for any of it. Attempt is made to give credit where credit is due and it is the hope and belief of the writer that there is no reasonable ground for offense in this connection.

Obligation is acknowledged to Mr. Thomas N. Campbell, Tutor in Anthropology, for his patience in typing and retyping the manuscript and gratefully acknowledged to my friends and colleagues, Mr. Roy Bedichek and Prof. Geo. C. Engerrand, for their pains and labors in correcting the galley proofs.

This is The University of Texas Anthropological Paper, No. 1, Vol. I. Paper No. 2 is being written; Paper No. 3 has been published. These papers may be had without cost by addressing Publications, Registrar's Office, The University of Texas.

J. E. PEARCE.

*The University of Texas*, July 1, 1935.



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TALES THAT DEAD MEN TELL  
OR  
ARCHAEOLOGY AMONG THE HUMANITIES

The proverb that "dead men tell no tales" is subject to analysis even when appealed to in justification of murder to conceal murder. It is certainly true that dead men do not vocalize their stories and jabber and gibber as do the living. They never talk foolishness nor do they lie, for their stories are not consciously told and are free, therefore, from the egotism, the prejudice, and the deliberate falsehood that characterize so much of what the living have to say of themselves when they write to influence the opinions of their contemporaries.

"History," said a Japanese philosopher, "is the story of the doings of kings, set down by courtiers." Then he added reflectively, "I often wonder what happened." When the historians write about Alexander or Napoleon, Hammurabi or Disraeli, Mohammed, Savonarola or Loyola, Plato, Kant or Darwin, no two of them will tell the same story and often their interpretations are as far apart as the East from the West. All depends upon the individual philosophy of life and the sense of values of the historian. The same facts appear, *i.e.*, the same difficulties arise, when the profoundest students of our current social scene attempt to explain what is happening and why it happens. How many of our economists would agree as to the causes of the present depression? How many psychologists would agree as to the causes of our high percentage of imbecility, moronism and insanity? How many biologists or physical anthropologists agree as to the effects of miscegenation of races or the migrations of races into alien environments?

In the case of the dead man, he tells his story straight or not at all. When Texas Tonkawa, in the long ago, ate a captured Comanche for the sake of getting his courage or his skill in fighting and later finding the splintered bone fragments under their feet and, becoming conscious of the tell-tale bones and fearful of their enemies learning of

their hateful doings and wreaking vengeance, gathered up the fragments and hid them in a cist in the midden on which they lived, they told the present writer a vivid story of their doings and of their thinking.

The stories that the dead tell are not consciously put together; they are told, on the other hand, merely incident to living and by leaving behind them things or fragments of things which they ate, used, touched, shaped, or made

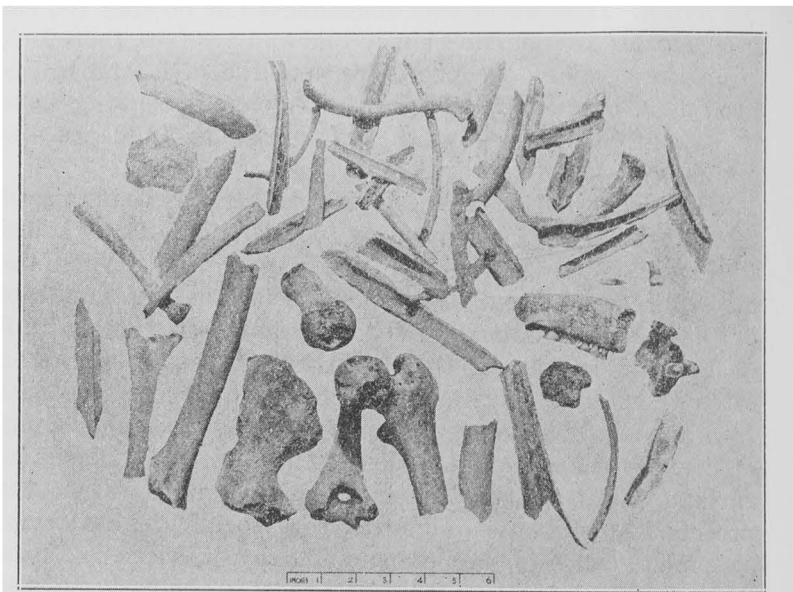


PLATE II

Remnants of a cannibal feast from a large burnt rock mound on the San Gabriel River, twenty-seven miles northwest of Austin. These are a portion of a larger quantity of such bones buried in a cist excavated into the mound on which the cannibals were living. There are a few fragments of deer bones in the heap. Above them was placed a large metate; then stones and other mound materials were raked over the metate in the usual burial form of this region. The Tonkawa of Central Texas ate captured enemies whom they hated and feared for the sake of getting the qualities of such enemies into themselves. The Comanches, who were sometimes the victims of these ceremonial feasts, resented very much being thus transformed into Tonkawa and punished the latter with dire retribution when they learned that one of their number had been so treated. Probably the "Tonks," as the whites called them, had eaten a Comanche here, scattered the fragments of bones about and later, becoming fearful of their acts being discovered by the victim's people, had gathered up the fragments and hidden them in this cist. One might suppose that Comanches had discovered the remains of this cannibal feast and buried them knowing they belonged to one of their people, but the manner of burial is that of the Tonkawa who buried their dead, when they buried at all, in sitting posture with a slab of stone over the head, while historical Comanche burials in Central Texas are prone, with earth and stones heaped over the whole body.

This burial, then, represents one instance of the operation of early conscience, possibly another "dawn of conscience."

as they went about their daily life. These "relics" are embedded in the crust of the earth and the language they use and the stories they tell are very comparable to the language and stories of the fossils in the stratified rocks in the lithosphere. The learning of the language and the interpretation of the story are both technical, beset with difficulties, and involve the expenditure of much time and labor, but what an eloquent story it turns out to be, in each case, when those who have the requisite energy and mental curiosity have learned to read the language and to understand the story. In the case of the fossils the story is of the shaping of the earth and of the coming of the myriad forms of life, plant and animal; in the case of the human bones, artifacts and refuse heaps, it is the story of civilization in all of its earlier manifestations and phases.

Archaeology is the science that seeks to uncover and interpret, sometimes to reconstruct, the history of human culture from its earliest beginnings to the present time, and is worked out upon a basis of careful analytical and comparative study of the things man leaves behind him, as mentioned before, merely incident to living. In the superficial layers of the earth's crust are embedded large quantities of materials that have passed through the hands of man, and on which he has left his mark in such a way as to indicate the manner of life of him who handled those things.

Among these materials are the bones of the animals man has killed for food, the shells of the mollusks he has gathered from the waters, the husks and shells of the nuts and fruits he has gathered and eaten, the sticks, stones and bits of metal which he has shaped into weapons and tools, the sherds of his pottery, the surviving bits of his baskets and cloth, and with all these the ashes, charcoal, and stones of his fireplaces, the ruins and materials of his houses, the traces of his irrigation ditches and roads, the foundations and broken stones of his cities, temples, and monuments.

His bodily remains tell us definitely, sometimes eloquently, what manner of man he was, sometimes how much of a man he was. Through the study of such remains we

not only get vivid intimations of the long drawn out and painful process of "the coming of man," but we learn also of his vast wanderings over the earth, of the peopling of new lands, of the displacement of race by race, of the conquests and blendings of peoples.

The manner of disposing of the dead often reveals, even in detail, the beginnings and early forms of religious conceptions. The supposition that there is a continued existence of the personality after death, that this existence goes on in much the same way as in the life preceding death, and that the dead may return to the body and inhabit it again leads to the conclusion that the dead need the same things as the living and, consequently, to depositing with them in the earth their most needed or most loved possessions. As many of these things, such as flint implements and pottery, are nearly imperishable, the early cemeteries are to the archaeologists much what the archives of libraries are to historians.

But one must not suppose that because archaeology deals with man's distant past, with bones of extinct races, and with the artifacts of early cultures, it is merely a matter of intellectual interest in a remote world that has no practical value for living races and peoples. "Archaeology is a living science which has to do not only with the past but also with the present and with the future."<sup>1</sup>

The "Long Road," the "Rough Road," from low savagery to civilization, studied scientifically, indicates the road that man must take in the future if he is ever to arrive at an even and just civilization, a happy way of life.

Biologists have long known that the bodies of higher animals, including that of man, are made up of protoplasmic cells comparable to the unicellular forms of life, the bacteria and protozoa. New forms of life do not always displace the old; they are only added to the old and are sometimes made up of the old modified to new conditions. If at present the biologists could understand everything that goes on in the amoeba, they would understand much,

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<sup>1</sup>Means, P. A., *Ancient Civilizations of the Andes*, p. 538.

if not most, of what goes on in the vital processes of man. If we knew all about the metabolism, the tropisms and nerve reactions, the processes of reproduction, the effects of hormones, and the operations of endocrine glands in dogs and apes, we should know at once nearly all we want to know and need to know about these vital activities in man. Even the mental reactions of apes, if thoroughly understood, would throw a flood of light upon the mental operations of man.

In the same way, the early ways of man have not always been displaced by the later ways. Often, in fact usually, the new types of behavior are only added to the old and continue to run along with them indefinitely. Any anthropologist can pick out ideas and practices in the life of the most highly civilized humanity that have come from early savagery. Some of these are like the appendix in the human body, not only useless but mischievous; some are merely negative; some have been organized into and constitute wholly or in part our most cherished ways and ideals.<sup>2</sup>

The history of archaeological study and research has had two distinct beginnings in two diverse fields of human interest, viz., the field of history and the field of natural science as applied to man. Since the natural science interest in archaeology was systematically organized first and its methods have in recent years taken over the operations in the other field, it is logical to deal with that first in the sections immediately following.

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<sup>2</sup>Frazer, Sir James, *Psyche's Task*.

## I

“This, all this, was in the olden time long ago.” With this beautiful line Poe begins his poem, *The Haunted Palace*. At once the mind of the intelligent reader or listener is keyed up to follow with zest the account that follows. No story that ever followed such a prelude has ever more completely satisfied the expectations aroused than the story that archaeology has to tell.

After geology had been organized by Hutton, Smith, and Lyell in Great Britain in the last part of the eighteenth and first part of the nineteenth centuries and had made it obvious to all men of open mind that earth history involved changes and movements in the earth's crust running through millions of years, it was inevitable that thoughtful men should raise the query of where man belonged in the new order. This query was not pressed seriously until after the publication of the *Origin of Species* in 1859, though Boucher de Perthes had established the high antiquity of man as early as 1847. The discovery of the Neanderthal skeletal remains in 1857, the description of the Gibraltar skull in 1868, and the discovery of the Spy skeletons in the early eighties established the one-time existence of a very ancient race of man in Europe, a type of man of such crude and ape-like physical characteristics that it could not be put in the same species with any living race.

This raised at once the problems of man's place in nature and of his natural history. These problems are in sharp contrast to those of his very brief written history, made up as it is of a conscious account of his doings set down by himself after he had attained to the art of writing. Naturally the pursuit of the new interest in man's origin was led for a while by the geologists, who were followed shortly by the biologists and anthropologists. The former, the geologists, brought their stratigraphy, chronology, and comparative palaeontology to bear in the new field of human

palaeontology and these are at present increasingly applicable in the field of archaeology.

GEOLOGIC TIME TABLE

Based on a table by Prof. Chas. Schuchert, Bull. 80, National Research Council, 1931, and the same modified by Prof. W. O. Hotchkiss in *Story of a Billion Years*, 1932.

Eras	Periods	Epochs	Duration in Millions of Years	Millions of Years Ago
Cenozoic (Recent Life)	Quaternary or Psychozoic (Man)	Recent	2	2
		Pleistocene		
	Tertiary (Mammals and Birds)	Pliocene	15	60
		Miocene	20	
Oligocene		10		
Eocene		13		
Mesozoic (Middle life; Reptiles)	Cretaceous	Upper Cretaceous	41	122
		Lower Cretaceous	21	
	Jurassic	(Reptiles)	31	180
	Triassic		27	
Palaeozoic	Carboniferous (Amphibians)	Permian	36	299
		Pennsylvanian	47	
		Mississippian	36	
	Devonian		44	540
	Silurian	(Fishes)	26	
	Ordovician	(Invertebrate,	42	
	Canadian	Metazoa, Crus-	23	
Ozarkian	taceans, Mol-	27		
Cambrian	lusks, etc.)	79		
Proterozoic (Earliest Life)		(Protozoa)	?	1600 To the beginning of life.

For a suggestive summary of the process of evolution through the ages, see Chap. X of *The Story of a Billion Years*.



As the new interest developed the scientists began to find, first in Europe and then all over the inhabited world, not only numerous fossil remains of primitive and crude races but extensive evidences of man's early social, economic, and artistic life. Man's kitchen middens, the refuse heaps in his early camp sites, early cemeteries, deposits in caves formerly inhabited have been increasingly investigated, and specimens of all sorts of stone and bone tools and weapons, shells and splintered bones, pictures on cave walls, etc., have been steadily coming forward in carefully prepared, comparative, analytical accounts. These began early to tie up with the known practices of living backward races. The study of the physical racial traits, coupled with that of the mentality and ways of primitive backward peoples came to constitute the general science of social anthropology.

The geologists continue their interest in the fossil history of man and many new and valuable works are being written by them in this field. However, archaeology is too complicated and too important to be left as a subsidiary field to a purely natural science like geology. Archaeology is more largely a social than a natural science and is classified at the present time among the social sciences, though, like ethnology, it is, in methodology and content, affiliated also with the natural sciences.

It is true and must remain true, as asserted in an interesting new book on human evolution by a celebrated geologist, that "Before we can know the nature of man we must first know man's place in nature."<sup>1</sup> Man's place in nature is a problem for the geologists, zoologists and comparative anatomists and it has been pretty definitely worked out. The problems involved in determining the nature of man also belong in part to geology, zoology, and comparative anatomy but, because of the extraordinary character of the human intellect and of the nature of human society, these problems must be relegated very largely to the social or semi-social sciences of anthropology and psychology. It is also true that to know the nature of

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<sup>1</sup>Mather, K. F., *Sons of the Earth*, Preface, p. xii.

man one must know the ways of man. This is more complicated and difficult by far than is the problem of knowing man's place in nature.

The operations of the human mind are so distinctive, compared with other forces that operate to change the conditions on the earth, as to compel the setting up of a distinct science to deal with human mentality and its doings as contrasted with more purely mechanical happenings in the geological and biological fields. The development of physical man may be traced in fossil remains by the geologist and man may be classified and his relations to the other vertebrates determined by the zoologist, but neither geologist nor zoologist is prepared to work out all the implications of the upright attitude, biped procedure, the large brain with its extensive cortex, manifested in the tool-using, forward-looking, analyzing and inventing tendencies and practices that come inevitably and in ever increasing quantity and emphasis from the physical qualities mentioned.

We must dwell here somewhat at length upon the fundamental differences between man and the lower animals in order to see the basis for the science of archaeology.

Man with his marvelous powers of remembering past experiences, of analyzing these experiences, and of consciously choosing elements among them for application to his present needs is nothing more nor less than the artisan of his own fate. He does not accept nature and her disposition of his needs and satisfactions as do all the other creatures of the organic world. The lower animals do many complicated things in meeting the exigences and dangers of life, but what they do is done through biologically inherited reaction tendencies and their behavior is almost as mechanical as are the processes of embryological development.

For instance, the most intelligent animal below man, an ape, an elephant, or a dog, if left in very cold weather by a fire with an abundance of prepared fuel at hand would allow the fire to go out, and would then perish of cold without even attempting to renew the fire by replenishing with fuel. This would be true even if the animal had seen a

man put fuel on the fire many times. There is no normal human creature in the world so stupid as to perish under these circumstances by letting the fire go out. The lower animals do not think in terms of functional values, nor do they ever see secondary or remote causes or effects. While ants practice thrift, there is no probability whatever that it is conscious thrift, and certainly they are not inventive and analytical.

Man has been described as "Nature's Insurgent Son," "an eternal rebel" against the conditions, often hard and cruel, which nature thrusts upon him.<sup>2</sup>

He cannot outclaw a tiger, outrun an antelope, nor outbray an ass, but he overcomes or outdoes all of these creatures with things of his own contrivance—the spear, the automobile, the saxophone. Nature sends him small-pox, yellow fever, cholera, and says to him "you must die"; he responds "I will live," and sets to work to exterminate these diseases. When he first knocked two nodules of flint together and put a point on one he started "the machine age." His hand and his brain in coöperation have brought him knowledge of "things and their forces" and skill in manipulating them; *i.e.*, the arts as the function of the hand directed by the brain, and the sciences as a product of the brain in the form of stored-up, analyzed and catalogued experience.

In short, man lives in an artificial world and has so lived ever since first he began shaping sticks and stones and keeping fire. Now this world of man's creation, while different from the world of nature, has nevertheless its own laws, and it changes and grows under the general laws of cause and effect. This history of man's culture is comparable to that of cosmic and organic evolution; it is so analogous in fact that we are quite justified in speaking of "social" or "cultural evolution."

The term evolution is so much misunderstood and is so needlessly and foolishly opposed by a large part of the public as to justify a word of discussion at this point. The

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<sup>2</sup>Lankester, E. Ray, *The Kingdom of Man*, pp. 1-65.

word means etymologically an *unfolding* and implies that the changes to which it applies go forward evenly and continuously and in keeping with what scientists call the laws of nature. It implies that all effects in a world of ceaseless change are due to adequate definite causes and that these causes are intelligible where all the facts in situations under consideration are known. Evolution is only a name for the laws of change. It reduces the world to order and makes it, not only intelligible, but friendly and beautiful to a creature like man, whose active and powerful intelligence impels him to try to understand what is happening about him and to him.

We are justified, therefore, in applying the term "science" and the term "evolution" to an organized and systematized knowledge of the world of human culture. In that world one thing must precede another quite as definitely as in any realm of nature. While it is true that man creates his social world, invents his tools and weapons, domesticates and modifies animals and plants, regulates marriage and group loyalties and relations, etc., it must all be done in proper relation to the biological nature of man, to the nature of the specific geographical environment and, finally, to preceding customs. All of this implies causes operating in definite dependable directions and makes it possible to build up social sciences. The operation of the laws of cause and effect is a necessary assumption in all situations involving change before any kind of reasoning or thinking about change can have value or meaning.

For example, the Eskimo can never practice agriculture in their native environment, nor the natives of the Sahara build an ice hut. The domestication of animals in America amounted to very little, doubtless (at least in part) from lack of animals suitable for domestication. There is no possibility of a self-supporting human society on the Antarctic Continent, and there is almost equal impossibility of any serious or satisfactory human settlements in parts of the Matto Grosso. No savage people has ever been civilized in one or two generations, and revolutions in civilized lands never completely destroy the essential elements

of the preceding regime. Efforts at regulating the sex life and the long-established tastes and appetites of peoples are never successful when the break is too serious with preceding conditions or the strain too heavy on human nature. Many of man's failures are due to his not knowing the facts and principles of social evolution, as illustrated in the history of monasticism, puritanism, prohibition and numerous attempts at civilizing savages.

Since the material evidences of the early life of man extend backward into the Pliocene, in the case of the eoliths, and multiply steadily in quantity while growing continuously in complexity down to the time of conscious records, they cover a very long period and represent much the larger part of the history of human culture. It was during this painfully long-drawn-out period of pre-history that man mastered the arts of chipping stone; making and using fire; dressing and wearing skins; plaiting and weaving baskets, rugs, and cloth fabrics; shaping and firing pottery; building in earth and stone; modifying, and growing domestic plants; taming and utilizing domestic animals; smelting, moulding, and forging metals; counting, reckoning, and keeping numbers. In fact, the fundamental arts, the essential organization of human society and of human intellect and human character, as they operate and may be observed today, belong to this long period of pre-history. Our cruelty to one another in war, and in our competitive, professional, and economic life, our superstitions and social and individual inconsistencies are best explained in light of this fact.

Moreover, all that we know or ever shall know positively of this period must be worked out by the archaeologist with his spade and in his laboratory, where he may compare artifacts, refuse, and relics of all kinds gathered from wide fields, supplemented largely by inference from ethnology.

This story of the struggle of our ancestors to lift themselves above the brute and of their painful but ultimately successful efforts to acquire "dominion over the earth and all the inhabitants thereof" is the story that dead men tell. It is fascinating to all who have delved into it, and,

that it is important for sound and worth-while views in those social sciences that deal with the current life of man, the so-called practical sciences of government, economics, psychology, sociology, and history, will be made evident, the writer believes, to any person who will investigate it and who has sufficient scientific training properly to interpret the facts.

Before taking up the history of technical archaeology, it would be well to note briefly the history of fossil man as worked out to date by the palaeontologists, comparative anatomists and anthropologists. This is essential if we are to understand the beginnings and the early forms of the arts, because it was only as the hand and brain of man and his ancestors approached their present form that arts became possible, and certainly the arts were improved with the improvement in these organs. Moreover, the fossil remains of man are often found in cave deposits with the artifacts, ashes, and kitchen refuse of early man. At all times archaeologists are keenly interested in the skeletal remains associated with the pottery, flint implements, gorgets, beads, and so forth, which they dig up in ancient camp sites, cemeteries, and cave floors. These remains often indicate race, migration movements or evolutionary status that may have profound significance in the interpretation of the artifacts and of the culture. It is certain that man's physical evolution and his early cultural evolution ran along together. We cannot imagine the *Pithecanthropus* or the Neanderthal man as the artist of the paintings at Altamira, Spain, or the maker of the Vaphio cups.

In the Old World the fossil history of man has been pushed back to early Pleistocene if not into Pliocene time. In fact the Pleistocene, the Ice Age, is so markedly the period of the coming of man and of his dominance that it and the current Recent are put together by some geologists to constitute the Psychozoic Era. This is a logical arrangement and is based on the appearance and the tremendous importance in earth history of human intelligence as one of the forces of nature.

