

CONTRIBUTIONS OF AMERICAN ARCHEOLOGY TO HUMAN HISTORY¹

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Not wishing to weary the Congress with the reading of a lengthy paper, I shall attempt to give the substance of what I would say in brief outline, but in the beginning, as the representative of the Smithsonian Institution, I have the honor to present to the Congress a set of publications to be disposed of as it may deem expedient. These volumes, about sixty in number, are selections from the archeological publications of the Institution and two of its bureaus—the National Museum and the Bureau of American Ethnology. They deal almost exclusively with the problems of primitive American history and prehistory and mainly with the aboriginal history of the extensive region now comprised within the United States. Most of the volumes were published under Government auspices, largely in the annual reports of the Bureau of American Ethnology, of which Major J. W. Powell was the founder and the guiding spirit.

The Bureau's work extends over a period of twenty-five years, but the parent institution began the publication of archeological material almost from its foundation, the first number of its great series of contributions to knowledge having been the "Monuments of the Mississippi Valley," by Squier and Davis, a work known and esteemed by Americanists everywhere. The works here presented comprise only the more important papers relating to this branch issued by the Institution and form but a fraction of its anthropological publications, a complete list of which includes several hundred titles. I have the honor also to present a set of photographic portraits of American Indians made during the past winter by the photographers of the Bureau of American Ethnology and the National Museum, representing members of the various delegations of the natives visiting Washington on business growing out of their relations with the Government. The portraits, about sixty in number, represent upwards of twenty tribes, front and profile views of each individual being given. Besides the portraits, physical meas-

¹ Read before the Congress of Americanists, Stuttgart, Germany, August 21, 1904.

urements were taken of all, and masks were made of such as could be induced to undergo the unpleasant ordeal.

What I now desire to say does not have to do with what American archeologists or the American Government have done for archeological science, but rather with what prehistoric America has contributed and may be expected to contribute in the form of materials of human history.

The importance of archeology to the student of history is now fully recognized. The science is establishing its claims to consideration more fully year by year, especially since it has become allied with geology, which furnishes the necessary time scale, and with paleontology, which supplies the scale of life. The branch of inquiry which only a few years ago dealt with isolated fragments of knowledge, with disjointed parts of the framework of human history, now essays to aid in building up the entire skeleton of that history, and, with the aid of the allied sciences of ethnology and psychology, in clothing it with the integuments of a living reality.

America is taking a noteworthy part in this rehabilitation of the race and, fortunately, is most helpful just where the Old World is weakest. In America the past of man, for the most part at least, connects directly with the present and with the living. Each step backward along the course of culture development proceeds from a well established and fully understood base, and there is thus no baffling gap between history and prehistory, as in the Old World.

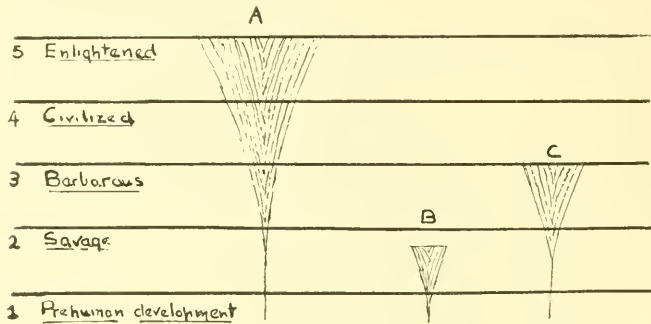
In America all the steps of culture, from the highest to the lowest, within the native range, are to be observed among the living peoples, and we are thus able to avoid many of the snares of speculation with respect to what men have thought and men have done under the greatly diversified conditions of primitive existence.

In America the conditions are simple. The antiquities of a region represent in a large measure the early history of the known peoples of that region. There have not been the successive occupations, the racial interminglings, the obscuring and obliteration of phenomena that so seriously embarrass the student of the ancient nations of the Old World. The stone age and the red race stand practically alone within the field of study.

In America the high-water mark of culture barely reached the lower limit of civilization. In the Old World the representation of man's career is fuller above than below that limit, so that America can be expected to assist, especially, in building up the substructure of human history; it can be expected to furnish a fuller reading of the early chapters of culture progress than any other part of the world.

The position of aboriginal America in the field of culture history and the area of that history which American archeology, as well as American ethnology, can be expected to illumine is clearly indicated in the accompanying diagram.