No fossil men have yet been found in the Tertiary, but stones, the eoliths, artificially worked to serve as tools and weapons, have been found in Pliocene deposits. These are accepted by many if not most geologists and anthropologists as pertaining to the human or half-human ancestors of

present man living in the late Tertiary. Virtually all authorities anticipate the discovery of fossil remains concomitant with these artifacts.

In any case there is no doubt about the definite character and the importance of the fossil human remains that have been found in early Pleistocene deposits. "Man comes of a very ancient lineage, and the dignity of his final attainment is measured in part by the length of the road which his ancestry has traveled."<sup>1</sup> All authorities agree that the oldest human fossil yet discovered, the Pithecanthropus of Java, belongs to the earliest Pleistocene or to late Pliocene. It goes back certainly, therefore, to the beginning of the Pleistocene. The more recent American opinion would estimate this as being 2,000,000 years ago.<sup>2</sup> European geologists do not believe they require so much time to explain the phenomena of the Ice Age in their continent. Nonetheless, the writer knows of no authority who would estimate the age of the Pithecanthropus at less than 500,000 years.

Nearly contemporaneous with the Pithecanthropus is the newly discovered Sinanthropus remains of China, though these are of a much higher form of man, higher certainly in the size and form of the head. L'abbé Breuil, the famous French archaeologist, in association with the geologists who were working with the remains of the Chinese man, explored and described a bed, seven meters thick, of ashes, charcoal, and other kitchen refuse containing crude stone implements together with bone and horn fragments and implements in the cave deposits in which the bones of the Chinese man were found. These evidences of the use of fire and of stone chipping on the part of Sinanthropus, together with the finding of crude ape-like toe bones belonging to one or more of the Sinanthropus skeletons, led J. G. Andersson, a Swedish geologist and one of the early explorers of this place, to pronounce these creatures sub-human, while at the same time according to them a crude

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<sup>1</sup>Lull, R. S., *Ways of Life*, p. 225.

<sup>2</sup>Mather, K. F., *op. cit.*, p. 106.

Hotchkiss, W. O., *The Story of a Billion Years*, p. 55.



type of civilization.<sup>3</sup> The stone implements had been noted by the Chinese geologist Pei while searching for fossil remains of lower animals, and had led to the prolonged search for human remains that culminated in finding the *Sinanthropus* skeletal remains. To a later period, but one nearer Mid-Pleistocene, belongs the *Eoanthropus* of Pilt-down, England.

This form of man, as distinguished from the two preceding, had a better type of brain and head than either of the above mentioned forms, but had the remarkable backward trait of interlocking canine teeth. This *Eoanthropus*, therefore, and the *Pithecanthropus* and the *Sinanthropus*, as the names imply, are all admitted to the family of the *Hominidae*, but are excluded from the genus *Homo*.

The Heidelberg fossil is the oldest yet discovered that falls within the genus *Homo*. It belongs to the second interglacial period in mid-Pleistocene times, and is probably an early form of the well authenticated and well known Neanderthal man of later times, numerous represented in fossil form in modern European museums.

All of the men enumerated to this point are of crude half-simian types, long extinct, and with none of them were artifacts found directly associated so as to tie them up with definite culture periods, unless an exception is to be made of the Chinese man, *Sinanthropus*.<sup>4</sup>

During the last part of the Pleistocene, Western and Central Europe was possessed by the Neanderthal race, whose remains have been found numerous in Europe and as far east as Palestine. This man, too, was very crude, in physical characters very ape-like, but his remains are associated definitely with cave deposits of such character as to give us rather detailed ideas of how he lived.<sup>5</sup> His culture is labeled Mousterian in culture history and, while

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<sup>3</sup>See "Civilization is Older than Man," by J. G. Andersson, *Forum*, September, 1933.

<sup>4</sup>The culture of *Sinanthropus* judged by the stone artifacts and by the use of fire will probably have to be regarded as early Palaeolithic.

<sup>5</sup>Detailed descriptions of these early races can be had from any one of several books in the appended bibliography.

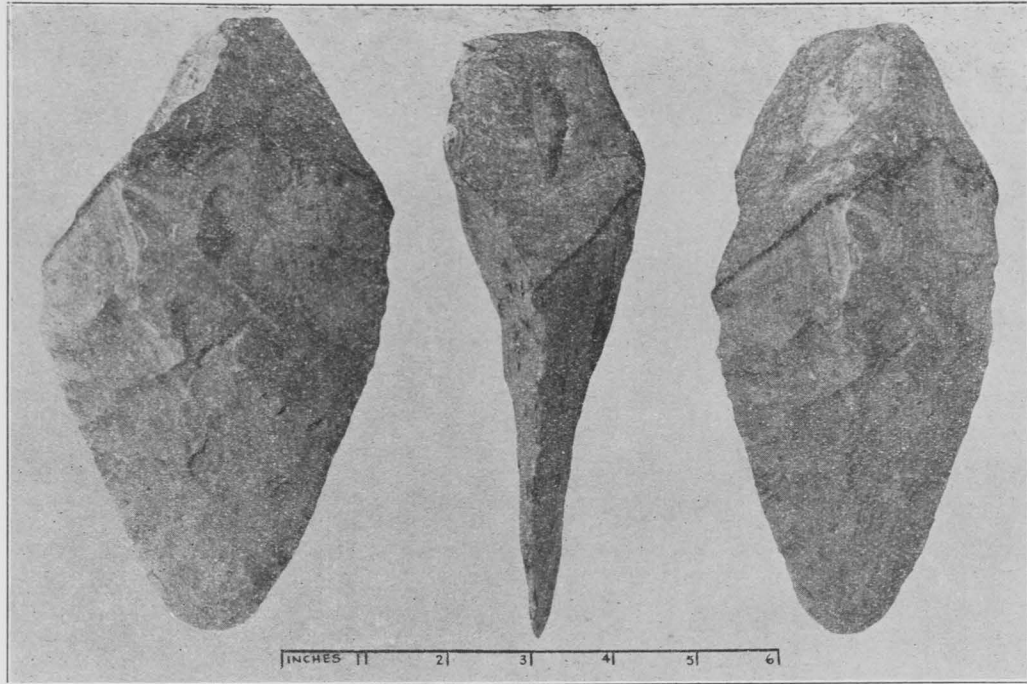


PLATE III

A specimen of a Texas "fist axe" from the Fate Bell rock shelter near the mouth of the Pecos. This is a fine specimen of a tool and weapon very nearly peculiar to Texas in America, but very common in Europe. They are found in association with the "Burnt Rock Mounds" of central and southern Texas and were a sort of universal tool and weapon—in Europe often referred to as "man's first tool and weapon" because it goes so far back and because so many later weapons and tools presumably were derived from it. Its appearance in America, in numbers, in such a definite form, and in recent archaeological times is interesting and somewhat puzzling.

it is of a low savage hunter type, it involved rather skillful chipping of flint by concussion, and the use of fist axes, scrapers, knives, etc. He made and used fire, buried his dead, attacked and killed large animals, and must have wrapped his body in skin clothing to endure the damp climate of the Ice Age in Europe.

With the retreat of the last great ice sheet a new and present-day type of man, the Aurignacian or Crô-Magnon race, came into Europe, from we know not where, and displaced, probably destroyed, the crude Neanderthalers. These newcomers were specimens of *Homo sapiens* to which all present races are generally assigned. They were savage hunters but hunted in large groups, thus exhibiting intelligent powers of coöperation. They had modern brains in size, form and proportion and were thoroughly capable of taking up and carrying on the culture tradition of the race at large and of advancing it from any point at which they might have come in contact with it. In other words they could have learned anything that we men of the present day know and could have done anything that we do. They had on the average better brains than modern men, for they had no elaborate institutions as we have for keeping microcephals and other scraps of humanity alive in ever-increasing numbers in spite of their weaknesses. Imbeciles, morons and the insane could not and did not survive and reproduce in the hard life they lived. They exhibited a keen interest in drawing and in painting, specimens of which they left in large numbers in the form of pictures on the walls of their caves.

### III

The culture history of man in the Old World has been worked out so effectively by the anthropological archaeologists as to make its periods and sequences for the most part quite apparent.

In the accompanying table the writer accepts the convenient if not finally established divisions appearing in current literature dealing with the culture periods. The placing of the division line between Eolithic and Paleolithic at the beginning of the Pleistocene<sup>1</sup> is in harmony with the clearly established use of fire by *Sinanthropus*. Moreover, there is some logic in supposing that the long early culture periods were, at least partially, concurrent and coterminous with the periods of the Glacial Age.

The long-drawn-out Stone Age extends backward from the first definite use of metals about 5000 years ago to the time of the earliest traces of man's art-using activities in the form of the eoliths in mid-Pliocene or earlier. The evidence gets vaguer the farther back we go and the time of the earliest traces of man is necessarily a matter of controversy. During the whole of the Stone Age, as the name implies, man made his cutting tools and largely his weapons of flint, quartz, obsidian, and other stone that breaks with conchoidal fracture and which can be shaped by hammering, pressure, and other means to sharp cutting points and edges. This age breaks up into three distinct sub-periods, the Eolithic, Palaeolithic, and Neolithic.

Of the Eolithic we know least. The eoliths are generally accepted now as human artifacts and consist in crude flint cutting tools shaped by very rough hammer chipping. They belong to the very long period when our half-human ancestors knew nothing of the use of fire, obtained their living by gathering wild fruits, berries, and nuts, and by killing small animals and birds with sticks and stones. This period extended certainly from as early as mid-Pliocene to about

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<sup>1</sup>Mather, K. F., *op. cit.*, p. 161.

the middle of the Pleistocene. Some authorities would stop the Eolithic at the end of the Pliocene and make the pre-Chellean, the first stage of the Palaeolithic, begin with the Pleistocene. This bases the human culture periods rather largely upon the geological ages. In the writer's opinion the first definite use of fire should be accepted as the "epoch-making" event that separates the two larger culture periods and this seems to be established, so far as the concrete evidence goes, as belonging in Europe to the Chellean at the end of the Riss or third ice sheet. "Fire places" in Chellean deposits have not been found, but traces of fire have. It is possible that this fire was had from nature and that man used fire through the Early Palaeolithic without knowing how to produce it. The exact division point between the Eolithic and the Palaeolithic in the culture chronological table is not yet fixed.

In the Middle Palaeolithic, identical with the Mousterian, a long period during which the Old World was populated by the cave-dwelling Neanderthal race, fire places are quite definitely found in the cave deposits.<sup>2</sup> Fire was first used after being found in nature "wild," and wild fire was probably "tamed" to warm the human body and to keep away wild beasts from the caves and resting places of men. Later it was produced artificially and was applied to cooking both flesh and starch foods, some of which, like the potato and Indian corn, can hardly be digested in the human stomach without cooking. Still later, fire was used to burn down trees and to shape them into boats, into beams for houses, etc. In Neolithic times it was used to clear land of grass and brush for agriculture, for firing pottery, and later for burning bricks and tiles. In this age, too, it was generally identified with the sun and was worshiped with the sun as the source of light and life. It is needless to say that its uses in explosives, in smelting metals, and as a source of power, are still being extended in the machine age.

So important has been the use of fire in the life of Man that the history of civilization can be very largely written

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<sup>2</sup>MacCurdy, G. G., *Human Origins*, Vol. II, pp. 134-138.

around this one theme. Probably the greatest single invention of man in all time is that of a device for making fire. It lifted him above the brute more effectually than any other factor of his own creation that has come into his life.

According to the European literature, based on a study of European conditions, the Palaeolithic or Old Stone Age begins with the Second Inter-glacial period, if we exclude the vague pre-Chellean, and it extends through the remainder of the Pleistocene, a period of 200,000 to 500,000 years, depending upon the number of years assigned to the Pleistocene by the geologists. This statement does not take fully into account recent tendencies in America to extend the estimated length of the Ice Age, nor any effort to place the culture of the Chinese man, *Sinanthropus*.

Throughout this period the human arts revolved about hunting, and involved skin dressing, the chipping of flints, the making and use of fire, the use of oral speech and, in the Late Palaeolithic, the making of pictures on cave walls. Some have thought that the Crô-Magnon man in the Late Palaeolithic had at least partially domesticated the dog.

If we assume that skillful stone chipping and the use of fire inaugurated this age, we observe that human life ran along in much the same way until near the end of this, the longest definite culture period in the history of man. Towards the end, however, things began to happen. The Neanderthal race (*Homo neanderthalensis*) was the first race in the records, as worked out at the present time, to be identified with a definite early culture level, that of the Mousterian or Middle Palaeolithic. The antecedent fossil races cannot be definitely tied up with classified cultural practices. Early fossil races were replaced in Europe by the Aurignacian or Crô-Magnon race, who, with the possible exception of the meagerly represented Grimaldi, were the first representatives of modern man (*Homo sapiens*) in European culture history. They brought with them into Europe from their earlier home, probably Central or Western Asia, a new type of chipping, viz., pressure chipping and large-scale coöperative hunting. They emphasized work in bone and ivory in addition to flint flaking,

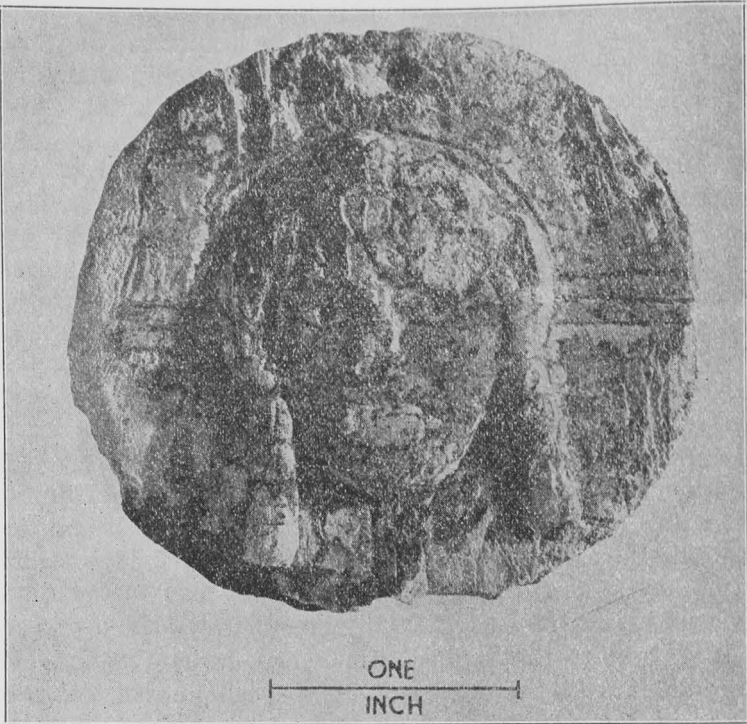


PLATE IV

A shell gorget exhibiting a human face carved in relief on hard conch shell found in a multiple burial on Red River by a University of Texas archaeological field party. The face is so well done that it may well be an effort at portraiture. Considering the difficult conch shell material and the fact that only a pointed flint sliver was the engraving tool, it is a remarkable production. It shows in details the style of doing the hair and the lip plug and shell hair ornaments. The contour of the face and the expression in the eyes are strikingly lifelike. The writer likes to think that the artist carved this face of his damsel lover and hung it about her neck so that when he looked at her he might see the loved face twice and that when he left her he took it from about her neck and put it on his own so that he might have one of the faces with him when away. Note the ends of the equal-arm cross in the background. This was a religious symbol representing the four directions and was used in the worship of "the four winds" to which the East Texas Indians were much addicted.

and practiced making paintings or glyphic outlines of animals on bone and ivory, or on the rock walls of the caves they inhabited. This race then introduced or developed the Upper Palaeolithic culture which divides into several sub-periods, the Aurignacian, Solutrean, Magdalenian, etc.

This Palaeolithic period in the life of man is identical with the period of Savagery of the earlier historians and anthropologists. During this enormous period of 200,000

to 500,000 years man lived on foods that he acquired directly from nature. The food quest activities of these early men divided them into two more or less distinct groups.

One group clung to the banks of streams, the margins of lakes, bays, and inlets, and gathered fruits, nuts, and berries, or dug up tubers and edible roots for foods, all of which are abundant in the valleys and in a riparian environment. They also killed small animals, such as rabbits and squirrels, searched the shallow waters of the seas, streams and lakes for shell fish, oysters, mussels, clams, and, in time, developed many ingenious methods of taking fish. They may be designated as the Riparian Village Dwellers. They had a marked tendency in all lands to live in relatively settled villages near the water, and a concomitant of their settled life was the development of many industrial arts and practices, the "arts of peace," so to speak. Fishing, pottery making, basket weaving and, ultimately, probably agriculture may be cited as illustrations of their arts and activities.

The other group was composed of those savage hunters who preferred to follow up the herds of the larger gram-inivorous animals, to be found usually on the plains or in the foothills, the deer, cow, horse, ass, goat, sheep, antelope, and bison. They were nomads, constantly on the move, and constituted a sparse population in the lands which they occupied. Their arts were those of hunting and fighting, for their manner of life constantly caused them to impinge on one another and on the valley dwellers. Moreover, the psychology of hunting is very nearly identical with that of fighting and warfare, and either may easily pass over into the other. These nomad big-animal hunters became the nomad herders of the arid and semi-arid uplands of Asia and Africa in later times (Neolithic). With their perpetual roving, fighting, and plundering they have been a terrible scourge to the peace-loving valley dwellers through thousands of years. The great wall of China, the largest single structure ever erected by man on the earth, was constructed by the agricultural valley dwellers of Central and



Southern China to shut out the devastating hordes of nomad Mongol herders.

The two types of life, the nomad, hunter-herder, and the sedentary, riparian, food-gathering, village-dwelling, horticultural, are of course not always sharply differentiated; they are often blended. The distinction is frequently only a matter of emphasis, but it is real and, in the Old World, is often sharply defined as in the valley dwellers of the rich lowland valleys of Asia and Africa and the nomads of the plains and semi-arid uplands of those continents. It is sometimes so pronounced as to lead to markedly distinct types of society whose peoples are in perpetual mutual hostility wherever they are continuously thrown into contact, as already noted in China. The repeated conquests of the valley peoples of Egypt and Mesopotamia by the militaristic nomads, both in prehistoric and historic times, afford abundant illustrations.<sup>3</sup>

Much of the psychology of the savage or palaeolithic life of man is certainly to be found in the mentality of even the most civilized peoples of the present time. The cruelty into which we lapse so easily on occasions, the fondness for hunting as a sport, *i.e.*, the killing of interesting, beautiful, and timid animals like the deer and antelope for the pleasure of killing, are illustrations.

It is probable, too, that the mastery over and exploitation of the big animals like the horse, ass, ox, and camel has built up a psychology that has gone over into the genesis of slavery, has inaugurated wars of conquest, and is responsible for much of "man's cruelty to man." Cruelty, in some of its forms, is even more pronounced in so-called civilization than in savagery. For instance, among no savage people would a member of a tribe or village, who was fortunate enough to have in his possession a superabundance of food, refuse to share it with hungry women and children belonging to the same tribe or village. The psychology of civilized warfare, particularly its proneness to gratuitous cruelty, is also a carry-over from savagery.

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<sup>3</sup>See Peake and Fleure, *Peasants and Potters*, p. 29 ff.

The Neolithic is the last of the Stone Age periods. During this age man domesticated plants and inaugurated agriculture, on the one hand, and domesticated animals and began herding and stock breeding on the other. With the exception of methods of making, keeping, and using fire, the domestication of animals and plants constitutes man's greatest achievement in seeking the promotion of his own welfare. Both the conquest of fire and of the animals and plants, the reader will note, belong to the long contemned periods of savagery and barbarism.

In addition to domestication, Neolithic man learned to make pottery and to weave baskets (an art often well advanced in the Palaeolithic) and cloth into delicate and beautiful fabrics. In addition to the Palaeolithic art of chipping flint and other crystalline stone, he learned in the latter part of the Neolithic to grind and polish roughly-chipped specimens into beautiful and efficient axes, adzes, chisels, knives, etc. It was this new method of shaping stone that gave the age its name.

This Neolithic period is identical with the Barbarism of the older historians. It began in Europe with the breaking up of the last great ice sheet and with the coming into Europe of new, partly round-headed peoples, probably from Central Asia, after the ice had retreated considerably from the lines of its greatest extent. The beginning of this period is estimated to have been about 10,000 years ago, and it ends with the established use of copper and bronze about 5000 years ago. During this period men learned to build tepees of skins, to shape thatched huts of mud and grass, and finally to cut stone with stone tools and to construct permanent stone walls. The men of this period set up megalithic monuments of various kinds, menhirs (single stones set on end), dolmen (table stones on other stones, usually over burials), and cromlechs (large stones set on end in circles or other figures, as at Stonehenge). Some of the stones used in these structures were of huge proportions.

These megalithic monuments extend from Ireland through England and France eastward around the shores of the

Mediterranean, along the southern shores of Asia and through the islands of the Pacific to Easter Island, if not to America. Inasmuch as they are associated with sun-worship, the associated culture has been called by Elliott Smith and his school the Heliolithic Culture. This school believes that this culture originated in Egypt, which it deems man's first home, and spread with man himself from his first home to other parts of the world.

Though Elliott Smith's theory of the rise and spread of the Heliolithic Culture as part of the dispersion movement of man over the earth is not generally accepted, it harmonized beautifully with the widely accepted theory that the first inhabitants of North America were a Neolithic people from Asia who came into America after the retreat of the last ice sheet.

Earthen mounds were often built over the dolmen, and sometimes these mounds had enormous size. One in France (at Lacmariaguer) is 328 feet by 197 feet, and 33 feet high. Silbury Hill at Avebury, England, is an artificial earthen mound, a truncated cone in form, 552 feet in diameter at the base and 130 feet high. Earthen burial mounds in America belonging to this age are sometimes even larger than those mentioned above. They are found throughout the Mississippi valley. Sun worship, as mentioned above, was a widely prevalent form of religion during the Neolithic. Many of the megalithic stone monuments, like Stonehenge, for instance, have their meaning in connection with that religion. During this period labor became highly organized in many parts of the world, as illustrated in the monuments and earthworks just mentioned. Such works could not have been constructed except by the united co-ordinated efforts of large numbers of men.

Some of the most vivid and enlightening stories that come to us from dead men are associated with mound building and come from both the bones of the dead enveloped in the mounds and the artifacts placed with them at the time of burial.

The mounds had their origin, seemingly everywhere, in the desire to protect the dead; especially to protect dead

bodies against the ravages of wolves, vultures and, as far as possible, against natural decay. The nature of death was, of course, not understood and this state was often confused with sleep, coma, and other forms of unconsciousness. All states of insensibility were interpreted generally as due to a departure from the body of the conscious personality, called variously by such names as soul, ghost, spirit, and shade. This soul or "other self" was made to include at one place or time or another such concepts as the breath, shadow, mind, consciousness, life, body heat, reflected image from the surface of the eye or any smooth surface, echoes, and the personality. The last was probably the commonest element in the general idea of the dual or spirit being which inhabited the body. Its departure left the latter an inert mass to which the wandering being might return and bring back consciousness and animation. This return was what primitive peoples thought happened when one awakened from sleep.

Such a conception of death produced a profound concern about the preservation of the body. In view of the inevitable decay and disagreeable odors incident thereto, inhumation or burial in the earth became the logical and much the commonest method of disposing of the dead. The practice of burial began in middle Palaeolithic but was much emphasized in the Neolithic.

Inhumation was not always an easy thing to accomplish, however, by peoples who had no steel tools for digging up the hard earth. It was often easier to place a dead body on the ground and pile on it loose stones and earth that might be loosened with sharp sticks from some caving bank. As a consequence, this method of burial became widespread over the earth in Neolithic times. Bodies were added to bodies and the tumulus raised over the first body grew inevitably into a mound. As the dead came to occupy more and more of the thought of the living, departed spirits became more and more protecting deities or harmful avenging devils. Ancestor worship grew apace and often became the most important feature of the prevailing religion. To please the dead then became ultimately a matter of the

profoundest importance. What could please them more than to heap earth over their bodies thus protecting them from weather and the attacks of wild beasts? It thus became a pious duty to add earth to the funeral mound. The practice at times and places became general and was carried through many generations. Peoples doubtless carried it on sometimes who had lost all sight of the original motive.

In many parts of the Mississippi Valley are mounds containing burials in the bottom parts and containing only clean earth throughout the remaining portions, often to depths of twenty to forty feet. Evidently many passersby had added earth to the sacred hill, and that probably simply as a pious duty. Some of the high mounds in deep bottoms subject to overflow came to serve as places of refuge from floods and may have been raised to their high levels for that purpose. Some, however, are on hillsides or at the edge of the bottoms adjacent the high terraces where they would have served no purpose as a means of safety in flood time.

In some lands the dead came to be affiliated with the great nature deities such as the sun, the moon, the ocean, and the earth, and these deities were sometimes worshiped with the dead or became identified with distant ancestors. In such cases the tops of burial mounds became the sites of temples dedicated to the greater deities as at Teotihuacan, near Mexico City, where human remains have been found in the earthen mound that makes up the interior of the great rock-encased Pyramid of the Sun. The great temple mounds of Ancient Mesopotamia probably originated as burial mounds and it is notorious that the Egyptian pyramids were tombs of the pharaohs laid out with the cardinal points. Their capstones bore elaborate emblems of the sun.<sup>4</sup>

The dead man not only tells us live stories, but he even governs the thinking of the living and so largely that much if not most of man's thought in the early stages of civilization revolves about the dead. He governs the living more or less in all ages and often with a tyranny that is harder to

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<sup>4</sup>See Breasted, J. H., *The Dawn of Conscience*, Fig. 6 and pp. 57 ff.

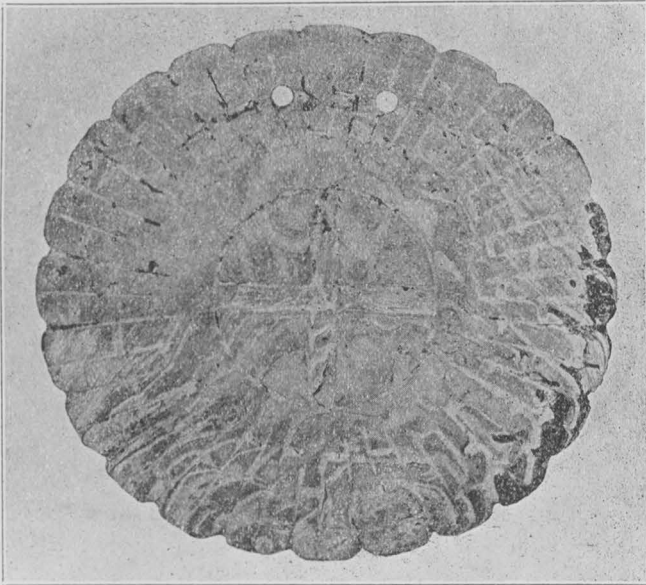


PLATE V

A fine specimen of shell gorget from the Sanders place, Lamar County, on Red River. This is in excellent state of preservation. The central design is made of the equal-arm cross and a circumscribing circle representing the four directions sacred to the "four winds" and the horizon line. This symbol as a whole represents, therefore, the earth. The outer margin is probably a representation of the sun disk, but is made up of the conventional lines used in making the tail and wing feathers of the Thunder Bird.

defy successfully than any that was ever set up by a living despot.

To please the dead, and to live by precepts supposed to be handed down from them, often from the distant dead, was almost a universal guiding principle for the living in the Neolithic or Middle Culture period.

Savage peoples, when interrogated as to why they hold to certain beliefs, follow certain customs or observe given taboos, generally answer: "The ancient ones," meaning ancestors, "believed that, or did that, and instructed us, their children, to observe these practices always if we would be successful and happy."

Marked deference for their dead and their views has imbued the thought and determined the fundamentals in the

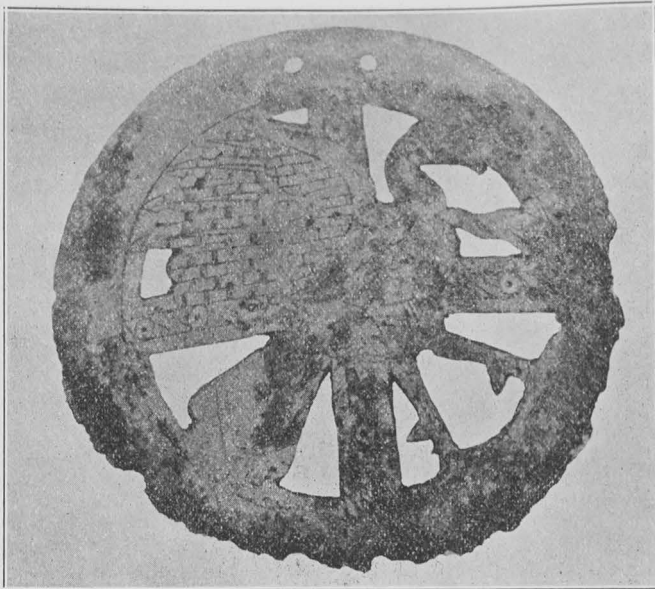


PLATE VI

An extraordinary shell gorget from the Sanders place on Red River (See Pl. VII). This figure is of a strutting turkey cock on a background of the equal-arm cross in a circle. The cross and circle are sacred, but we have no certain knowledge of the turkey's being regarded as sacred in any place north of the Maya area in Yucatan. It is interesting to note the conventional method used for representing the wing and tail feathers of the Thunder Bird (See Pl. V).

institutional life of great civilized peoples like the Greeks, Romans, and Chinese. This attitude towards the dead often leads to a conservatism so extreme as to arrest development. The worship of the dead may become a dignified and sometimes beautiful religion, but its merits consist only in holding the gains ancestors have made; it cannot possibly lead to new and better ways. Ancestor worshipers have always hated new things and new ways and have therefore usually martyred those thinkers among them who have advocated new thought or what was deemed by the innovator to be better ways. The ancestor worshiper necessarily keeps his eyes directed towards the past; forward-looking is not one of his traits or virtues. He is not only not absent from the United States but is conspicuously present in this land of boasted freedom and progress. The "fathers" of the consti-

tution of our government and of our social order are regarded by some of their worshipers as being beyond criticism and as having given us institutions that cannot be improved. Such a view is barbarous and the fact that it is so largely held accounts for most of our serious failures to bring our law courts and other institutions abreast of our science and invention. Murders in the United States amount to about 15,000 per year; in Great Britain to less than 200, and the governments of our great cities are a stench in the nostrils of all decent Americans, while European cities are usually economically and efficiently administered. Gangsters ply their rackets under the noses of the police, in fact, often take the police into their gangs, and walk our streets for years untouched by the law. When we decide to "clean up on them" we have to resort to their methods and wipe them out with machine guns instead of bringing them into court and trying to convict them with our conglomerate ignorant juries and smart-practice attorneys. To question our jury system is to question the omniscience of "the fathers" who worked it out in a haphazard way incident to the class wars of the Middle Ages in another land. Reverence for the dead is all well enough in a general way and no one would go farther than the writer to honor them for heroic deeds and beneficent institutional beginnings, but when they or, more often, their modern descendants, who misunderstand and misrepresent them, insist that we must walk meticulously in their footsteps and keep the old ways, we should insist on the right to scrutinize those ways, compare them with other ways, and to keep only those which cannot be bettered.

The Age of Metals is identical with the term civilization, as contrasted with savagery and barbarism, in accounts of the older writers. It divides into the sub-periods of the Copper-Bronze Age and the Iron Age. Some writers use the latter as a synonym for Civilization, and relegate the short soft-metal period to the latter part of the Neolithic.

This Age of Metals, the one in which we live, is at most only about 5000 years old. It is very nearly contemporaneous with the art of writing and so is covered, though only



meagerly in the early portion, by history proper, already described as a conscious account of man's doings set down in writing. The appearance of history necessarily modifies heavily the archæologist's interest in the period that follows. We shall see, however, that the historians are making continually more use of archaeology and of archaeological methods to supplement the written records, so that archaeology by no means falls out completely at this point.

The working of metals made possible, not only vastly better weapons and tools of the early forms, such as axes, knives, spear heads, hoes, and spades, but made possible also the wheel and all kinds of machinery; while the art of writing made experience and knowledge cumulative to such effect that, where this art is known and used, nothing of value once discovered by any individual of the race need ever be lost.

So transcendently important are these two arts of working iron and of writing that they not only justify a new name for the period that follows their appearance, but they give the peoples who possess them and have the energy to push the advantage that goes with them, dominance over those who are without them. Stone Age men must eat out of the hands of men who work iron, make machines, write and store up knowledge. This is true in spite of all the merit that belongs to the achievements of mastering fire, the invention of the bow, the subjugation of animals, the domestication of plants, and the organization of men for hunting, for fighting, for agriculture, and for the building of mounds and megalithic monuments.

Returning to the outline of the culture periods, one cannot fail to note the enormous differences in the lengths of the different ages. Man was a low savage for a period of from 150,000 to 2,000,000 years. He was a high savage for a period of 15,000 to 30,000 years, he was a barbarian for about 5,000 to 8,000 years, and he has been civilized, in the narrow sense of dwelling in cities, writing, and working iron, about 5,000 years.

An interesting and illuminating exercise, following a suggestion of J. Harvey Robinson's,<sup>5</sup> is to make a scheme condensing the history of man during the last 240,000 years into 24 hours; then note how the epoch-making events come into the moving picture of civilization. The exercise will improve one's sense of time and of movement and change in the culture history of man. Each hour in the scheme corresponds to 10,000 years. Man remains a savage for 22½ hours. During this time he masters and uses fire, adopts skin clothing, chips stones into weapons and tools, sharpens sticks and painfully improves his guttural speech. Everything goes on in nearly the same way throughout monotonous hours and he is about as often the hunted as the hunter. He never stores up food and often dies of famine or eats his own kind. At about 22:30 he begins the domestication of animals and plants; by 23:00 he has invented pottery and basketry, the bow and arrow, and begins to bury his dead in mounds. By 23:30 he has begun to work metals, is writing with pictographs or hieroglyphics and begins to record history. At 23:40, Homer is writing the *Iliad*; Solomon is ruling at Jerusalem. At 23:46 Socrates is teaching at Athens; at 23:48 Caesar crosses the Rubicon, and a few seconds later the Sermon on the Mount is delivered. At 23:51 the Roman Empire is going to pieces; at 23:54 Charlemagne is reigning in the West. At 23:57 plus, Columbus discovers America; printing is invented, gunpowder comes into use in the West with the mariner's compass; the earth is proved to be round and Magellan sails around it, the Reformation begins and the Renaissance movement launches Modern History. Within next to the last minute Newton discovers gravitation and explains the ordered courses of stars and planets. Within the last minute come the French Revolution, the Surrender at Yorktown, the *Origin of Species*, the Bessemer Process. Within the last few seconds come the radio, the submarine, the internal combustion engine, the aeroplane, aseptic and anaesthetic surgery, etc., etc.

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<sup>5</sup>Robinson, J. Harvey, *The New History*, pp. 239-240.

Note how events pile up as we come to the present moment. Can anyone fail to note the significance of the rapid changes that are occurring in man's mastery of the forces of nature in our immediate time and the obvious fact that the social order which rests upon our science and invention must be constantly overhauled to keep it from being thrown into the utmost confusion? This device for condensing the incomprehensibly long periods in the culture history of man is very like mapping a Continent on a sheet of a few square feet. It is very illuminating and brings out the law in social evolution that change begets change and that change in culture history goes forward in geometrical ratio.

## IV

### *Ozymandias*

I met a traveller from an antique land  
Who said: "Two vast and trunkless legs of stone  
Stand in the desert. . . . Near them, on the sand,  
Half sunk, a shattered visage lies, whose frown,  
And wrinkled lip, and sneer of cold command,  
Tell that its sculptor well those passions read  
Which yet survive, stamped on these lifeless things,  
The hand that mocked them, and the heart that fed:  
On the pedestal these words appear:  
'My name is Ozymandias, King of Kings:  
Look on my works, ye Mighty, and despair!'  
Nothing beside remains. Round the decay  
Of that colossal wreck, boundless and bare  
The lone and level sands stretch far away."

This beautiful sonnet of Shelley's, in which the poet animadverts, indirectly but very effectively, on the futility of personal ambitions even in absolute kings, pictures a situation that could not fail to arouse the professional interest of the archaeologist. The ruler whose deeds were such as to lead to an inscription like that on his statue, consisting in a challenge to all the mighty of succeeding ages to try to equal his works, must have caused some stir in his day. Yet all that was left of his works in the course of a few millenniums was the name and challenge inscribed on a fragment of stone. Those familiar with the history of civilization know that peoples and even great men do not live quite so completely in vain as is implied in the poem. Effective human living consists in adding something to the civilization in which the individual lives so as to make life more interesting and agreeable, or at least different, for those who come after.

This Pharaoh certainly affected the social order and, so, the happiness of his people for better or for worse, and the archaeologist seeing the fragments of his monument would naturally be interested in knowing what his real contribution was. This desire leads in such situations to the use of the pick and spade in the desert sands that may

“lie about” and “stretch away,” and marvelous and surprising have sometimes been the returns.

In the seventies of the last century the historians had adopted a hard and rigorous standard in writing history, rejecting as unprofitable all vague intimations of the life of man or of individual men coming from mere names on stones like that of *Ozymandias* or the legendary accounts of wars like that of the Trojan War. They were trying to make history an exact science based on facts drawn from irrefutable written sources. They not only had no interest in the Trojan War but had come to doubt even the existence of Homer. This situation existed in spite of the fact that Rawlinson had discovered the rock at Behistun with its parallel inscriptions in 1835, and had begun his interesting researches into the ruins of Nineveh. With the Behistun key he was able to read the cuneiform tablets of the Assyrians, and Mesopotamian archaeology was really launched, though not yet appreciated. Botts and Layard dug up Khorsabad and the palaces of Nineveh respectively, in 1843–1845. Digging was expensive and money was not easily had for exploration, even when the returns were voluminous quantities of tablet literature from the libraries of famous old kings and majestic statues of human-headed bulls stationed as guardian deities at the gates of great cities.

The indifferent, not to say scornful, attitude of the historians toward legends and myths as sources of history and towards the possibilities of recovering interesting and valuable information concerning the lives of early men and the early causes of culture history was much upset when Schliemann, a classicist, became convinced that real history lay embedded in the Homeric legends and succeeded in 1873 in digging up a historical Troy. He succeeded in finding not only Troy, but nine Troys imposed one on top of another. The Troy destroyed by the Greeks was the sixth from the bottom. He thus gave Homer the distinction of being one of the world's first historians in addition to his fame as the first great poet. Not content with finding Troy and quantities of materials illustrating the weapons,

methods of conducting war, and general manner of life of the Trojans, including, as he supposed, the gold and jewels of Priam, he went over to Greece, located and dug up Agamemnon's family burial place in his capital, Mycenae, the Greek city from which he had set out on his expedition against Troy. His discoveries here included much beautiful gold work in tombs which he believed to be those of Agamemnon and Helen and were only a little less sensational than his discoveries at Troy. At this place and at Tiryns he and others who followed him uncovered a whole early Greek civilization and corrected the entire conception of early Greek history as entertained by the historians at the time.

The astonishing discoveries of Schliemann stirred the imaginations of all men who had any interest in the genesis and early history of European civilization and aroused the interests of all men of real intellect in the new science of archaeology. They forced even the most hide-bound and conservative of the historians and classicists to accept the results of, at least, classical archaeology. Inevitably, if gradually and grudgingly, they have come to use the findings and to acknowledge the importance of archaeological researches generally.

From that day to this archaeology has gone from triumph to triumph. Two important civilizations that had been almost forgotten, the Cretan and the Hittite, have been brought into their proper places among the ancient cultures of the Eastern Mediterranean and have been found to fill important gaps in the relations of the Eastern Empires. We never knew until after Evans had uncovered the palace of Minos and found such positive traces of Egyptian influence, how much Greece had borrowed from the older civilization of the Nile. Equally positive evidences of the influence in Crete of the then still higher civilization of Sumer in lower Mesopotamia are revealed in abundance.

Thus the "first civilization in Europe," in the older historical sense, is seen to have taken its seeds largely from the older centers of Asia and Africa, but it was so influenced by its island position and from European sources that the

product as a whole was fortunately truly European. There are no traces of pyramids, sphinxes, rock hewn temples, towers of Babel or hanging gardens in Crete and, so, of intimations of gleaming cohorts crushing teeming masses of valley farmers and reducing them to slavery in order to erect the vain dreams of besotted tyrants into artificial mountains of stone. The sense of values is infinitely more rational than in the Oriental lands. Cretan civilization was intermediate between the old cultures of Egypt and Mesopotamia and the younger and more rational civilization of Greece.<sup>1</sup>

The Hittite discoveries have filled in several important gaps in our knowledge of the Near East. The name repeated with awe in the records of the proudest of the Egyptian kings remained a mere name until the boot-heel of Winckler, the Assyriologist, kicked up some clay tablets on the top of a mound at Boghaz Keui which turned out to be parts of the royal library of the ancient Hittite kings.<sup>2</sup> This was in 1905. In the intervening years not only the kingly palace but the capital city and other cities, in fact, great portions of the whole Hittite culture have been brought to light. Even a letter from the widow of Tutankhamen to the King of the Hittites seeking a husband among his princely sons has been recovered and translated. This concrete, intimate and romantic bond between two of the most startling discoveries in the history of archaeology, viz., that of the capital of the Hittite Empire in Eastern Anatolia and of the tomb of Tutankhamen in distant Egypt, 1000 miles to the south, is in itself one of the most surprising finds yet made and makes a very romantic tale from the land of the dead.<sup>3</sup> The Hittite tablets written in cuneiform in exact likeness to the Assyrian tablets were found by Winckler to be in a tongue that he did not know. Later it was discovered to be an Aryan speech akin to Persian and Armenian, and the Hittites are now known to have been

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<sup>1</sup>Childe, V. Gordon, *The Dawn of European Civilization*, pp. 26-27.

<sup>2</sup>Breasted, J. H., *Historical Tradition and Oriental Research*, An. Rep. Smithsonian Institution, 1924, pp. 409-414.

<sup>3</sup>Magoffin, R. Van D., *The Lure and Lore of Archaeology*, p. 25.

largely of Aryan blood. This fact throws light on a lot of racial relations in Syria and Mesopotamia. The ancient Hebrews are supposed to have derived the hooked nose from Hittite ancestral mixings.<sup>4</sup>

The Etruscan culture, in Italy, in some way which we have not yet been able to work out, served also as a connecting link between Asia and Europe. Much of the religious element of this culture certainly came from Babylonia as did also the underground arched vault used for drainage. This was copied by the Romans as an architectural device and became the basis of their great triumphs in the art of building.

One of the most baffling yet most fascinating situations encountered to date by archaeologists is that of the Etruscan tomb inscriptions and the language in which they are written. They are in a script closely related to the Greek and Latin scripts and are written on the walls of underground tombs and vaults and on coffins and sarcophagi. Thousands of them have been copied and published, and they have been studied by scholars for two centuries; but as yet only a few words of the language can be given definite meaning. This is all the more astonishing when we recall that Roman civilization incorporated so many Etruscan elements, including the arch, taking auspices by the flight of birds, and the practice of liver divination. Moreover, many of the vases found in Etruscan tombs were not only Greek, but in some instances we know definitely the Greek artists who made them.

After Troy, Crete, and the Hittite cities, possibly equaling them, come the wonders of archaeological discovery in ancient Mesopotamia, "the land between the rivers" (Tigris and Euphrates), where the Biblical story locates the Garden of Eden. So many and so important have been the discoveries in this region that we can do little more than allude to them and cite a few of the many interesting accounts of the men who made them.