In this diagram the whole field of human history is represented by the five spaces which, beginning below, are: (1) the stage of pre-human development through and out of which the race arose; (2)



the savage stage in which humanity took definite shape; (3) the barbarous stage in which powerful nations were founded, and systems of record were developed; (4) the civilized stage in which higher culture was achieved, and (5) the enlightened stage, reached as yet only by a limited number of nations. The idea of time is not involved in this diagram. The stages of progress thus become a scale on which the cultural achievements of any race or people in its struggle upward may be laid down. It enables us to show just what relative place is taken by each race or people and just how much and at what points each can contribute to the history of man; for human history as written is composite, made up of the separate histories of many peoples of all grades of development set together like a mosaic.

The fan-shaped figure, *A*, in the diagram, may be taken to express the history of the race, that is, the whole of human progress from the slender beginnings of the savage stage up to its greatest expansion at the present day. The same figure may stand with equal propriety for the career of a single people or nation that has reached the highest limit of culture. In the diagram, the beginnings of cultural development are represented at the base of the figure by a few slender threads of activity. In savagery these threads multiply slowly into a considerable number and, with ever accelerated rapidity, divide and subdivide in barbarism and civilization, expanding with

marvelous rapidity in the horizon of enlightenment. While this expanding figure may be regarded as expressing the growth of human culture, it may also symbolize the development of the race in population and in physical perfection.

The figure indicated by *B* may stand for the career of peoples of the lowest existing order of culture, such as the Fuegians or Andamanese—peoples which can contribute to general history only within a very limited range, since their career traverses only the lower half of the field of savagery. It is to be noted, however, that these lowly peoples can contribute much more fully to the history of this particular stage of progress than can any of the nations that have passed this stage and have arisen to higher levels.

The field covered by the American race is outlined in *C*. Uncertain and indefinite in the beginning stages, the traces being hardly legible on account of the absence of written records and the insufficiency of archeological research, it develops upward, stopping just short of the level of civilization. Many strands of culture had appeared and grown strong, but writing had not been fully achieved and other arts peculiar to civilization had not made their appearance. It is within this field that Americanists pursue their studies and make their contributions to the history of the race and of developing civilization. Above this stage they find nothing and below it only meager and uncertain traces of the beginning stages of human culture. The archeologist finds within this limited American field, however, extensive phenomena relating to the various branches of barbarian activity, especially to such as leave their traces in material form. Prominent among these branches are agriculture, hunting, fishing, quarrying and mining; the shaping of implements and utensils; the building arts, metallurgy, sculpture, ceramics, the textile arts, the graphic arts and writing, war, games, culinary arts, religious arts, personal adornment, the decorative arts, etc. These groups of phenomena as exhibited in America have been the subject of earnest study by a large number of scholars, and already a great body of data relating to them has been collected and an extensive literature is in existence. A few of the more instructive of these groups may be briefly reviewed.

Quarrying and Mining.—Much of the history of the activities concerned with the acquisition of the raw materials of subsistence and the arts is best studied among existing peoples. This is especially true of hunting and fishing, the gathering of wild fruits and grains, and agriculture; but archeology alone can be depended upon to tell the story of the industries concerned with developing the mineral resources. These activities escaped the observation of the

conquerors and colonists, and were discontinued so abruptly that very meager records of their operation have been preserved. The story of the struggles of primitive man in exploiting the valleys and mountains and in extracting the staple materials of the stone age from their rocky beds forms one of the most interesting and important chapters in the history of incipient civilization. With only stone, bone, and wooden implements the aborigines attacked the massive strata, breaking up solid bodies of flint, quartz, obsidian, jasper, etc., for the manufacture of implements and carving out huge monoliths from the living rock for building and sculpture. A study of the American mines and quarries gives us a vivid conception of the strength and persistence of the forces that underlie human development and of the difficulties encountered by the race in carrying culture upward through the stone age to the higher level of the age of metal. The shaping of the stone into implements and utensils supplemented the work of the quarrymen, and the story of the development is clearly told in many lands, but America's contributions to the history of this most important branch of activity are exceptionally full and satisfactory.