In Woolley's *Ur of the Chaldees*, the writer tells of digging up the palaces of the time of Abraham and earlier,

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<sup>4</sup>Haddon, A. C., *Races of Man*, p. 25.



and of an unexpectedly high civilization lying far back of that time. More wonderful to tell, below the evidences of this historical civilization he went through a barren stratum of silt, of eight feet depth, evidently deposited by a great river flood and below this found extensive remains of an older and cruder culture. The story of the flood, long regarded as a Babylonian legend taken over by the Hebrews, was thus confirmed as history, except, of course, that it was not worldwide.<sup>5</sup> It is thought by Peake and Fleure to have occurred about 4500 B.C. and to have been associated with the rainy period incident to the final close of the Ice Age.<sup>6</sup>

The excavations at Ur, Babylon, Nineveh, and Kish have established the high culture of this region as far back as 3500 B.C., and in cruder form at Kish back to 4000 B.C. Its priority over Egypt as an early dissemination center seems established. Queen Shub-ad's tomb, belonging to a time about 3200 B.C., reveals a splendor in gold beads, plaques and diadems, inlaying in ivory (on harp frame and gaming-board) comparable to the fine gold work of much later times at Knossos and Mycenae. A very detailed picture is afforded of beliefs in an associated life after death involving heavy emphasis on human sacrifice. Sixty-eight skeletons of women courtiers, with gold and silver hair ribbons and like finery, had been slain and buried in the antechamber to the Queen's tomb as companions to the Queen in her journey to the land of the dead.<sup>7</sup>

In these excavations Woolley found traces of an influence from India and later at Mohenjo-Daro, Sir John Marshall found objects from early Sumer.

Marshall's work in the Indus valley has brought to light a culture center that rivals Chaldea for the position of the first home of city-building civilization. He found there foundations of buildings as old as 3000 B.C. constructed around a court, built of burnt brick, three stories high, and

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<sup>5</sup>Woolley, C. Leonard, *Ur of the Chaldees*, p. 21-ff.

<sup>6</sup>Peake and Fleure, *op. cit.* pp. 143-ff.

<sup>7</sup>Woolley, C. Leonard, *op. cit.* p. 62.

possessed of tile-lined water tanks with tile underground drain pipes.

Egypt with its monstrous pyramids, sphinxes and rock-hewn temples has been a source of mystery, awe, and wonder to all travelers to that land since Herodotus visited it near 450 B.C. He was profoundly impressed with its venerable ruins at that time.

Systematic excavations have been carried on there by the English, French, Germans, and Americans. Menes, the traditional founder of the First Dynasty and the first king to rule a united Egypt, lived around 3400 B.C. This name had come to be regarded as legendary and of little or no historical importance by the historians before the archaeologists became active, but Breasted has dug up the tomb of Menes and brought it to Chicago to adorn the home of his new Oriental Institute. Since 1894 thousands of prehistoric graves have been excavated along the margin of the Nile valley, revealing to us the successive stages of human advance for many centuries before the time of the once legendary "Menes."<sup>8</sup>

The most famous of the royal tombs so far excavated, in fact the most sensational archaeological discovery that has yet been made anywhere at any time, is that of King Tutankhamen, made since the Great War by Howard Carter, the American archaeologist, and Lord Carnarvon. This king was personally unimportant but belonged to the great Eighteenth Dynasty. The tombs of all the kings of this dynasty had been located but two. All had been looted by robbers, in spite of desperate efforts at the time of entombment to make this impossible, and the archaeologists had found relatively little in them. The tombs were underground palaces hewn out of the solid rock, sealed after the burial with heavy stone slabs, and the entrance obliterated by piling earth and stones over it. The search, long and arduous, for the missing tomb was finally rewarded. The find consisted of not only the royal sarcophagus but of every sort of kingly appurtenance, furniture, robes, weapons,

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<sup>8</sup>Breasted, *op. cit.*, p. 412.

golden ornaments, supplies, etc., that a living king could hope to need in his new realm of the dead.

The importance of tombs and burials of every kind for archaeology is indicated in the statement that more than half of all important materials in archaeological exhibits seen in museums are obtained from burials.<sup>9</sup>

In America archaeological research has been carried on almost exclusively by the anthropological or natural science school rather than by the historical. We shall cite at this place, however, though dealing at this moment with the historical school, one discovery in this continent that, for the sensational character of the things recovered, ranks with that of the tomb of Tutankhamen.

In 1931 Dr. Alfonso Caso, of the National Museum of Mexico, opened tombs in a series of low pyramidal mounds at Monte Alban, Oaxaca, Mexico. In tomb 7 of the series the floor was found to be covered with gorgeous jewelry, pearls, golden beads, turquoise and jade ornaments, gold masks, elaborate necklaces of golden beads fringed with bells of gold. Many objects were found of deer and jaguar bone, combs, daggers, and problematic specimens, all elaborately carved. This place yielded gold, jade, and other precious materials of an intrinsic value running into hundreds of thousands of dollars and of a scientific value beyond computation. It probably illustrates the highest attainment reached by the aborigines of America in working gold, jade, rock crystal, onyx, shell, and bone.<sup>10</sup>

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<sup>9</sup>Woolley, C. Leonard, *Digging Up the Past*, Chap. 4.

<sup>10</sup>Caso, Dr. Alfonso, "Monte Alban, Richest Archaeological Find in America," *National Geographic Mag.*, Oct., 1932, p. 487.

The methods of archaeological exploration used at present are essentially the same regardless of the school conducting the work. This research has necessarily become saturated with the painstaking accurate methods of natural science; in fact, the anthropologists took that method with them into the field. Virtually everywhere the higher culture levels are found to rest upon the lower, and it is necessary to understand the elements in all of these levels in order to do successful work in making accurate interpretation in any. In the Orient one must be an oriental linguist to interpret inscriptions, but often, as at Borghaz, a new language or languages must be mastered and philologist specialists have to be borrowed from the field of the linguists or developed as linguistic anthropologists. In the lower levels of the Stone Age, where the chronology is worked out on the basis of stratigraphy and often of associated fossil remains of animals, the whole procedure becomes highly geological in character and method. Not only do the archaeologists call in the aid of the geologists, but the latter often turn into archaeologists, as in the cases of Sollas and Boule. Likewise and for the same reason historians who do successful work in the field of historical archaeology necessarily become scientific or anthropological archaeologists. They are apt to become the staunchest supporters of anthropology and scientific archaeology as a prelude to history proper, as illustrated in Flinders Petrie, Breasted, Evans, and a host of others.

The methods of field operation, particularly as applied to the complicated Old World situations, as in Egypt, Mesopotamia, and India, are illustrated in the detailed notes and accounts of field work, like those of Evans, A. J., *The Palace of Minos at Knossos*; Woolley, C. Leonard, *Digging up the Past*, and *Ur of the Chaldees*, and of interpretative accounts

such as Breasted, J. H., *A History of Egypt*; Petrie, Sir W. M. Flinders, *History of Egypt, and Seventy Years in Archaeology*.<sup>1</sup>

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<sup>1</sup>For some of many other references that throw light on the technique of archaeological investigation incident to summarizing and interpreting results, see: Boule, *L'Homme fossile*; Hrdlicka, *Fossil Man*; Keith, *Primitive Types of Man*; Marshall, *Mohenjo-Daro*; Carpenter, *Humanistic Value of Archaeology*; Means, *Ancient Civilizations of the Andes*; Publications of the Bureau of American Ethnology and of the Heye Foundation, Museum of the American Indian.

Methods in American archaeology are sufficiently different to justify the separate account which we are reserving for a technical treatment in the series of anthropological papers being prepared for publication at The University of Texas, which will deal largely with returns from field work in Texas archaeology.

## VI

Some reflections on the general nature and essential purposes of society in the light of archaeological and anthropological studies will help one to understand the importance of the long view in human affairs afforded by archaeology. The reflections are not confined to the archaeological field but are directed to the whole history of civilization of which archaeology is only a part, albeit possibly the largest part. They involve an effort to give civilization a logical interpretation and a meaning which may help us to see its defects and to make consistent efforts at ameliorating it and improving it. Such an effort, to be a success, must be made upon the assumption that the history of civilization is a unit, an integrated consistent whole, like the history of the earth in the geological record.

When man started his rebellion against conditions which nature had thrown about him by chipping stones to sharp points; by taking fire from a lightning-struck tree, or a volcano, feeding it fuel and making it warm him and serve him; by choosing the largest, finest wild plums and grapes and planting and tending them in rich lands; by capturing the young of wild dogs, sheep, and horses, tethering them, nourishing them, bringing them up and training them to be servants and friends—when he attempted these things and succeeded, he started something which he could never quit, but the results, seemingly altogether desirable, have not been entirely happy. Effective religious practices and social organization brought power to groups and leaders and those who had the most power could compel those who had less to serve them or to keep out of their reach, even to the extent, sometimes, of getting off the earth.

The achievement of a mastery over nature and the possession of the power that goes with it never satisfies man. In fact, the possession of such powers by one group of men only stimulates all rival groups to seek possession of the same powers or to acquire superior power. These rivalries take on the form of patents of inventions and discoveries,

secret and open commercial wars for the control of markets and natural resources and, from time to time, the form of hideous military warfare in which all the accumulated arts and sciences and all the acquired knowledge of the possibilities of coördination, drill, and social organization are directed, with the greatest ingenuity, to the crippling or destruction of rival groups. No race or nation can leave off the keen relentless search for the power that goes with better inventions and more extensive or more accurate scientific knowledge without being left at the mercy of rival groups who would enslave them, half enslave them, or drive them from their lands outright in truceless wars of extermination. The British and the native population in India and the European whites and the Indian population in the United States are examples.

Progress in what we call civilization not only involves rebellion against nature and against the harsh conditions of disease, famine, cold, heat, and what not which she would often impose on man, but it seems to involve also continuous strife in some form or other with fellow men. Man's greatest source of danger, from time immemorial, has been, not rattlesnakes and cobras, wolves and lions, gorillas and crocodiles, but, always and everywhere, other men.

This perpetual strife within the human group and between man and his nearest relatives in the anthropoid world has resulted in lopping off the front end of the procession which is approaching man from below, as in the case of the *Australopithecus*, an extinct ape of South Africa that had a larger brain than any modern ape, and of the back end of the human procession, as in the case of the Neanderthalers, the Tasmanians and Australians. This truceless strife has had the effect of ever widening the gap between man and his nearest relatives of the lower animal world. Whether we like it or not, this perpetual warfare is the only logical explanation of the wide gap between present-day man and the anthropoids, and it must be much of the explanation of the essential nature, good and bad, of man as we know him.

That the propensity for fighting has passed the point of diminishing returns in the matter of strengthening and im-

proving the race, is now fairly obvious to all far-sighted students of race and its problems. That war, under present conditions among civilized nations, has become highly dysgenic and is one of the disintegrating and degenerating factors in the biology of the civilized nations is the opinion of many if not most biologists and physical anthropologists at the present time.<sup>1</sup>

The end of civilization, it would seem, is necessarily the comfort, happiness, and welfare of those elements of humanity that are involved in it. As between groups possessing distinct national organizations within the same civilization, assuming that there are distinct civilizations, we have seen above that it does not necessarily work to that end. It remains to note also that within the national group this end may be forgotten and civilization or a given social order may, in fact generally does work so as to promote much more largely the interests of some groups of a given nationality than of other groups. If we attempt, in the courts of reason, to justify civilization at all, we are compelled to regard it as fundamentally a coöperative organization among all the elements of humanity involved in it. If all are not to benefit by its operations, certainly those who are being sacrificed or exploited have the natural and inherent right to rebel against it when they discover their situation.

It is possible to take the position that civilization, like life, has been the product of blind forces working along mechanical lines of evolution and that students of civilization are no more logically required to justify exploitation and slavery than biologists are to justify sabre-toothed tigers, cobras, and spirochetes. It is certainly true that much of civilization, and some of the finest phases of it, have come directly from the ugly, illogical, cruel, and inhuman beliefs and practices of earlier times. Greek art, philosophy, and literature were made possible by the outrageous institution of chattel slavery. The Greek realized this and had no conscience about it. Aristotle defined a

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<sup>1</sup>Cf. Jordan, David Starr, *Blood of the Nation*.



slave as "the most intelligent of the domestic animals." The more intelligent the slave, if he were not also courageous and rebellious, the more useful to his master and many, such as Aesop, must have been more intelligent than their masters.

At the present time, slavery is no longer tolerated in European civilization, not even if the slave is of an alien and supposedly inferior race. Even domestic animals are expected to share in the present social set-up to the extent of being at least exempt from gratuitous and unnecessary cruelty. All living creatures that are inherent parts of civilization are supposed to share in its benefits as far as consistent with the welfare and interests of other elements. Where interests conflict as yet the strong prevail. Domestic animals may be made to work and may be killed and eaten, but they must never be allowed to suffer unnecessarily and, when the situation is viewed in the most humane and enlightened way, must have all the comfort and pleasure possible consistent with the interests of their owners.

Perhaps we must view the interests of the different elements of humanity constituting a society in something like the same way as we view the relations of man and the domestic animals, since they differ in intelligence, energy, and capacity to render service to the whole group, quite as really, though, of course, not in the same degree, as the animals differ from men.

This assumption still leaves untouched the greatest single problem of current civilization, viz., an *equitable* distribution of the powers and privileges of civilization at the present time. We have gone so far with invention and science now without taking the pains to adjust the human relations involved in the uses and applications of our devices and discoveries that our social order is falling into confusion. We have yet to achieve a just economic order in which all who coöperate in producing the things which man wants and needs shall have a reasonable share of the production. Unless and until we do this, there is great danger of our whole social order coming a cropper.

We have sharpened our wits in the struggle for mastery and have achieved ever greater mastery over natural conditions and forces, but unfortunately the very struggle has intensified the savage mentality of the Old Stone Age. As said before, the writer does not know of a savage people in the world who would sit upon mountains of food, possessed and held by superior weapons or other accidental advantages, and refuse to share them with starving fellow villagers. Vast fortunes are only food, clothing, and shelter. Our exorbitant fortunes and the poverty of our stricken unemployed masses are both indictments of our social order. Equality of possessions and privileges can never be reasonably expected because an equality in natural powers or deserts among men does not exist. It is certain, nonetheless, that, neither in mind nor in character, is there any such gross inequality between the American billionaire and the intelligent mechanic who now walks the streets of our cities seeking employment as exists between their respective possessions of the goods of our machine production.

## VII

Archaeological study has its chief justification, of course, within itself as the fundamental approach to a knowledge of human origins, but the effects upon the other social sciences to date certainly justify, from this point of view only, all the time, labor, enthusiasm, and money that have been expended in this field, prodigious as these have been.

The relations with and effects upon history have been indicated to some extent in the account of the Historical School of Archaeology, but so important are the relations of scientific or anthropological archaeology to a rational historical interest and method that considerable additional comment upon this relation is justified.

Not only have some of the great gaps in the culture history of man been filled by archaeological investigation, but, at least in a general way, scholars of open mind have been brought to realize that culture history or the history of civilization is a continuum, is without lapses, gaps, or impossible chasms; that the present rests everywhere inevitably and squarely on the past out of which it grows and by which it is explained. "History and anthropology . . . concur in proving that each new generation is indebted to the previous generation for very nearly all that it is and has."<sup>1</sup> The unity of history and the relativity of manners and customs, even of morals, laws, and religions, have been brought home to workers in the so-called social sciences so effectually and in such a way as to improve immensely their sense of time and of institutional values in the whole field of man's social life.

Robinson relates that when Mommsen visited Reinach at the Museum of St. Germain-en-Laye he had never heard either of the Ice Age or of totemism and comments as follows: "Mommsen is properly ranked among the most extraordinary historians of modern times. Nevertheless his ignorance of two of the commonplaces of prehistoric archae-

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<sup>1</sup>Robinson, *op. cit.*, p. 255.

ology and anthropology prevented him from seeing the Roman civilization in its religious and perhaps even the legal phenomena.

“‘Man was a function of the Ice Age,’ according to Henry Adams.

“As for totemism, it has been called upon to explain such different phenomena as the frescoes in the dark caves of the Magdalenian period, the abhorrence of the Jew for pork, and the esteem of a baseball team for its mascot. Many beliefs and practices of the Christian church are now seen to go back by direct or devious ways to totemism, animism, and the mana.

“The historical student who realizes this will hasten to acquaint himself . . . with some of the most suggestive works in the field of anthropology and comparative religion. He will be a very dull person indeed if he does not find his conceptions of the past fundamentally changing as he reads, let us say, Thomas’ *Source Book for Social Origins*, Reinach’s *Orpheus*, Conybeare’s *Myth, Magic and Religion*, or DeMorgan’s *Les premieres civilizations*.”<sup>2</sup>

Archaeology has added to the written records a vast amount of rich detailed information that could not be had from any other source and which, for trustworthiness, is vastly superior to most if not all accounts from the consciously written records of individual men.

History, as the account of man’s doings written out by individual men, is always and necessarily written with a bias. Let any two historians write upon a common theme, such as the biography and significance of a Victoria or a Napoleon, and you get necessarily each writer’s personal and political philosophy in his interpretation. There is no bias to the story told by the slain courtiers of Queen Shub-ad, the rich detailed fittings of Tutankhamen’s tomb for his life in the under world, or the three-storied burnt brick houses at Mohenjo-Daro. Breasted’s account of the beginnings of conscience is, the writer thinks, very dubious social genetics; but the hiding of the remains of a cannibal

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<sup>2</sup>Robinson, *op. cit.*, pp. 91-92.

feast by the Texas Tonkawa presents a picture of the crude early workings of conscience that cannot be misunderstood.

Magoffin says: "An archaeologist's interpretation of New York City two thousand years from now will be much more truthful and much more valuable than all the building contracts and newspaper files and other contemporaneous written comment, granted that such written material survive the lapse of time."<sup>3</sup>

James Harvey Robinson in *The New History* has a great deal to say about the inadequacy of historical records. The scanty, fragmentary, and often second-hand or third-hand accounts that underlie the literary history of ancient times have been expanded and elaborated by interpretation, judicious and otherwise, into the large volumes of Dahn, Hodgkin, Mommsen, and Mahaffy. The merit of these writers lies often in the literature which they have produced around a few scanty facts that have stirred and set going the creative imagination of the literary artist. History began as literature, the story-teller's art, and has never been able to free itself from the handicap of this beginning, as illustrated in the colorful biographies of Lytton Strachey and Emil Ludwig, and in the writings of others of the much-read present-day historians. Such history is often little more than "agreed-upon fiction."

Robinson insists that the new history must be devoted to the end of an accurate, complete, and scientific account of how we became civilized, or how we reached our present situation in civilization, rather than to the dramatic doings of warriors, insane tyrants, descriptions of hanging gardens, and the relation of spectacular and exceptional events. "The knowledge which we acquire by it (a study of history that does not lead to wisdom and betterment) is a creditable kind of ignorance, nothing more. This . . . is . . . the whole benefit which the generality of men, even the most learned, reap from the study of history."<sup>4</sup> This statement of Lord

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<sup>3</sup>Magoffin, *op. cit.*, p. 41.

<sup>4</sup>Robinson, *op. cit.*, p. 34.

Bolingbroke written in 1737 and quoted by Robinson is still applicable to a large number of so-called students of history in 1935. If this condition is ever to be corrected, the returns from archaeology must certainly be utilized—must in fact supply much the greater part of the record, if we consider the time element, and the archaeological and anthropological sciences will have to correct the false sense of values of the older historical school with its emphasis on the written word.

Another large value that comes from archaeological study lies in the perspective which it puts into history. We quote again from Robinson's *The New History*: "The historian's gaze instead of sweeping back into remote ages when the earth was young, seems now to be confined to his own epoch. Rameses the Great, Tiglath-Pileser, and Solomon appear to the archaeologist practically coeval with Caesar, Constantine, Charlemagne, St. Louis, Charles V., and Victoria; Bacon, Newton, and Darwin are but the younger contemporaries of Thales, Plato, and Aristotle. Let those pause who try to determine the laws of human progress or decay. It is like trying to determine by observing the conduct of a man of 40 for a month whether he is developing or not. Any thing approaching a record of events does not reach back for more than 3000 years (of the more than three hundred thousand that we know of in the archaeological record), and even this remains shockingly imperfect and unreliable for more than two millenniums (of the three)."<sup>5</sup>

The author would not be understood as seeking to disparage the writing or the study of history nor does he mean to imply that all or nearly all historians are short-sighted or narrow-minded. He thinks merely that concentration on documents written by parties interested in the events related and on the difficulty of arriving at the facts in such accounts has led to the neglect of other sources that might aid materially not only in unraveling the facts, but in establishing and maintaining a better sense of values among the facts and in thinking about society and civilization as

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<sup>5</sup>Robinson, *op. cit.*, p. 57-58.

dynamic. The historian must think in terms of change and must seek to explain as well as describe if he is ever to serve as the guide in social engineering that he should be and that the world has in vain expected him to become.

It is matter of tremendous importance to know that man has been making and keeping fire for a period of 500,000 years at least, and to know of the much longer period since he began "by throwing stones and flourishing sticks to defeat aggression and satisfy his natural appetites by the use of his wits rather than by strength alone."<sup>6</sup> When one thinks of the great achievement of the human mind involved in the mastery of fire and accomplished so long ago, he is driven to wonder at the failure to apply intelligence to the solution of many of the pressing unsolved problems of human relations in our so-called high civilization. The problems of war, poverty, over-population, the increase in insanity and in drug and alcohol addiction should have disappeared from an intelligent humanity long ago and would have carried off with them more than half "the ills that flesh is heir to." At any rate, the ills just mentioned should have disappeared from the most civilized lands before this time. More than half of the suffering, worry, and unhappiness of present life is due to man's cruelty to man or to other human folly and could not continue in a world of our technology and power if all men were consistently intelligent and decently humane.

The answer to the query, "why the terrible failure to promote the largest welfare and happiness of the race?" comes in viewing and reviewing the parade over the "long" and "rough" road from savagery to civilization. It cannot be had in the astigmatic view incident to a concern only with written records.

We discover early that intelligence is far from being absolute; it is always qualified, "conditioned" the psychologists say, by the circumstances and influences under which it operates. Education has as its logical end the transmission of civilization and this involves "conditioning" the minds

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<sup>6</sup>Lancaster, Ray, *op. cit.*

of youth to the thought and action necessary to successful living under a given cultural regime. A definite form of operation, kept up uninterruptedly for a few years in youth, conditions, often determines, the manner of operation during the remaining years of the individual's life. This fact indicates the tremendous importance of early educational activities. The average human mind does not recover easily from the effects of early conditioning. If a child spends his childhood in the midst of an environment imbued with positive and unquestioned teachings, however dogmatic and unreasonable, and if all or nearly all of the people about him accept those teachings without question, he will rarely, if ever, escape the effects of the conditioning in later life, even though he should engage in the most logical of scientific pursuits for the rest of his days. This explains the difficulties of Occidentalizing the Orient, also the persistence of superstition and early forms of unreason in a scientific age. When the mental processes of the individual become those of great masses, living together in areas undisturbed by invasions or other influences from the outside world for many generations, a mental conservatism is set up so pronounced and integrated as to make serious changes in the general manner of life exceedingly slow and difficult. The result is a fixation of the mentality that resists change. By "mentality" is meant here the actual manner in which the mind operates in the given social order conditioned by the manner of operation in preceding generations. This type of mind, *i.e.*, one fixed by long absence of change, is opposed to "free" intelligence. Free intelligence is necessarily intelligence which has been preserved free by contacts with different ways of thinking and acting, by the rationalizing processes of natural science or of consistent intelligent education. The latter involves necessarily a wide study of nature and of man, with sharp observation of fact and rigorously logical deduction therefrom.

The minds of men have been fixed or "frozen," at times and in places, for long periods and over large areas, so effectually as to result in widespread arrested social develop-



ment, and, it matters not how admirable the social order involved may be, in time such situations become painfully out of line with and behind the social order in other parts of the world where there is continuous change and progress.

Illustrations of the above-mentioned tendencies in the social life of man are to be found in numerous places in the general history of civilization. Two or three instances will be brought forward to illustrate the teachings of archaeology and its sister science, ethnology, in this connection.

The conservatism of the Chinese is proverbial and, while their civilization is admirable in many ways, it has got into an impasse at present that makes it exceedingly difficult to bring that great people into the pale of modern progressive mankind. It is an odd and puzzling fact that the Chinese, according to some authorities, knew and used the mariner's compass during a considerable part of the first millennium of the Christian Era, and had built up and maintained a considerable commerce around southeastern and southern Asia by means of it, but never used it to cross an open ocean and finally allowed its use to become obsolete. It is certain that they have known the qualities of the magnet for many centuries, whether they used it in navigation or not. They discovered and made large use of the art of producing fine, hard, semi-pellucid porcelain during the Han dynasty (206 B.C. to 220 A.D.). Europe did not make porcelain as fine until a time well on in the Renaissance. Their bronzes of the Chou and Han dynasties in the first millennium B.C. were of the highest excellence. They have known and used printing by means of blocks since 50 A.D., and have had gunpowder, seemingly, from the fifth century A.D. In painting, wood and ivory carving, and in carved lacquer work they have long exhibited a refined sense of beauty not excelled elsewhere in the world. They have had the wheel since 2700 B.C. None of these arts and inventions has been so applied and followed up as to give it its logical effects in promoting the happiness or the power of the Chinese people. Several of them when transferred to Europe affected profoundly the whole world order. In the hands of the whites

the compass soon brought the discovery of America, the circumnavigation of the earth, the exploration of all oceans and continents, and the spread of the white race over the world. Gunpowder, applied to war, put all the peoples of the world, who did not possess it, at the mercy of those who did. Printing was set to multiplying books and knowledge to such effect that its use alone would have created a new age.

When we ask why the Chinese did so little with these things, we are driven to the answer that the monumental conservatism of Chinese mass mentality not only prevented them from "seeking new things" but also prevented them from following up and applying the new things which were thrust upon them by their own original thinkers. They sought their happiness and welfare by preaching and practicing the principle of "walking in the beaten paths." Ancestor worship became so deeply ingrained in their society, and took on such a form that they were driven to bringing into the world all the children physically possible. The soul after death would be perpetually miserable if not nourished and comforted by the tomb sacrifices and by the worship of living progeny; hence the profound necessity of leaving living offspring at death. The resulting density of population reinforced continuously the other tendencies to conservatism. This situation was doubtless set going, in the first place, by the natural richness of the great Yangtse Valley. From the earliest beginnings of agriculture it has possessed and supported a dense population. Emphasis was laid, naturally, on agriculture, which was early brought to the position which it now occupies in that land. In China they secure in food for man probably the largest return, per unit of surface, to be found anywhere on the earth. At present about one-tenth of the human race live in this valley. Chinese ancestor worship has taken over, also, the old clan loyalty of savage life and reinforced that to such an extent as to make the family group the ultimate group of allegiance. This family loyalty is so extreme as to interfere seriously with the building up and operation of na-

tional government. Probably the lack of efficient government is China's greatest desideratum. A Chinaman, put into governmental position, feels that he must take care of all his relatives and if necessary will take and keep government moneys, passing through his hand, to that end. The result is weak government, perpetual revolution, and political chaos.

India is another case so like China's as to require only mention.

The ancient Peruvians, among barbarians, illustrate this tendency. Agriculture among this people had been perfected to such a degree by 1492 as to excite the admiration of all students of their culture. When the Spaniards came in the early sixteenth century, the Peruvian crops of corn, potatoes, beans, and cotton were of a quality and quantity, per unit of surface, not equaled by any other people in America before or since. This does not except our boasted scientific agriculture in the United States. Their government possessed an organization and power truly remarkable. It could and did regulate labor as well as warfare, and to such effect as to put the idle population to work at any time on roads, aqueducts, fortifications, government buildings, or on the construction of retaining walls on the hillsides for needed new farms. Farming and all other industries productive of necessities were so regulated as to amount to national enterprises. They had a highly planned and rigorously executed economy program. Large surpluses were gathered and stored in state warehouses and distributed later wherever most needed. Probably no other people in history have been so generally free from economic distress or worry.<sup>7</sup> The archaeologists have found in prehistoric Peru evidences of pottery, weaving, architecture, and agriculture, going back into the Megalithic period, of so highly developed a character as to imply very little change, and perhaps no change for the better, for many centuries preceding the conquest. The Peruvians learned to work soft metals and made some bronze, but their civilization

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<sup>7</sup>See *Inca Civilization*, by Sir Clements R. Markham.

rested to the end squarely on stone tools. In brief, after solving their fundamental problems of food, clothing, shelter, and transportation by a highly complicated coöperative organization of the whole populace for doing effectively the necessary labor of farming, road building, terrace making, llama herding, weaving, and pottery making, they felt no need for change—certainly no need for fundamental change. Their progress was along the straight lines in which their peculiar culture was set in its beginnings. They never invented the wheel, not even the potter's wheel, despite the abundance of copper and other soft metals which led to the wheel in the Old World; and to the end they had no system of writing. Their greatest achievement was in the perfection of their domestic plants which necessarily occurred by slow imperceptible degrees incident to the simple process of always planting those seeds that best suited their ends. The effects were stored up in the continuous improvement of their types of corn, cotton, and potatoes so that their highly successful agriculture did not require a sophisticated agricultural science in either its development or maintenance. They used fertilizer and irrigation, but each of these devices was immediately at hand in the environment and involved science of a simple kind implying little analysis or abstraction.

The life of the Peruvians at the time of the conquest, Markham says,<sup>8</sup> was "Utopia in operation," so well ordered was the life of the people. It was a highly socialistic type of society, depending on labor by all, directed entirely by a highly intelligent and omnipotent but socially-minded upper caste, the Incas. These rulers exacted work of themselves as well as of the masses and they probably rendered more nearly value received to the latter for the luxuries and privileges they took and enjoyed for themselves than has been rendered by any other ruling caste of history. They seemed unconsciously to realize that their welfare was bound up with that of the masses who did the coarse work and, so,

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<sup>8</sup>Markham, *op. cit.*

saw sharply to it that the latter should have an abundance of food and all that was needful to the end at least of keeping them fit as laborers. The initiative of the masses was completely destroyed by the system, if initiative ever existed. All direction and practically all thinking came from the ruling class. Every detail of life was dictated by the government, when to sow, whom to marry, what work should be done by women, children, the aged, and the defective as well as by the strong and able man. The people were required to take their holidays at the same time and to celebrate and recreate in the same way.<sup>9</sup>

The result was a human beehive. The individual worker was industrious, physically strong, obedient, and efficient, but certainly not given to thinking for himself. When a handful of ruthless and cruel but courageous and efficient individualistic Spaniards got possession of their leaders, largely by treachery, the people were rendered utterly helpless and the whole Peruvian social order fell like a house of cards. The masses became at once the cringing servile slaves of their new and wholly alien oppressors and tormentors and have remained in that state ever since. They are today one of the most abject, spineless, and altogether hopeless populations in the world.<sup>10</sup>

Another illustration of human intellect becoming "frozen" in large masses is to be found in the Mohammedan population of the present time. In this instance the cause is to a certain extent, of course, different. We have here a case of a militant religion that is not only a religion but a government and a whole way of life in every detail, spread by the sword and maintained in great vigor for centuries by violence and by bigoted unchanging dogmatic propaganda. Under the effects of contacts with the Greek world it became progressive in certain arts, fine and industrial, and fostered science to a degree, but bigotry and hatred of "infidels" characterized it even in its capitals at Cordova, Damascus, and Bagdad while at its best. For a concrete

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<sup>9</sup>Means, P. A., *Ancient Civilization of the Andes*.

<sup>10</sup>Ross, A. E., *South of Panama*.

picture of the best and the worst of Saracen civilization in the East, where it was built out of the combined elements of Mohammedan fanaticism and Greek art, read *Hassan* by James Elroy Flecker. This is poetry and fiction but gives, nonetheless, an accurate picture of possibilities flowing from the rare and conflicting combination of high intelligence, fine sense of beauty and intensive religious fanaticism. The most extreme and revolting cruelty, by common consent man's vilest trait, was seemingly an inevitable outcome from the incongruous combination of the besotted bigotry of Mohammedanism imposed on the beauty-loving and creative free spirit of the Greeks. When the Saracenic culture centers fell into the hands of barbarous Turks and fanatical Christian Spaniards, the old intolerant militant spirit, reinforced by the natural ferocity of the desert Arab tribes, reasserted itself and sent out repeated conquering waves of armed fanatics over Africa and other parts. At present the Mohammedan population of the Old World is so hopelessly immune to modern thought that they are, for the present, entirely useless for purposes of world progress when they are not, indeed, a nuisance or a menace.

The situation can be no better expressed than in a letter printed by Layard, from a Mohammedan ruler in Mesopotamia to an inquiry for information from a Westerner who was on friendly terms with this official of the province. This is quoted by W. I. Thomas, *Source Book for Social Origins*, page 170, and reads as follows:

My illustrious Friend and Joy of my Liver:

The thing which you ask of me is both difficult and useless. Although I have passed all the days of my life in this place, I have neither counted the houses nor inquired into the number of inhabitants; and as to what one person loads on his mules and the other stows away in the bottom of his ship, that is no business of mine. But above all, as to the previous history of this city, God only knows the amount of dirt and confusion that the infidels may have eaten before the coming of the sword of Islam. It were unprofitable for us to inquire into it. Listen, O My Son! There is no wisdom equal to the belief in God! He created the world, and shall we liken ourselves unto Him in seeking to penetrate into the mysteries of His creation? Shall we say, Behold this star spinneth about that star, and this other star with a tail goeth and

cometh in so many years? Let it go. He from whose hand it came will guide and direct it. . . . Thou art learned in the things that I care not for, and as for what thou hast seen, I spit upon it. Will much knowledge create thee a double belly, or wilt thou seek paradise with thine eyes?

The meek in spirit,  
Imaum Ali Zadi.

A mind so conditioned as this is utterly unteachable except along the narrow, straight lines laid down by the dogmatic beliefs so thoroughly drilled into it. The Koran coming from heaven and intended by God as a guide to human footsteps necessarily contained all requisite knowledge. New knowledge is superfluous if it harmonizes with this revelation, and vicious and wicked if in conflict with it.

Present Turkey is breaking away from this rigid static attitude, but in proportion as it succeeds in doing this it ceases to be Mohammedan. It required the disastrous convulsion of the Great War to shake it loose from the Mohammedan tradition and set it moving with the Western World.

Possibly the most serious aspect of arrested development incident to fixation of mental attitudes lies in the fact that it takes something approximating cataclysm to loosen a people from such a situation and set them moving again. This is partly due to inherent conservatism in the mass mind; partly to the fact that the elements who profit most by any situation and who, always and necessarily having power, come to regard their privileges as rights and resist all efforts at making changes. That is, they possess a vested interest which they regard as a vested right in the situation and fight to keep the situation "as is." This fact makes gradual and even reformation or evolution difficult and piles up strain which is finally relieved by revolution or other catastrophe.

The general rule may be laid down that the mind is crippled and rendered unteachable, therefore unprogressive, in proportion to the intensity of its faith in a fixed or set way of life. Saving faiths, whether religious, social, economic, artistic or whatnot, are brakes upon the wheels of progress.

One may ask how Europe and Christianity have escaped the fate that has befallen the Mohammedan world, and the answer comes again from the long view and the wide view of culture history.

From Tertiary times environmental conditions in Europe have been not only highly diversified but very unstable, contrasted with the geographical conditions under which the peoples we have been discussing have lived.

The shifting conditions of the Ice Age made it impossible for man to settle down to a fixed way of living, not only in the immediate neighborhood of the ice sheet but for hundreds of miles to the south of it. In early European times, those who did not seek shelter, make fire, or adopt skin clothing were wiped out by the next winter. The whole situation in Europe during the Ice Age put emphasis on intelligence and adaptation to shifting extremes of climate. The situation there has not changed under modern climatic conditions so as to admit of a fixed stabilized way of life. It is still necessary for man in Europe to look ahead, and practice prevision and provision in order to survive. The geographic conditions are so varied over the whole small continent as to force different cultural practices in all of the many distinctive geographical environments. These conditions have long been accentuated by racial migrations bringing in new cultures and dividing the population into many distinctive racial and linguistic groups. Nowhere else in the world is there such great diversity of culture elements in so small a compass. The results have been perpetual wars, economic rivalry, and continual stir, movement, and change. No way of life could possibly be devised that would be satisfactory to all Europeans for a very long period.

The nearest approach to cultural uniformity in Europe was during the Middle Ages under the domination of chivalry and the Mediaeval church. This period was also the period of least change, least progress. Europe during that time approximated China and the present Mohammedan world in its condition of arrested development. Fortunately, gunpowder destroyed chivalry; and printing, the



mariner's compass, the telescope, the Copernican discovery of the nature of the solar system, the circumnavigation of the earth, and the revival of ancient learning broke down the power of the church by discrediting many of the dogmatic teachings of the Middle Ages and set men's minds free to seek and teach new truth. The Galileo episode illustrates this fact.

Such mischievous conservatism as European society exhibits at the present time is derived from the same causes, operating in a smaller way, that have cursed China, India and Mohammedan lands; *i.e.*, the desire of men to find, or rather to insist that they possess, the ultimate and one way of life and to try to prevent change. Archaeology, supplemented by ethnology, teaches and reinforces the lesson with many an illustration, that there is no such thing as a one and final way of life, that all institutions, arts, and customs are relative and must change. A reading of any dependable account of early customs and morals will bring this fact home to any teachable person.<sup>11</sup>

The glory of Christianity among the world religions is that, in spite of the effort of church leaders to prevent change, *it has changed*, and, in the long run, permitted change. In its earlier stages it tolerated human slavery, polygamy, and prostitution and accepted the idea of demoniac possession as an explanation of dementia, coma, and epilepsy. All of those practices or beliefs have been completely given up by those elements of the Christian world who may reasonably lay claim to being educated, even in a moderate degree. Other changes are in the air or far advanced. Enlightened Christian leaders no longer fight acceptance of the findings, even the latest findings, of science. They realize that the truths and values of Christianity, as a way of life, no more depend on early long-held views of the origin of this religion than does the validity of theories

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<sup>11</sup>Frazer, Sir James G., *op.cit.*; also Hobhouse, L. T., *Morals in Evolution*; Westermarck, E., *The Origin and Development of Moral Ideas*; Clodd, Edwin, *The Childhood of the World*; Conybeare, C. P., *Myth, Magic and Morals*.

of government or of scientific discovery depend upon the history of these theories and discoveries.

The writer once had an interesting experience with a missionary and field worker of one of the prominent American Protestant churches. A mutual friend had urged that this gentleman be invited to address an advanced class in anthropology and had given the assurance that there would be no discrepancy or disharmony in having this speaker address a class engaged in a scientific investigation of human origins, including religious origins, so broadminded, scholarly, and liberal would the speaker prove to be. The invitation was extended and the gentleman appeared before the class. When asked what his theme would be, he insisted that the instructor give him a theme, saying that he could speak on any theme that had to do with the origin or nature of religion or morals. So, in introducing him, the instructor cited the above statement and suggested the theme, "The Evolution of Christianity." Never, before or since, has the instructor seen an experienced speaker so confused and embarrassed. He seemed to feel that an attempt was being made to disturb and upset him by coupling the name "Christianity" with the principle of "evolution." After a few attempts at pleasantries the speaker fell into one of his conventional talks and did not refer to the assigned topic again. How anyone who claimed to have a knowledge of comparative religion could have been unaware of the elements of Christianity that have come from older religions and of the changes that have occurred in historical Christianity is beyond the conception of the instructor. Any competent anthropologist could have delivered an eloquent address upon the theme assigned using only positively known and generally accepted facts, and that without shocking or disturbing any well-informed person, however orthodox his Christianity.

When religion can be regarded as an institution growing out of human nature and serving human needs like all other institutions, and as being subject to change and adjustment like other institutions, it will cease to be at war with science and to be the source and cause of the bigotry, persecu-

tion, maladjustment, and general backwardness that it has so often been responsible for in the past.

Religion of the enlightened kind has no more to fear from comparative study and scientific analysis than government, the economic system, education, or any other institution. Only contradiction to established truth, superstition, and general unreason are eliminated by such study; all that is valid in a scientific age may, of course, be retained and that this residue is large and important is obvious to any student of institutional history.

## VIII

From what has gone before it must be obvious, even to those who had no previous knowledge of present-day archaeological activities, that this science now occupies an eminent position among scholarly pursuits and that its influence upon other social sciences is real and will continue to grow.

That it supplements history to excellent purpose has already been noted and discussed, and that it helps materially in drawing lessons of wisdom from the past for the guidance of the future would seem to be obvious. This is equally true, though perhaps in a less evident way, of its relations with all other social sciences.

Philosophy obviously cannot do without it and no longer makes any pretense of doing so.

The value of philosophy as a critique of civilization is proportioned to the extent to which its observations and conclusions are based upon the facts of man's origin, the facts of nature, and the facts and principles of the history of civilization. In the past philosophy has dealt rather with the opinions of individuals about the nature of man and of civilization rather than with the concrete, scientifically established facts. The views of Plato and Aristotle as to how life ought to be lived, formulated as they were at a time when so little was known of the cosmos and of cosmic elements and forces, when nothing was known of the long and painful evolution of the social order and of the arts and sciences (an evolution involving the most important factors in the mental life of the race), when chattel slavery was so universally practiced and accepted that it had not occurred even to the philosophers to question it, when women were deemed fit only for child bearing and to serve the lordly creature man as a servant or an instrument of his pleasure, would seem to a scientist and a rationalist to deserve only a brief summary and analysis as a part of the history of man's thought. They can hardly have any very profound value in themselves for men of the present day. The same

observation applies to the views of many later philosophers, especially when their views were formulated before a knowledge of astronomy, of gravitation, of evolution, of the geological ages, and of the culture history of man had created a proper sense of time and change upon which to base a sense of values.

The most practical and valuable conclusions of philosophy must, it would seem, be based squarely upon the findings of archaeology, ethnology, and the physical history of man, as well as of history, psychology, the other social sciences, and all of the natural sciences.

Sociology, when it gets away from the sentimentality incident to its origin in meliorative administrations to a sick society, and becomes more nearly scientific, is very largely merely applied anthropology. Its reputable authorities welcome all honest anthropological efforts to discover man's past. They sometimes find that the necessity of knowing man's past is so exacting that they must give a large amount of attention to this need before they can make any logical attempt to discover the laws of modern society. William Sumner set out some years ago to write a comprehensive work on sociology, found that he knew but little of the history of society and that he must remedy this lack. The result was that he spent the remainder of his life in this field and wrote *Folkways*, an elaborate, valuable work on the primitive ways of man, but never succeeded in getting to his original intent at all. His pupil and disciple, Keller, undertook to finish Sumner's task and produced a book, *Man's Rough Road*, more systematic and theoretical than *Folkways*, but devoted almost as completely to the ways of primitive man as was Sumner's book. This story, paralleled by that of W. I. Thomas and various others who have called themselves sociologists, but who have been compelled to spend much time upon problems of social genetics, indicates that any serious effort to be scientific, in sociological fields, must begin with and build upon the history of society scientifically worked out from the earliest knowable beginnings.

Sociology, so far, has not given adequate attention to the fixation of mental processes by social practices, to the resulting conservatism, and to the biological inheritance of intellect, energy, and other fundamentals of character. Sociologists, in general, have ignored the biological function of intelligence as made obvious in the palaeontology of man. This complaint applies nearly as fittingly to the other social sciences, but sociology is touched with a little more of the sentimentality of equalitarianism, incident to its origin in the administration of charity and in the theological teachings of the churches than are the others.