Architecture.—Aboriginal architecture in America teaches the lessons of the initial development of this branch of culture with exceptional clearness, beginning at the lowest stage and carrying it up to about the stage of the keystone arch. The present period affords a wide range of phenomena representing the elementary forms of building, and the post-Columbian chronicles give us somewhat meager glimpses of the higher development that came under the observation of the Spanish conquerors, whilst archeologic remains supplement the lessons of the historic period. We find constructions of great variety and of remarkable preservation in the Mississippi valley, in the Pueblo country, on the Mexican plateau, in Yucatan, Guatemala, and Honduras, and in South America. By the aid of these we see how the midden and the earth mound develop into the pyramid with its multiple stairways of cut stone; how the walls change from irregularly placed stone and clay-covered wicker to massive structures of accurately hewn stone; how the chamber spaces, ceiled at first with weak timbers subject to quick decay, are spanned later by the offset arch of stone. We see supported on this native arch the concrete roof, so massive as to defy the earthquake and support the forest growth of succeeding centuries; we see the multiplication of stories, tier on tier; we see the spanned space, limited at first to a few feet, increase indefinitely to the many-vaulted roof supported by a wilderness of limestone columns; we see walls decorated within and without with symbolic sculptures, single build-

ings presenting thousands of square yards of embellished surface, and marvel at the lofty false fronts and roof crests that were added to afford space for the exercise of the native genius for decoration.

These chapters in the evolution of the building arts are not taught with equal clearness and fullness in any other part of the world. Besides those direct lessons which bear upon the history of the art of architecture many side lights are thrown upon other branches of primitive culture, as mural decoration, sculpture and furnishing, as well as upon the organization of society, religious beliefs, and systems of glyphic writing.

Sculpture.—Sculpture reached its highest development in Greece, but the stages through which the art passed are but meagerly recorded in extant art works of Hellas. The earlier steps are represented by isolated bits in many places, but the primitive phases of the art are by no means so fully exhibited as they are in America. We have there a vast body of material covering every stage of stone-shaping from the very beginning up to full relief and realistic portrayal of the human subject. No people known to us has within the culture range of the Americans shown such versatility and power with the hammer and chisel, none that has embodied in stone a mythology so rich in imagery, including as it does forms of men, beasts, monsters, and cosmic phenomena in greatest variety. The archeologist has here spread out before him as in an open book, with the work of the living peoples to guide him, the whole story of the evolution of sculptural phenomena within the horizon of barbarism.

Metallurgy.—The working of metals is among the most important activities of civilized man and has been a chief agency in the development of culture, as is especially manifest in the gigantic forward steps of recent years. Although the general course of metallurgic development and the mutual relation of its successive stages of progress are well made out, much remains to be learned, and in this direction America is able to make the most valuable contributions. We learn from history something of the metal work of the American aborigines. Tin, lead, and iron were little known, and the smelting of ores was in its infancy, but gold, copper, and silver were extensively used when the Spaniards arrived, and these metals were forged, fused, cast, alloyed, plated, and otherwise handled with a skill that astonished the conquerors. Archeology verifies the statements of historians and adds much to our knowledge of the manipulation of metals and of the products in the primitive stages of culture, not only in regard to the Western continent but for the general history of the subject at periods where the records in the Old World are most defective.

Ceramics.—Of art in clay we may say much the same as of sculpture. No people known to us has furnished such a vast body of material for the study of this art from its beginnings up to the level of glaze and the wheel as have the pre-Columbian Americans. The clay took on a multitude of forms in which were embodied a wide range of mythologic and esthetic concepts.

The Graphic Arts.—To the history of writing aboriginal America makes many contributions, and these, as the others referred to, within that part of the history of progress wherein Old World evidence is least satisfactory. In the Old World we trace back the history of writing step by step to a point near the beginning of the glyphic system; in the New World we pass back from the lower margin of the glyphic to the very beginning of the graphic, thus all but completing the history of the evolution of the recording arts.

With a knowledge of the present and prehistoric phases of picture writing it is easy to utilize and interpret the vast body of material in this branch furnished by archeology; but, rich as is this material, insufficient light is thrown upon the transition from picture writing to phonic writing, the particular stage of development in which archeologists find one of the most fascinating fields of research. The great body of evidence brought before the conquering Europeans was not appreciated by them, but rudely destroyed, and the remains, graphic and sculptural, are now being gathered together and studied in the most painstaking manner by our scholars, who hope almost against hope to find a key to the problems of transition. Within the cluster of graphic phenomena which gave birth to writing we have evidence bearing upon other important branches. We here get glimpses of the history of the calendar; we find traces of the pictorial art, which had not yet reached the stage of light and shade, perspective, and portraiture, and discover many germs of embellishment, mythologic and esthetic.

Although many of the obscure problems arising in this American field have been successfully worked out, many others are still awaiting the attention of Americanists and will no doubt yield, little by little, to their persistent efforts.

The more important unsolved problems of aboriginal America are those of race origins, of culture origins, and of chronology. These problems do not relate so much to particular nations as to the history of the race as a whole; not so much to peculiar or local cultures as to the origin and evolution of the native activities; not so much to tribal or national chronology as to correlations of race and culture history with the geological time scale.

With respect to race and racial characters American archeology has as yet little to add to what may be learned from studies of the living peoples. So far as observed, the variations in type of fossil forms do not extend decidedly beyond the range of variation observed among the living. It has been sought to establish a paleo-American type in South America, but we are not certain that a sufficient comparative study of the osseous remains of the present peoples of the world has been made to warrant a satisfactory determination. Conservatism is especially desirable in any attempt to establish new racial types or special orders of culture.

Regarding race origin it may be said that there is still room for speculation. Opinion seems, however, to be settling down to the view that the American race, as it stands to-day, is not autochthonous but is an offshoot of Asiatic peoples, originally more or less diverse in character, arriving in America, mainly at least, by the Bering strait route, not abruptly, but in the normal course of race distribution from a natal habitat, the migration continuing for untold centuries. Americanists have here a difficult, a perplexing, but a most fascinating field of research.

To-day, one of the most absorbing questions encountered by the student of American archeology is that of the *origin of the aboriginal cultures*. Some regard these cultures as autochthonous; others have looked for their source in many different parts of the world. Although no final conclusion can yet be announced, we may assume that, along with the incoming peoples, all or most of whom must have been extremely primitive dwellers of the far north, there came the simplest forms of the arts of hunting, fishing, shelter-building, and the preparation of food; that from these elements, under the influence of more southerly environment, there arose in time diversified culture groups, such as are now under investigation in various parts of the continent. We can not but admit, however, the plausibility of the theory that seafaring wanderers from other lands have now and then reached American shores, bringing with them the germs of distinct cultures, and further, that the characteristic art phenomena of certain centers of progress are such as to give countenance to this idea. This is a most interesting and important branch of archeological research, and one with which archeologists must at this stage particularly concern themselves.

Archeology furnishes a vast amount of interesting data regarding the *states of culture* of the American race, but we note that in all the researches so far conducted no traces of culture phenomena have been found which extend below, on the one hand, or above, on the other, the range observed among the living or historic tribes. There

is nothing so unique that it might not belong to known tribes or their immediate ancestors. It has been sought to differentiate a paleolithic culture and period in America but without tangible result. So far as the use of the terms "paleolithic" and "neolithic" are concerned they may both be omitted from the nomenclature of American archeology without loss, if not to possible advantage. The simplest forms of stone implements occur everywhere in association with the most highly developed forms, and neolithic forms are reported from formations of nearly all periods back to the earliest that have been observed.

In America, especially in North America, we have sought almost in vain to establish a definite *chronology* of man and culture. Evidence of antiquity is not wanting, but when we try to adjust the phenomena to the geological time scale we meet with indifferent success. Hundreds of ancient caves have been searched, with only negative results; glacial gravels have been examined with great care, but the returns are exceedingly meager; river terraces, and kitchen midden deposits yield nothing of particular value, and the results, when viewed as a whole, instead of enlightening the mind, fill it rather with confusion. It is within the bounds of possibility that this confusion may in a measure be due to the presence in America of an autochthonous race element. The contributions of American archeology in this department are not to be compared with those of the Old World where definite chronological results are forthcoming on all hands. That America may yet furnish contributions of importance in this branch of enquiry, however, lies well within the bounds of possibility.

It is thus seen that there are in America numerous questions awaiting solution, and there is vagueness in many places, but, notwithstanding this, the results of our archeological investigations are on the whole most gratifying; each year the areas of the uncertain and the unknown are being reduced; and when the results achieved are supplemented by the rich materials derived from the study of the living peoples they must go far toward illuminating the pages of the story of humanity in general which the Old World has been gradually but surely revealing.

Viewing the whole field of prehistorical research, we are struck by the fact that the past of man is rapidly disclosing itself to our vision, so that presently we shall be able to look backward through the biological and cultural vistas of his coming and connect the present with the vanishing point of the human perspective with an insight and comprehension little dreamed of until now.