Economists have often been and, unfortunately, often still are, much at fault in neglecting the genesis of the particular psychology that goes with their subject matter. The question is often asked and rarely answered, why a man who has acquired a million dollars wants five million. At the present time a fortune of a net million dollars will enable its owner to enjoy all the privileges that can legitimately be had by an individual in a lifetime under our social order. It will give him and his family all the comforts that can be crowded into a household management, permit them to travel, to have music and art, to possess books, to entertain friends, and to indulge sports in all the forms and to every extent that is wholesome and good for them and that will be, at the same time, consistent with the interests of other members of society. Since all society is necessarily coöperative and is maintained in the interests of all of its members, no one can logically wish to have possessions and privileges that are a menace to other members of the social organization, or that constitute a denial of the rights of others.

Aside from the possible wrong of withholding property from others who have less than enough, exorbitant fortunes, when inherited, often, perhaps usually, ruin the character, sap the energy, and distort the intelligence of the supposed beneficiaries. Yet even the most intelligent men who succeed in acquiring a competent fortune generally become obsessed with the desire to increase it indefinitely, double

it again and again. The explanation lies partly, perhaps, in an inherited impulse to thrift which is built up even in lower animals, such as squirrels, beavers, and crows, where there is a climate or a condition producing an alternation of scarcity and plenty, partly in the history of possession.

A study of primitive society indicates, as implied above, two fairly distinct sources for the desire in man for possessions which other men might need or covet.

In the semi-tropical and tropical lands early men do not so much pile up and hold the necessities of life, as they covet and seek to acquire and hold those things that make for a gorgeous personal appearance. In lands of mild climate and abundance of foods provided by nature, thrift is superfluous until pressure of numbers forces it, which may be the case late in culture history. Sex appetites are apt to be more aggressively active in warm as compared with colder climes, and this fact may account for the tendency in warm climates to build up property in the form of female slaves. Where it is practicable to do so, men decorate their persons with shell gorgets and beads, with feathers, tattooing, and paints. They are much concerned about appearances, and when conquests and military arts bring slavery to great masses and exorbitant powers to kings and priests, those who hold and exercise authority use their powers not only to get themselves up "in purple and fine linen," but to build vast, richly adorned palaces, rock-hewn temples, underground palace-tombs, pyramids, and hanging gardens. Such structures rarely, if ever, have value in promoting the welfare and happiness of all the men involved in their making, and in their extreme development are monuments both to a vanity that may amount to insanity and to a cruelty and injustice that constitute an indictment of all who project or direct their production. Construction of such works, often regarded even by modern historians as a source of great glory and as evidence of a high civilization, is only a little more discreditable to the rulers who inflict the labor involved upon the masses whom they rule than to the servile masses who tolerate the infliction.

In northern climes, on the other hand, acquisitiveness comes of the perpetual necessity of providing food, clothing, and shelter in summer against the coming of winter; or in like activities in a period of moisture against the coming of drought, in semi-arid regions. Here, in its beginnings at least, it is identical with a rational and intelligent industry and thrift. In proportion as whole peoples possess it, it becomes the basis of universal accumulation and later of general social well-being and power. The wealth-producing and wealth-possessing nations at present are the progressive and the powerful nations. Possession of wealth, up to a certain point, is a source of safety and comfort to the individual. Beyond a point of diminishing returns, it becomes merely a power over other men and may not only build up a vanity as bumptious and stupid as that of Cheops, but may throw the whole social order out of gear. An erratic and irrational distribution of wealth is the explanation of the present world crisis in which, with a superabundance of everything, men and women by the millions are suffering from lack of absolute necessities.

One can see the primitive motives operating among us of the United States. Our southern negroes, when they have money, are apt to deck themselves out like rich whites and strut about until their money is gone and, so, throw away the opportunity to get a competence, or neglect the means by which it may be had. The Scotch, Danes, Swedes, Germans, and their descendants in the United States are usually well-to-do. Whites from the old semi-tropical lands may be avid for wealth and accumulate it successfully, but once they possess it, exhibit the old psychology of seeking prestige by display. Whites from Europe, particularly North Europe, are prone when wealthy to assert a snobbery that takes on the form of expensive private clubs, confined to those of high incomes, or to buy yachts and live in exclusive hotels where their "competitive spending" is effective as display only among the high-income class.

That the influence of the individualism which necessarily goes with a free-labor and a thrift-inspired, competitive eco-



conomic system is promotive of improvement in methods of producing needed goods and is stimulative of general progress in early civilization is obvious. It not only stimulates to industry, since the individual is allowed to retain the proceeds of his labor, but it also leads to invention and science. In the vague socialism or semi-communism that prevails in the control and use of foods among most primitive peoples, especially in the tropics, much of the incentive to labor, thrift, and invention is lacking. Those who acquire are "eaten up" by other members of the tribe, to use an expressive negro phrase, and serious industry can be established only by the pressure of conquest or of hunger incident to density of population. Probably the general backwardness of the American Indian was largely attributable to the abundance of food to be had by hunting, which, as a way of life, brought a form of nomadism and warfare that kept numbers down to a hunting subsistence level, in a vicious, self-perpetuating circle.

There are, for instance, positive evidences in the large kitchen middens of Central Texas to the effect that settled agricultural tribes moved westward from the forested areas, where agriculture afforded the easiest and surest means of subsistence, to the prairies, low hills and plains and that they drifted backward in their new habitat into a nomadic hunter way of life because of the ease with which food could be had by hunting in the latter region.

One serious error that vitiates much prevalent economic thinking, as in sociology, is the assumption of identity in the natural aptitudes and possibilities of laborers. Laborers who come from different races, peoples and classes of modern society differ, as everyone knows who has had experience with unskilled labor, in intelligence, industry, physical strength, and willingness to cooperate. These differences may be emphasized by race, sex, state of health, conditions of antecedent experience, or by the enervating effects of climate. In any case they are apt to appear and be more clearly understood in the light of the clear cut and simple economic interests and activities of early culture periods as revealed by the spade of the archaeologist or in the

comparative studies of present ethnology. Even in modern Europe the different sense of values in such lands as Spain and Denmark are more intelligible to the historian or economist who has frequently borrowed the archaeologist's telescope for a searching gaze backward through the long corridors of time.

Psychology must always depend upon anthropology, history, and sociology for accounts of man's behavior in society, because society cannot be brought into the laboratory of experimental science. The "fossils of the mind" are positive and invaluable evidence of the inherent nature of mind, whether they be the gruesome evidences of human sacrifices found in ancient burials or the folk beliefs and superstitions of early peoples brought forward by tradition into modern civilized society.

Any attempt at organized social psychology must be built upon a knowledge of man's whole past social life. "Social psychology . . . is a social product. Without others we should never be ourselves. As Professor George W. Mead expresses it: 'Whatever may be the metaphysical impossibilities or possibilities of solipsism, psychologically it is non-existent. There must be other selves if one's own is to exist.'"<sup>1</sup>

In the realm of education, anthropology should have its largest practical application. Logical education is not and cannot be anything other than a process of giving the youth of a people an understanding of the civilization in which they must live and of developing in them skill in using and applying certain elements of that civilization in the daily life of a civilized community. A right or real understanding of a civilization consists in a fine sense of values among the possible ways of life that may be pursued under that civilization and such a sense of values can be had only by use of the historical and comparative method. The best and most illuminating comparisons are those involved in tracing the developments of the elements of civilizations from their remotest beginnings into their later forms; that is to say,

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<sup>1</sup>Robinson, *op. cit.*, p. 93.

those comparisons involved in studying change or evolution in civilization. Since a knowledge of social origins and of the early history of social life is essential to a proper sense of function and of value in studying civilization, it would seem to be little short of effrontery for one to set up as a teacher without knowing, with accuracy and in considerable detail, the history and so the meaning of the various elements of that civilization which he is seeking to impart. This knowledge of the history and fundamental meaning of civilization is all the more necessary because of the contradictions and confusions so prevalent in the current social order and in the counsels of its would-be expositors and directors.

Consistent and logical education must necessarily be forward looking, but all foresight in human affairs is based necessarily on a knowledge of the past.

Then, too, professional teaching should be directed by an adequate scientific knowledge of the effects that specific ideas, constantly poured through a human mind, finally have upon that mind. In no other field is it possible to learn so much and so much that is positive and final, as to the fixation of mental attitudes incident to repetition and to monotonously persistent conditions as in the fields of primitive mentality and primitive sociology. Every educator ought to know not only that it is possible to destroy a man's power to learn by the crystallization of mental processes and the setting of attitudes, but also that irrational ideas, even those that are highly dysgenic and destructive of the peoples who hold them, such as human sacrifices, may possess completely whole peoples and that these peoples may go to their doom in the clutches of these ideas. The possibility of paralyzing or "freezing" the intellect over vast areas by the whole-hearted, uncritical acceptance of sets of beliefs and practices that would not bear the most casual analysis has already been noted.

Specialization in education, as practiced in the present Western World and as found in our present trades and professions as well, has a pronounced tendency to produce the

same effect upon human mentality as the long established "prelogical" concepts and practices of primitive man. Extreme specialization, unless corrected or countered by interests or activities in other fields, has a direct cramping and distorting effect upon the mind and its operations which upsets all balanced sense of values and cripples the ability to learn except in connection with the specialty. Many specialists appear to intelligent observers outside the field of specialization to be so heavily conditioned by their narrow interests as to be rendered queer, even to the extent of insanity. It should be one of the chief ends and aims of education to prevent such distortion and fixation of mental processes as flows from intensive specialization. It is only by vigorously countering such tendencies that man's teachability, his greatest single character as compared with the lower animals, can be kept from being destroyed or seriously crippled by the high degree of specialization necessary to our trades and professions at the present time.

In brief, if man is to take his organized social life into his hands and direct it consciously to the end of establishing a just and reasonable social order, instead of drifting and allowing those who have power incident to the fortunes of a laissez-faire lone-wolf or wolf-pack social philosophy to use and abuse this power exactly as they please, he must know thoroughly his own past and take from it all the lessons that can be learned. There is no one of the so-called social sciences that can ignore even the most distant part of that past. Practically all the fundamental experiments at adjusting man's life to the conditions of the earth have been made, many of them at monstrous expense. None of them has ever been sufficiently successful to justify any great enthusiasm on the part of its protagonists, but all have had in them some features of value. A sharp analytical scrutiny of the past ways of man does not lead either to a cynical contempt for everything man has done, nor to a fanatical worship of any one element of his culture or of any present or past system. It leads necessarily to a sane and safe sense of values that frees the young citizen from the dan-

gers of a destructive radicalism quite as surely as it makes impossible the cock-sure conservatism of the Chinese or of American superpatriots. No system of economics, family life, government, or religion that possesses superior values has anything to lose by a program of analysis and comparison. Where inconsistency, weakness, or nonsense are found and rejected, what is left is necessarily the better for the elimination. The contradiction in present European civilization of preaching, on the one hand, the reasonableness and practicability of the principles of the brotherhood of man, of treating another as you would like to be treated, of gentleness and kindness in general, and of practicing, on the other hand, an economic philosophy of getting all you can, charging all the traffic will bear, of profit-seeking to the extent of rigging markets, fleecing the uninformed public with worthless watered stocks and all the familiar practices of our cut-throat economic system, constitutes, in a world of so much education, science and so-called wisdom, a social anomaly hard to understand. Often, very often in fact, the extreme forms of these contradictions are tenaciously held by the same individual. Of course, such a situation involves an inconsistency so highly conducive to confusion that it cannot possibly last. It must be changed in a seemly and orderly way or it will blow up of its own contradictions. To illustrate this possibility, it is reported that a friend of President Roosevelt, in commenting on the possibilities of failure of the N.R.A. program, said to the President: "If your program fails it is interesting to speculate as to what the effects will be on the character of the next President." The reported answer was: "If I fail there will be no next President," meaning perhaps that he would be succeeded by a Stalin or a Mussolini.

A program of careful, sane building on and with the sound practices of the past leads to even, relatively painless social evolution, while a planless, undirected policy leads inevitably in the end to revolution. Certainly this is true among the liberty-loving individualistic European peoples

who will not tolerate indefinitely serious cruelty and injustice.

Aside from the utilitarian values of archaeology enumerated, it has a liberalizing and humanizing effect on its students and votaries quite equal to the best of such effects in other fields. Ethnology has been defined, somewhat poetically, as the science of race appreciation, implying that a comparative study of races has a tendency to meliorate race prejudices. This assumption is true in a general way, but there are a few rare situations where there is precious little to appreciate, as for instance, among certain African pigmy tribes or the Aetas of the Philippines. But bigotry and a supercilious sense of superiority are apt to disappear upon a close examination of the ways of other men, living or extinct. One comes to appreciate their arts and ideas when one understands the circumstances and difficulties under which they live.

Moreover, there is a fascination and a romance about archaeology that is hardly equaled in any other field of learning. Much of this is hinted at in the recitals that have gone before, but much of it is hard to describe. In digging up the kitchen middens of Central Texas, for instance, one day one may come upon a metate and mano, made respectively of well-chosen sandstone and quartz, that were at one time the apple of some primitive woman's eye and that have been carefully cached in the refuse heap in some emergency from which the owner never returned to take them up. Again one comes upon a skeleton of a man accompanied by the skeletons of a wife and child and one or more other attendants—all obviously buried at one time and providing mute but positive evidence of a planned family excursion to the land of the dead. Many hours of tedious labor may be spent without finding much of serious significance for the amateur, but the eye of the trained archaeologist is constantly arrested by objects that challenge his knowledge of the ways of early man, or, if the objects be totally new to him, his sheer intelligence. One is compelled to face again the problems of the savage with his limited arts and sciences

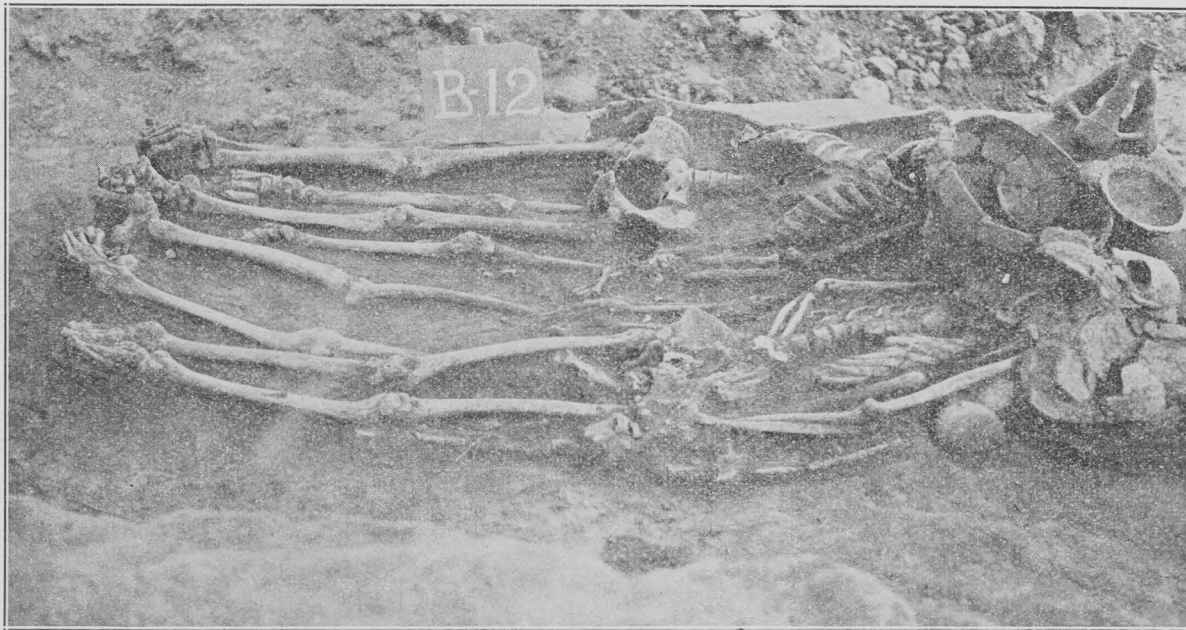


PLATE VII

A multiple burial at the Sanders place on the Red River in Lamar County, Texas. This is a family scene from the land of the dead. The skeleton on top, far side, is of a large man. Under him is the skeleton of a smaller man whose head had been laid open with an axe. In the foreground is the skeleton of a woman, beside her that of a child, beneath her the skeleton of another woman or a small man. All had been buried at the same time and in their best toggery. They were sent away on the long journey to the land of the dead with abundance of food and drink placed about the bodies in choicest specimens of pottery. The tripartite bottle at the head of the tall man is of blood-red color and notable for its symmetry and beauty. The three parts are symbolic of some religious idea, what idea we do not know. Caddo pottery is done in fours, i.e., four is much in evidence in handles, corners and designs, but all the pottery at this rich, extensive site, the Sanders place, is done in threes. The inhabitants of this place who killed people to form an escort for a prominent person to the land of the dead and who shaped and decorated the pottery "in threes" were not Caddoes though they had some Caddo practises. They may have been, almost surely were, a group of Natchez from the Mississippi who had these practices and who had a populous settlement here for a good many years. Notice the shell beads about the wrists and waists. This burial was taken up and brought into the laboratory of The University of Texas complete and intact.

and to solve these problems anew on the basis of savage culture in order to understand the meaning of the artifacts and objects encountered. We do not yet know, for instance, the meaning of the numerous, often beautiful and painfully wrought, "boat" stones, "banner" stones and "plummet" stones of the Mound Builder Indians. These names signify only that these objects resemble in form objects of the white man's making. Occasionally the digger comes upon objects so inherently beautiful as to have real value in our commercial terms; for example, the finer types of pottery, beautifully carved shell gorgets, or finely wrought flint blades, but such objects have so much greater scientific than commercial value that it is shameful to think of them in commercial terms. Possibilities of gathering objects of commercial value multiply, of course, as one goes into the centers of higher early culture like Mexico, Egypt, or Mesopotamia, but everywhere, even in Texas, the commercial motive leads to wanton destruction of materials of scientific value. The collecting mania, if not guided by a scientific interest, can be quite as mischievous as the commercial interest. Either or both may possess the whole population of a countryside and result in the complete obliteration of the archaeological materials of wide areas. This outrageous vandalism is unfortunately incident to the natural and reasonable interest of all men in the remote past of the human race.

The mischievous effects of amateur and commercial pot and arrowhead hunting may be observed where this hunting involves digging into kitchen middens, burials, and cave floors. These places often contain deposits laid down in definite historical sequence which, examined by scientifically trained persons, may yield the most positive evidence of culture practices and culture evolution. Such places are often turned topsy-turvy by ignorant seekers after certain objects, and the culture history is thus completely wiped out. The history of the objects incident to position when they are got out by amateurs is not preserved by measurements, notes, and photographs, and so their real



value for science is nearly destroyed. Moreover, the diggers ignore broken pottery, bones, and artifacts whose meaning they do not understand, and often get only a fraction of the total archaeological content out of such places.

Such practices constitute the most outrageous vandalism, as has been beautifully illustrated in a figure of speech by Dr. Fay-Cooper Cole, of the University of Chicago. Dr. Cole compares the archaeological record lying in human deposits to an only copy of a beautiful, highly illustrated manuscript of ancient times that might be bound to a desk in a village hall, accessible to the whole countryside, alike to the enlightened and historically informed, and to the destructive, vandalistic rabble. Let us suppose, to complete the picture, that there is no guardian or keeper set over this book, and no law against tearing or cutting out pages of the manuscript or pictures, and that many of the community are doing this and carrying away the scraps to parts unknown or to their dens to decorate the walls. This situation would parallel, with great exactness of similitude, the present situation in most of the United States with regard to the precious archaeological records.

The appeal of archaeology to the general public is indicated in the eagerness of newspapermen to have accounts of the doings and to write up findings of archaeologists for the general press. Elaborate detailed accounts of the more important finds appear in every type of periodical, while journals that serve scientists as news organs of research, such as *Science News Letter*, probably give more space to archaeology than to any other one line of scientific activity.

The extensive and very ready support given to archaeology by enlightened wealthy private patrons of arts and sciences and by institutions that foster these interests and the learning that goes with them, such as universities and museums, should be convincing evidence of the fundamental value of this science to those who may not have sufficient knowledge of the field to judge it for themselves. Most of the world's great research universities have their museums in which archaeology is one of the largest single lines of

activity and exhibition. The same observation applies to the great museums of natural history, not associated with universities, such as the Field at Chicago and the American Museum of Natural History at New York. Probably the most heavily endowed institution devoted to a single purpose in America, or possibly in the world, is the Oriental Institute of the University of Chicago. This, as the name implies, is devoted to the archaeology of the Eastern Mediterranean. Its endowment, according to journalistic accounts, is \$20,000,000; in addition, it possesses an extensive and beautiful building on the campus of the University of Chicago. All this speaks eloquently for the learning and professional skill of the head of the Institute, Dr. James Henry Breasted, and, at the same time, illustrates the value of archaeological research in the eyes of the wisely-advised, well-informed Rockefeller family who made the endowment. Great sums have been spent in the Oriental field also by such museums as the Field and the Museum of the University of Pennsylvania, in this country, and by the British, the Louvre, and many others in Europe. The archaeological collections in the great museums of Italy, Germany, France, and Great Britain constitute some of the most precious treasures of those lands and are cherished with great national pride.

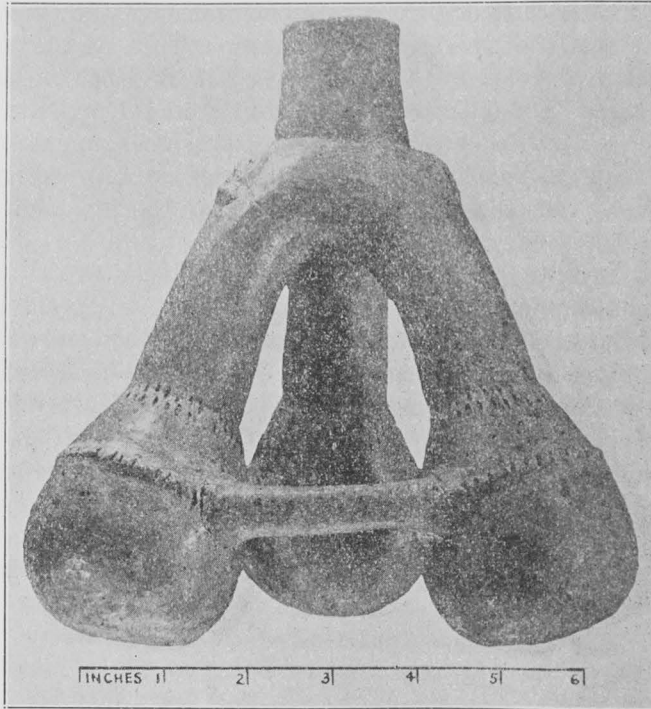


PLATE VIII

A tripartite bottle from the multiple burial shown in Pl. VII. It had been placed at the head of the large man on top at the back of the picture who must have been a powerful priest or chief. As stated in the legend of Pl. VII, *three* was so emphasized in the art of the people who had lived at this site as to make it certain that it was to them a sacred number. What its origin is as a sacred number we do not know, but in the Old World it originates in the natural family, as illustrated in the instance of Osiris, Isis and Horus. The specimen is in blood red color produced by dipping the vessel in a slip of pigment from ground up hematite before firing. A human face in low relief on each shoulder has been noticed on fragments of other such specimens. It was probably an altar piece, as it could hardly have served any secular use among a people who had no knowledge of cocktails.

## IX

In the relations of archaeology to the museum as an institution lies one of its most important aspects as a learned pursuit or profession. Its part in building up museums and making them interesting and valuable to the general public is a corollary to its great primary function of revealing man's distant past. It gathers rare objects out of man's past and, after using them for reconstructing and interpreting that past, puts them, well placarded and explained, in showcases, where they are preserved as they could not be anywhere else, and where, at the same time, they may be seen and understood by all men who have a reasonable and natural curiosity about "olden days" and "other ways."

The importance of museums in enlightening and liberalizing the minds of civilized peoples and in providing them with clean and wholesome entertainment can hardly be over-estimated.

The writer was at one time a student in the University of Paris and often spent his Sunday afternoons in the Louvre, or in some other of the numerous museums in that center of European civilization. He was often intent on some technical professional interest, but he could not fail to note the presence in the museums at such times of large numbers of the relatively uneducated masses present because free at such times from their daily routine labors and duties. Day laborers, small shop-keepers, and tradesmen of every class and variety were represented. The men came in their coarse working clothes and brought with them their wives and children, the latter clad in their simple best. He was interested in the discussions in these groups, and was often surprised at the acumen and good taste exhibited in comments on not only the archaeological exhibits of Egyptian, Mesopotamian, ancient Roman, and early Gallic materials, but also on the works of the great masters in painting and sculpture in the fine art galleries. The influence of her numerous museums cannot fail to aid materially in building up and maintaining in the public mind of Paris

an interest in man's past that makes for enlightenment and a sense of value in art. The maintenance of this influence is no small part of the explanation of the preëminence of Paris among the world's great cities in culture, refinement, and beauty.

The incorporation of archaeological activities and materials in museums of natural history, a widespread practice, is done under the assumption that man and his works are a part of nature and are to be classified and treated as such when scientific principles and methods are to be applied to them. The size and importance of such collections are increasing rapidly at the present time throughout the civilized world.

They not only serve the purposes of general exhibition to enlighten and entertain the public, but are also ideally adapted to aid in the teaching of technical courses in the history of civilization to students of the social sciences in universities, colleges, and high schools. The slow and painfully long-drawn-out development of all of the human arts is made concretely and effectively manifest to the student in well-chosen examples ranging from the simplest beginnings to the most refined products of the complicated present technical activities. Such exhibits, well chosen and scientifically arranged, constitute a moving-picture story whose lessons even a dull intellect cannot wholly escape. The history of weaving, of pottery, of tools and weapons, of the decorative arts, of clothing, of writing can be made more definite and vivid in such exhibitions than in many volumes of skillful and eloquent writing. One who has seen the exhibition of weapons at Oxford, gathered by General Pitt-Rivers and finally given to that University to illustrate the history of the art of fighting, can never forget the general story or fail to see and remember the various military inventions that gave dominance to their possessors and changed the nature of the social order that followed.

As a result of this possibility of effective teaching through the concrete exhibits of museums, the tendency now, wherever new museums are being set up in lands where science prevails and the best educational principles are

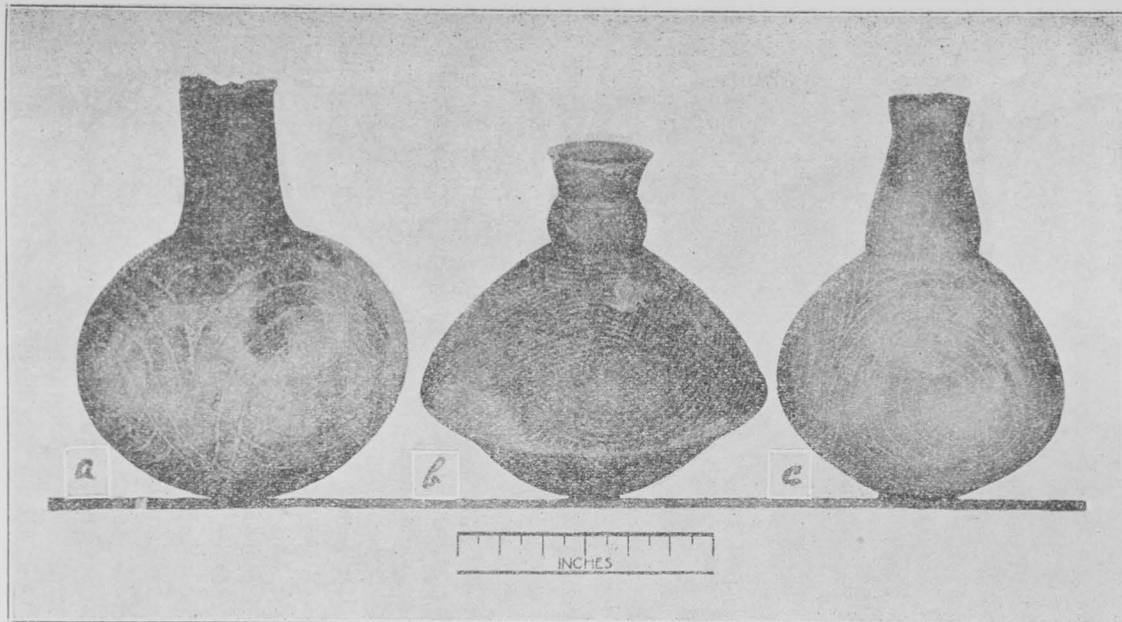


PLATE IX

A group of handsome clay water bottles from the Caddo country. They are round bottomed and when full were pressed down into the sand to keep them upright. All were found in burials and had been placed by the dead filled with water for the journey to the land of the dead. Specimen *b*, from Harrison County, is probably the finest specimen of a bottle in the collections of The University of Texas of which there are several thousand. The form is perfectly symmetrical, as if turned on a wheel, a device unknown to the Indians. The upper portion of the body is decorated in an intricate scroll done with some comb-like instrument on a soft slip over the unfired vessel. It is done in quadrants and so evenly and exactly as to imply careful planning and laying out before the execution of the design was begun. The intricacy, symmetry and beauty of the vessel and of the design argue for a long history of the art of pottery making among this beauty-loving people. The necks of *b* and *c* are characteristically Caddoan.

known and practiced, is to associate them directly with institutions of learning. The alliance is not only natural and reasonable because of the teaching possibilities mentioned above, but proves also to be economical and effective in the administration of museums themselves as institutions of learning. Academic standards of scholarship can be set up and maintained by the utilization of faculty members on the museum staff from lines of the same activities in the university, as in, for example, geology, zoology, botany, and anthropology. This alliance of university and museum need not interfere with public exhibition, though it must be acknowledged it sometimes does, due to the concentration of university authorities upon the interests of their students in technical learning. This alliance sets up a control that will shut out self-seeking incompetent politicians from both staff and board of the museum. This last object must be accomplished or nothing worthwhile can possibly be done. The most pathetic cases of futility and failure to be found in democratic lands, not excepting the messy misgovernment of cities and states, are those of museums controlled by politicians. Such institutions are generally founded and supported by peoples out of their interest in keeping alive the history of their past, often a heroic past, and are then turned over for administration to ignorant sentimentalists or to grafting politicians. Museums so founded and so controlled are not uncommon in America and are not unknown in other lands. Such museums gather old clothes of generals, furniture made of trees under which treaties have been made, and like objects having only a sentimental fetishistic or relic-worship value. Such collections have no importance whatever to a student of civilization, and their effects upon the minds of the untutored are promotive of unreason and are generally mischievous.

A final purpose served by archaeological collections in scientifically-administered museums is the gathering and storing, in classified and catalogued form, of materials from diggings and explorations that have no exhibition value but which, by careful comparison of site with site and region with region, furnish the detailed dependable information on

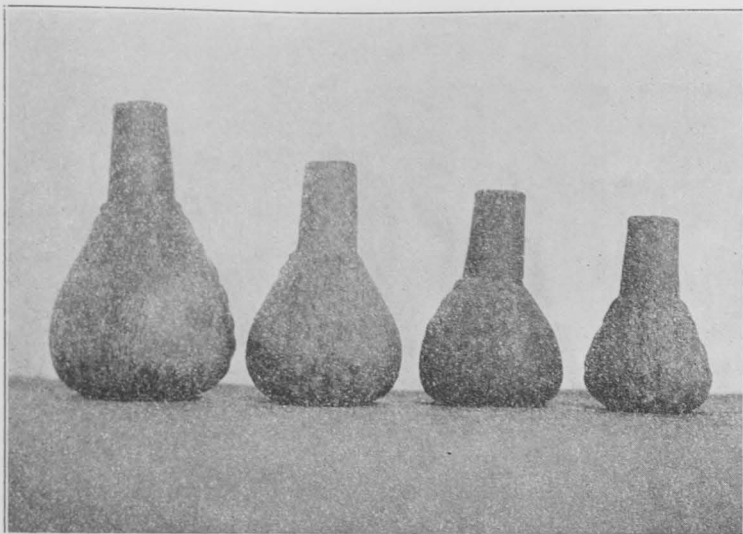


PLATE X

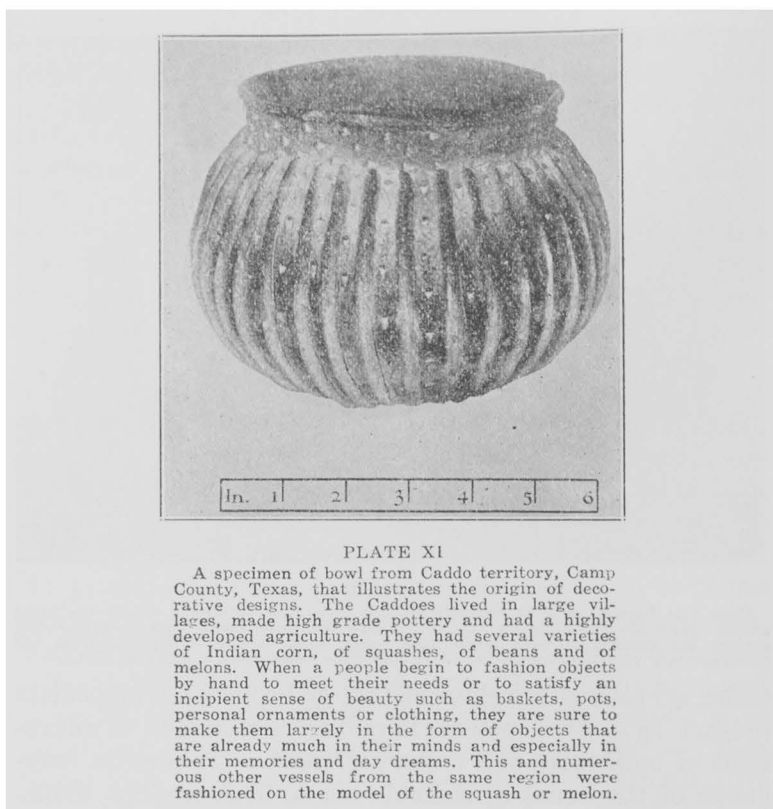
Four fine bottles done in red slip and in one style, probably all by the same person. Note the emphasis on "three." There are three nodal lines of raised dots cutting the surface of each bottle into three equal sectors. They are from the Sanders place (for location see Pl. VII) and were taken from a multiple burial.

which is based all conclusions that go back of the immediate present, as to developments in culture history and of migrations of both races and culture elements. Potsherds, fragments of the bones of animals eaten, broken stone implements and slivers from flint working, skeletal remains in all states of preservation are illustrations.

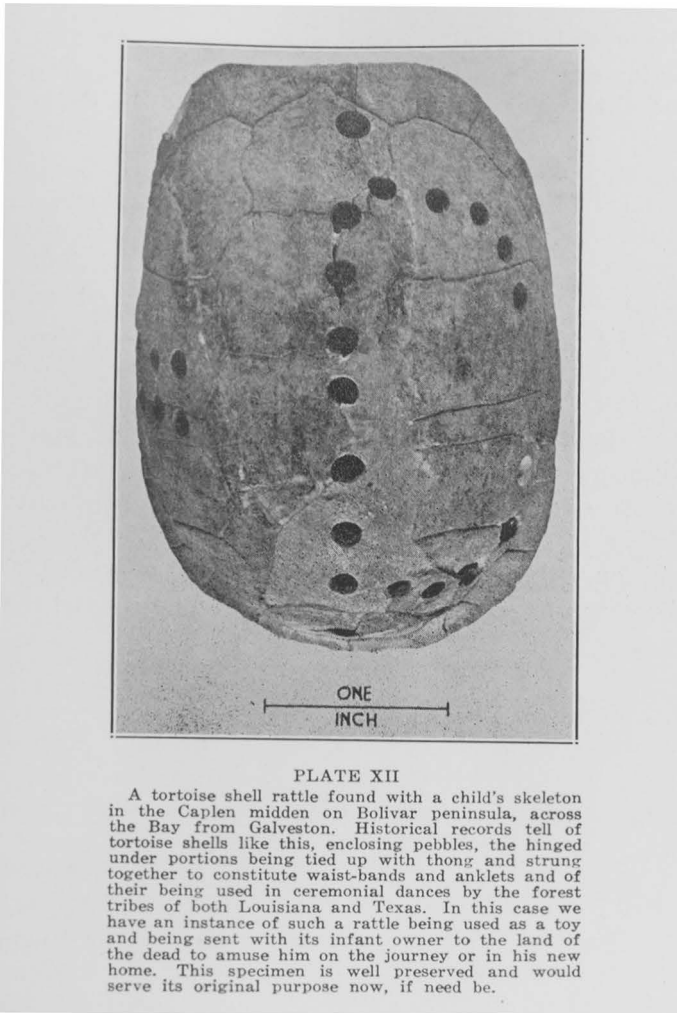
For two of the three main purposes which museums may serve, the affiliation with the university is highly advantageous, and for the third purpose, viz., the entertainment and enlightenment of the general public, it need not be disadvantageous.

The absolute necessity of a large and cosmopolitan library for such research and publication as first-class museums must engage in is met most economically and effectively by affiliating the museum with the university. The latter institution must, of course, have such a library. Moreover, libraries are expensive and cannot be built up in a short time even though ample funds be at hand.





So important is the opportunity of the large museum to serve the end of teaching that the great independent museums, such as the Field and the American Museum of Natural History, make special effort to serve the purposes of education both with the public schools and with the local universities and colleges. The latter virtually belongs to the public education system of New York City and only recently added a wing to its main building at a cost of more than a million dollars for purposes of "education." That is to say, this wing of the museum is devoted to the end of providing lecture rooms where instructors can meet classes or audiences for lectures upon their special subjects



with collections of the museum, assembled for such purposes, at their command and brought into the lecture rooms on hand carts to be used to illustrate their themes.

The Field Museum has likewise been making special effort in recent years to serve the public schools of Chicago and the colleges and universities of the city by having its collections placed at the disposal of these institutions for purposes of general and technical instruction.

The truth is that all museum authorities realize now that these institutions miss a large part of their true end when they fail to serve their public in any one of the three possibilities, namely, of public exhibition, of illustrating in teaching, and of promoting the history of civilization and of research in natural history. Museum activities are being organized more and more to the end of serving all of these purposes. This fact is illustrated in the case of the Royal Ontario Museum of Toronto, which is located on the grounds of the University of Toronto and has an interlocking directorate with that university. Its staff constitutes, to an extent, a part of the faculty of the university and is chosen under standards of the same high scholarly attainment as the faculty, even when they are not directly members of that body. The result is that this museum probably meets all the ends of research, teaching, and exhibition more effectually, for the money expended, than is the case anywhere else in America, if not in the world.

The relations of archaeology to the activities and interests of universities have been mentioned repeatedly in the preceding pages, but deserve more specific treatment. When one recalls the emphasis that is put in all universities upon history and the arts of civilizations, it at once becomes apparent that these institutions could not possibly remain aloof from a development so significant as that of the rise of archaeology. After the interest taken in archaeology by museums, and possibly more significant than the interest of museums, everything considered, is the part that universities have taken in research in archaeology, and in putting the returns of these researches into an integrated, logical account of the history of civilization and of man's life. It could not be otherwise. All of the greater universities of the world teach archaeology in some form. Most of them have organizations for doing research in this field, and many have museums in which archaeology is the most conspicuous and important department.

From what has gone before it is obvious that no group of scholars who are interested in man's nature and in his social behavior can afford to ignore a field like archaeology, from which must come nearly everything that we can ever hope to know about the life of man from the low savagery of late Tertiary to the beginnings of conscious, adequate, analytical records; a period of at least a million years. It must not be forgotten that the knowledge coming from this source is supplemented by that coming from ethnology, the study of the few remaining backward and savage peoples. Most of such peoples are found now only in tropical areas or in the remote uninviting parts of the earth, where their ways are necessarily intimately related to their peculiar and usually unfavorable environments. This fact precludes the supposition that their society and their sense of values are identical with those of early or savage man in lands like Europe. Such lands favor a humanity who have a marked tendency to look ahead, foresee, and provide, and to destroy

a lackadaisical drifting type of man such as can and does survive down into modern times in the tropics. It is true nonetheless that the study of modern savages and a comparison of their mentality with relics of primitive thought found in European folklore and in the religion and practical philosophy of the masses in European lands, such as beliefs in animism, magic, and evidences of totemism, irrational taboos, exogamous marriages, and other forms of sex control, demoniacal possession, etc., indicates so much in common in the mentality of early man everywhere as to justify the strongest emphasis on the study of ethnology as a supplement to archaeology; also that the knowledge derived from the former may be largely applied, by very reasonable implication, in the latter field.

Robinson has indicated how incomplete and unreliable the written records of history often are for a logical, dependable, and satisfactory account of Mediterranean civilization until well within the Renaissance period, only a few hundred years ago. It is this fact that has driven the European historians into archaeological research, and has had the effect of making anthropologists of some of the best of them.

The unity and continuity of the history of man cannot possibly be too much emphasized by those who want really to understand man and that condition in which he, for the most part, now lives called civilization. A geologist would consider one an impertinent ignoramus who would raise the query of why study the geology of Australia or South Africa, and who should insist that all that is needed in the way of earth history for Europeans or Americans is the knowledge of the earth that may be gained in the study of the rocks of their home lands. Earth history is no more truly a unit than is human history. Once this fact is adequately realized there is no longer any possibility of doubting the importance of the knowledge coming and to come from archaeology, whether it be the archaeology of the black man of Africa or Australia, the red man of America, the yellow man of Asia, or the white man of Europe.

In confirmation of the view expressed above, Frazer says, referring to the position and activities of anthropology at the present time:

To us moderns . . . a great panorama is unrolled by the study which aims at bringing home to us the faith and the practice, the hopes and the ideals . . . of all mankind and thus at enabling us to follow the long march, the slow and toilsome ascent of humanity from savagery to civilization. . . . In the mass of materials that is pouring in from many sides . . . from buried cities of remotest antiquity as well as from the rude savages of the desert and the jungle . . . we of today must recognize a new province of knowledge which will task the energies of generations of students to master. . . . The comparative study of the beliefs and institutions of mankind is fitted to be much more than a means of satisfying an enlightened curiosity and of furnishing materials for the researches of the learned. Well handled, it may become a powerful instrument to expedite progress if it lays bare certain weak spots in the foundations on which modern society is built.<sup>1</sup>

This opinion of the author of *The Golden Bough* as to the value of anthropology, with its subordinate fields or subdivisions, is that of many another scholar, and not all of these are in the field of anthropology. Quite recently the writer was told by two outstanding scholars in other fields, one in psychology and one in sociology, that the most valuable research being done at present upon the problems of man's nature, powers, and limitations is being done in anthropology. It is hardly possible to believe that the vast body of facts being accumulated in anthropology concerning the life of early man, referred to by Frazer, can be useless or that it will not be appropriated and organized into systematic and comprehensive accounts of economics, history, psychology, sociology, government, and philosophy in their genetic and early evolutionary aspects. It would seem reasonable to suppose that if the social sciences are to treat their respective fields in that evolutionary manner of approach and handling which alone is consistent with scien-

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<sup>1</sup>Frazer, J. G., *Man, God and Immortality*, pp. 3-4.

tific method, this body of facts being brought forward and recorded in the various lines of anthropology at present must be increasingly used and become increasingly important with the years.

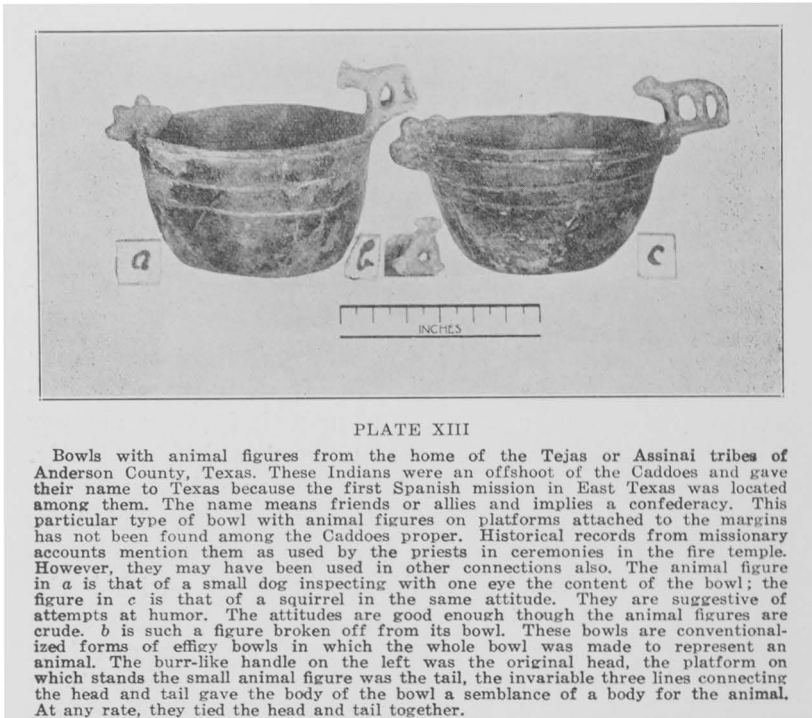
## XI

Archaeology furnishes probably more than half of the content of the subject matter of anthropology, the other subordinate fields being human palaeontology, or fossil history of man; ethnology, or a systematic treatment of races and peoples, their physical qualities, manners and customs and linguistics, particularly the study of languages in their genetic aspect.

Anthropology deals with human beginnings and early human developments of all kinds and in all forms. The different aspects of the early life of man tie into one another to such effect that they cannot be understood independently. The close relations and mutual dependency of human palaeontology and archaeology have already been commented on. The not infrequent reference to modern savages as "contemporary ancestors" of civilized man carries with it the implication that all types of mankind pass through much the same experiences and arrive at much the same solutions to their fundamental problems as they rise from conditions of the brute world to civilization. Ethnology and archaeology are, therefore, only different aspects of the same subject matter. Language proper, in the sense of word symbols used for abstract ideas, is confined to man and depends on (1) the character of the human vocal apparatus, (2) the extent of the brain cortex and the concomitant human mentality, and (3) the extent and form of the arts with the accompanying mental conditioning and mental organization, hence it is obvious, again, that there can be no satisfactory science in this field without a knowledge of these antecedent human factors.

Of all these elements of modern anthropology, as it is being organized and taught in the universities, archaeology is destined, probably, to furnish in the future the greatest number of facts and its methods and principles more nearly represent the whole field. The effects, therefore, of archaeological study upon the educational process and the resulting mentality and philosophy of life derived from this study





is largely the same as for the study of general anthropology. The effects upon the mind of the student are the same whether he be doing scientific research in the field or seeking to learn and understand the results of other men's researches in formal courses and systematic reading.

No line of study in the present academic world has or could have a more pronounced influence in the way of integrating the mental processes and systematizing and rationalizing the views as to the nature of man and of the cosmos, as understood by man, than the study of anthropology in general and of archaeology in particular. The best effect is obtained when the student combines with such study courses in both astronomy and historical geology. Astronomy and geology apply the intellect to interpreting and understanding the material objective world as conceived by man through the senses. They give a meaning

to stars, planets, comets, and meteorites, the Milky Way, atmosphere, the fossils, coal beds, mountain chains, and, in and through it all, build a sense of time and space highly valuable to man in his conceptions of the cosmos and of cosmic change. Anthropology gives a sense of time in the life of man much needed in building a sense of values and in getting a time perspective in cultural evolution. All three of these lines tend to do away with primitive geocentric and egocentric philosophies.

Nothing so much dispels the delusions and illusions of the childhood of the race as an unbiased investigation into the origin of illogical or prelogical views and ideas. A frank investigation of the conceptions of magic and the genesis of the beliefs involving its practice does away for all time with any interest in the present-day forms of it, such as mental healing, spiritualism, incantations for rain, and the confusion of symbols with the reality symbolized. Even in universities, grades, honors, diplomas, and degrees are constantly being confused with learning and a very great deal of the bad reasoning in social matters and about social values is identical in character with that involved in a belief in magic.

In order to make this fact clear we will give some illustrations of magical beliefs and practices taken from the primitive world and follow with a definition that makes clear the examples of it given above.

If gold be regarded as identical in essence with the sun because its color is the same it is apt to be regarded as an emanation from the sun and where the sun is a deity gold will be sacred to that deity. The ancient Peruvians were sun worshipers; the Incas were regarded as descendants of the sun; and gold was relegated to the Incas for their use and pleasure and to their ancestor the sun. Images of the sun in the temples were made of gold. Doubtless gold was used in magical ceremonies to heal diseases and work miracles as it was at times in Europe.

In the Malay states gold is sometimes washed in water and the water spread on land to make the rice grow. Gold

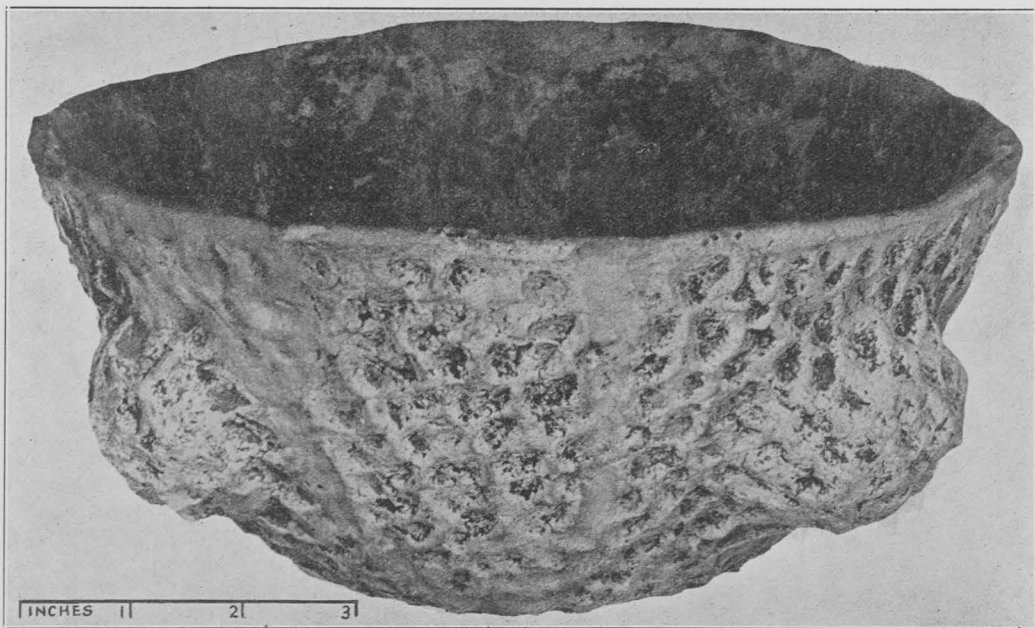


PLATE XIV

A large bowl from the Tejas region in Anderson County, Texas. The nodes are hollow, four in number and contain small pebbles or pellets of burnt clay. When shaken the bowl gives out a pronounced rattle. From historical sources we know that the East Texas tribes used such bowls, with skins stretched over them, as tambourines in their dances. In the collections of The University of Texas there are six or eight of these bowls of various forms and sizes, one so small as to suggest a child's rattle. Rattle bowls are found in the Maya district of Middle America, but there the legs are hollow and contain the pellets or pebbles.

will purchase rice, in this way produce rice. To put it in the soil would produce much rice, but this is too expensive. When the gold is washed in water some of its powers are supposed to be carried off in the water and thus get into the land to give it the power of the gold to produce rice.

The magical powers of gold in Peru were due to its color, in Europe and in the Malay states to its power to purchase other desirable objects.

When images of men with their names attached are burned or otherwise destroyed with the purpose of causing the death of the individual thus dealt with, one has a prime case of magic. The man is identified with the image by form and name and these are regarded as constituting essence. In magic, parts are taken for the whole, the form or color for the essence, or mere association, as in case of a name or a relic of a saint, sets up the same qualities and powers in the persons and objects associated. In civilization the commonest error in popular thinking arises from the same bad logic. A diploma is identical with education, flag worship is a high form of patriotism, attending Sunday school is equivalent to truthfulness and a sense of justice, formalism and ritualism are confused with character and with just and reasonable behavior in the popular mind the world over, and all such errors arise in the same way and out of the same psychology as belief in magic.

Many graduates of our universities have been taught to be logical in their thinking in certain fields of academic interests, as in physics or mathematics, but are made to hold or allowed to hold purely dogmatic and highly irrational views in other fields involving exactly the same forces and facts. For instance, if one were told that an airplane had lost a wing at high elevation and was plunging in a whirling flight to the earth and that a saintly observer on the ground noticed it and, raising his hands and voice to heaven, stopped it in mid-air with a prayer or a magic word and held it still until the occupants were able to bail out in safety, after which the magic spell was broken and the disabled machine was permitted to continue its now harmless

plunge to the earth, it is hardly probable that the most credulous and pious Holy Roller could be induced to believe the tale. If, however, the story of Joshua and the sun be told to the effect that this ancient chieftain of a nomad desert tribe, being engaged in battle and lacking sufficient time to beat the enemy properly before the coming of night-fall, stretched out his hand to the sun and ordered it to cease moving, stopped the turning of the earth on its axis, and held it still for twenty-four hours until his convenience had been completely served, then set it spinning again with a wave of the hand, probably half of present Christendom will believe it literally and with no qualms or conditions. Such inconsistency is incident, of course, to the conditioning of the mind by the teaching and wide acceptance of the idea of the infallibility of the Hebrew Scriptures and the consequent assumption of the equal truth and value of every story and statement found therein. The student of comparative religions finds the same conditioning in Mohammedans toward the Koran, in Hindus towards the Vedas, and, in fact, in all peoples toward their sacred learning. A comparative study of primitive mentality relieves the mind from such conditioning and leaves it free to compare facts and draw logical conclusions about all matters pertaining to nature and to man.

When, for instance, young students of the natural sciences are told that all scientific reasoning involves certain general assumptions that are necessary to valid conclusions in scientific investigation, such as (1) the indestructibility of matter, (2) the conservation of energy, (3) the immutability of natural law, and (4) a perpetually changing cosmos, and that all investigations in chemistry, physics, geology, and biology involve these assumptions and would be rendered meaningless without them, they are logically precluded from a literal acceptance of stories like that of Joshua and the sun. Frequently, however, they will continue to believe the illogical cosmogonic stories of creation and the folklore stories of the origin of the arts and institutions long after they have come to accept and act upon

the general assumptions mentioned above in connection with their studies and researches in restricted fields of natural science. The logical application of these assumptions in the field of the social sciences becomes necessary in the field of anthropology where the principles and facts of geology are necessary to explain stratification in culture levels and the fossil remains of man. The result is that the study of human origins, physical and social, has the effect of healing the schisms alluded to above; namely, that of logical reasoning in certain natural science fields while believing with extreme credulity the tales pertaining to the childhood of the race in human and social fields or of believing in miracles as facts in accounts of primitive times while refusing to accept them as possibilities in current events.

These fundamental assumptions, that underlie all scientific method, while not susceptible of proof, are, like the assumptions of the objective existence of time and space, necessary to the operations of the mind in the effort to understand "nature and her forces." They are like the assumption that all sticks have two ends, incapable of proof, but in harmony with all known experience of man. We cannot imagine a stick with only one end for the character of having two ends inheres in the very idea of "stick" and to try to separate it from the other elements in the idea results in a contradiction in terms. So, too, with the general assumptions that are now placed back of all attempts to explain natural phenomena. Accept them and apply them and nature becomes unified and intelligible; deny them and the result is intellectual chaos.

The moment we assume that man is a part of nature and subject to natural laws like all other living things, we begin to understand such facts as his body size, determined by the gravitational pull of the earth; the nature of diseases, derived as they are from parasites or from unfortunate combinations of chemicals in foods and in human physiology, vitamins and hormones; and the nature and in-

evitability of death which inheres in the complicated organization of the higher forms of life.

Thousands of facts in nature, untoward to man, like winds, earthquakes, volcanoes, floods, poisonous reptiles and insects, the destructive powers of ferocious beasts, and all forms of diseases and death become intelligible, and therefore tolerable, when not controllable, when, and only when, we adopt the objective attitudes and comparative methods of natural science. All the triumphs of medicine, of invention, of astronomy, physics, and chemistry, have come by this procedure.

Occasionally, only very occasionally, did man in primitive times come upon a practical and useful fact or practice that proved to be of permanent value, so haphazard and unanalytical were his mental processes. After he became possessed of the idea that the air is filled with spirit beings that have will, perceptual faculties and power to do him mischief, such as those that are possessed by animals and men, he began to attribute his bodily ills and most of his ill fortune to the machinations of these spirits. Inasmuch as they were usually assumed to be malevolent in very primitive times they are denominated devils by most writers about those times. These "devils" were supposed to enter human bodies, where they preyed upon the vitals and caused such ills as epilepsy, insanity, and violent pains of all sorts.

Attempts were made to rout the devils in much the same way as a farmer would try to rid his barn of rats. Headaches were treated by trepanning the skull over the aching part in Peru, very probably to let the devil out.<sup>1</sup> Sometimes this treatment may have worked, as many skulls are found in which the bone tissue around the holes had healed, showing years of life after the operation. Many of the skulls indicate that the victim or patient died under the operation. Malarial chills were regarded as cases of devil possession and treated with doses of the juice of cinchona bark for the

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<sup>1</sup>Magoffin, R. V. D., and Davis, Emily C., *The Romance of Archaeology*, p. 252.

purpose of chasing away the devil, which treatment proved efficacious and led to the discovery of quinine as a specific for this ailment. Devils in the stomach and intestines might be put to flight with ipecac or castor oil and, again, the pain disappeared and the efficacy of emetics and purgatives became positive knowledge. Some of the specific illustrations cited may not be exactly authenticated by good archaeological or ethnological authority, but such cases happened and the cases mentioned, involving as they did the swallowing of very disagreeable substances before any knowledge of chemistry or pathology made possible a prognostic suggestion of curative powers, may be best explained as efforts at expelling devils.

But for one such case as those mentioned above, leading to positive and scientific medical practice, there were thousands of cases in which the results could be only negative or positively mischievous. The primitive beliefs in magic and possession have cursed the race from the earliest times to the present and have interfered with vaccination, prophylaxis, and rational medicine generally. The gross mistreatment of the insane under the supposition that they were possessed of devils continued down to less than two centuries ago and mental diseases are not rationally regarded and scientifically treated by the medical profession in general even at the present time. Much of the management of state hospitals for the insane is a standing indictment of the officials who run them and of the society that tolerates them, due undoubtedly to the persistence of ancient savage ideas of insanity or to a leave-over influence from such ideas. Such institutions are largely only custodial and very frequently they are not in the hands of scientifically-trained psychiatrists. The medical practice at large in all modern lands is still afflicted with mental healing, miracle healing, bone manipulation, and analogical reasoning about health and disease that scientific medicine cannot dispel after all its palpable victories over smallpox, yellow fever, diphtheria, syphilis, and other afflictions.



It is in man's social practices that he has made least progress in the application of science, of the comparative method and of pure intelligence, to the solution of his problems and his needs. This is due to dogmatic teaching concerning the origin of institutions, to the fixation of mental attitudes and to habits, mental and physical, incident to the practice of certain arts and customs. To these influences must be added the difficulty of experimenting and proving concretely that one practice may work better than another.

The student who has once gone over even an elementary course in modern astronomy, had one or more courses in geology, especially in palaeontology, taught in such a way as to make him realize the unity of earth history, the evenness and continuity that characterize all change in the cosmos, can never be made to believe in the possibility of miracle in the physical world. If, in addition, the student has had one or more courses in physical and social anthropology and has discovered how early man came to believe in possession by devils as an explanation of insanity or disease; in water sprites as explaining reflections from water; in disembodied spirits as explaining dreams, after images, visions, etc.; how he came to believe that snake dances would make the rain come; that human sacrifices to the sun brought all of good that followed, or diverted imminent evil; that worship of the dead was the greatest means of securing the welfare of the living, he is apt to recognize such ideas whenever he sees them and in whatever guise they may appear. As the result of such study, one comes to realize fully that man is a part of nature and that the principles of cause and effect run through human life exactly as they run through the objective world. The unity of human history is brought home by such study in a way more effective perhaps than can be found elsewhere.

It is a notorious fact, known of all informed men, as has been stated above, that the social world in which the most advanced civilized peoples live is full of contradictions and anomalies. That there is a woeful lag in the progress of the social order as compared with the progress in science

and invention is generally conceded. It is also apparent that the contradictions and confusion in our present social life come largely from the retention of old views and mental attitudes after new means, conditions, and knowledge have become effective in economic practice and have entered into the mental life of the people. Inventions displace labor and concentrate production in the hands of the few with the fateful results of the present economic depression as the outcome. Markets are rigged, stocks watered, and the public plundered by predatory corporations and individuals under the principle of *caveat emptor*, whereas the principle of *caveat vendor* is the only possible procedure that could protect helpless, unorganized, virtually illiterate consumers and investors and so set up the principle of honesty in commercial dealing in our complicated society, possibly in any society.

Law courts are cumbersome, dilatory, expensive, and in America relatively ineffective, while murder, mob violence, kidnaping, racketeering, and general lawlessness leave the whole land a prey to confusion. Those lawyers who are paid large fees to help crooks get what they want in spite of the law, by virtue of undue powers and privileges allowed them in this country, are permitted to reduce the courts to impotence; ignorant, often characterless juries, are expected, after having to listen to the sophisticated but biased pleadings of partizan lawyers, to render decisions and assess penalties in cases that would tax the judgment of the wisest and most learned judges.

Uncontrolled and unsupervised private ownership of oil, coal, metals, forests, and lands results in the rapid exhaustion, often through sheer waste, of these fundamental natural resources, to the effect of weakening the nation and of leaving posterity in the near future to suffer from their lack.

Our educational system in the United States has grown up like Topsy without plan or direction. Much of it, as the emphasis on foreign languages, for instance, comes from the Old World where such emphasis has meaning; some of it from the Middle Ages; much, perhaps most of it, has been

thrust into the system by the needs of trades and occupations for skilled laborers and with no concern about the dislocation of studies that serve to liberalize and fit for enlightened membership in society at large.

We pursue war to the undoing of the nations in the physical character of the people and in their ideals and morals; also to the destruction of their painfully acquired possessions. War, slavery, the unwillingness of the successful to have an adequate number of children, the tendency to cherish and breed from the feeble-minded and weak, together account, largely if not entirely, for the decay of nations and multiply the pain and social ills to which civilized flesh is heir.

Probably, as has been hinted before, a healthy, intelligent people, possessed of our science and arts, applying their science logically to the solutions of social problems, and living under a rational, consistent social order, would be without nine-tenths of the worries and ills and sources of unhappiness that afflict us.

We must move in the direction of such a situation or expect to find ourselves in ever-increasing difficulties coming from the growing complexity of the world in which we live. Growing insanity and feeble-mindedness may be due to biological degeneracy incident to war, to the differential birth rate and other such causes, or they may be due to increasing worry, incident to the disappearance of economic safety and to multiplied contacts and distractions. In any case, it is a serious matter and should have the careful attention of our best minds until the explanation and some solution are found. "Man is yet to demonstrate that he can live continuously under civilization," said G. Stanley Hall, and it is obvious that he must do that or be forever falling into some sort of national or racial misfortune that will not only involve him continually in the pain and misery of wars and conquests, of poverty and disease, but will make any real and satisfying happiness impossible, even for the fortunate, because of the perpetual fear that derives from uncertainty and lack of safety.

To begin a program of applying science and the scientific method to the problems of society, with the view of synthesizing and rationalizing the social machinery and of bringing it to approximately the smoothness and efficiency of our industrial machinery and its processes in its workings, it is necessary to get out of the mind of the average citizen the idea that the world about him is "the best of all possible worlds." He must be brought to realize the need for improvement and that improvement is possible. It is the opinion of the writer, based on many years of teaching in various positions and of all kinds of students, that no other sort of study so effectually breaks down the set attitudes incident to provincialism, bigotry, the worship of ancestors, and the clinging to old ways, merely because they are old, as does the study of the history of civilization from its incipency.

In other words, "The Stories that Dead Men Tell" are entertaining because they are of "other days" and "other ways." They are instructive because they often teach us "how not to do it" by citing many cases of devotion to ideas long practiced that never really brought happiness or success and had in the end to be abandoned. They are heartening and encouraging because they teach us that no situation lasts forever; that slavery, serfdom, human sacrifices disappear and that really, albeit slowly and painfully, the world grows better. Finally these stories teach us the futility of illusion and delusion; the impossibility of building a sound and wholesome way of life on pretense, fraud and false assumptions however consoling these may have been to certain fear-beset peoples of early times. The living often lie about the dead, but the dead do not lie even about death. If the writer has found no happy dead, it is also true that in his excavations he has found no unhappy dead. From association with the dead we learn that, whatever may be the truth as to the preservation of the personality after death, the individual cannot possibly be worse off after death than he was before birth. Man is the only animal in nature that knows he must die, and this knowledge

has caused him untold worry and pain with the result that many if not most of his early religious and philosophical ideas and practices have been directed to the end of mitigating the pain of this knowledge. The peaceful dead sleep on in the bosom of mother earth who gave them birth and obviously know no worry, no pain.

“Why fear the night? The sun may sink  
And never rise again on me,  
Yet someone that I love shall see  
It rise above the eastern brink.”

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