

THE ORIGIN AND ANTIQUITY OF THE AMERICAN INDIAN

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The great chief Mishikinakwa, or Little Turtle, one of Indiana's most illustrious sons, when told of the theory that America was originally populated by Asiatics migrating across Bering Strait (6, p. 37), immediately asked, like a loyal son of Indiana, why Asia and the rest of the world could not have been populated by Americans!

It is now generally recognized that mankind could not have originated in America because anthropologists of today know definitely that man evolved from the nearer Primates, and the existence of any such forms in America at any time is very doubtful (16, p. 485). Since there are many of these species in the Old World, man must have originated there.

It is reasonable to suppose that, considering the limited means of transportation available to primitive man, he could have come only from those parts of the Old World lying closest to America. These portions are the western coast of northern Africa, northwestern Europe, the Polynesian Islands, and northeastern parts of Asia. Within the period of man's existence, geology teaches that there have been no nearer lands than these, with the possible exception of a far northern connection between Asia and America (16, p. 488). The never dying fables of lost continents may be dismissed without a hearing, along with the tales of the Ten Lost Tribes of Israel and fictions concerning the Phoenicians and Carthaginians (31, p. 220).

An African origin seems out of the question, partly on account of the distance and also the fact that there is so little in common between the Negro and the Indian, who cannot bear the heat of the tropics, perspires little, is easily prostrated at elevated temperatures, and is peculiarly subject to diseases of hot climates, showing none of the immunity of the African (3, pp. 34-35). Northern Europe has been occupied by the white race for such a long period that the possibility of invasion from that direction seems remote (16, p. 489), and yet there are some points of evidence that lead to the conclusion that some migration came from that quarter. Indeed, the Indians from the eastern and southeastern United States, illustrated in *The History of the Indian Tribes of North America*, by McKenny and Hall, look very European, with oval faces, reddish-brown in color, non-Mongoloid cheek bones, and prominent noses. The representations of the plains Indian show the well-known Mongoloid type; so it seems almost certain that the European cast of countenance of the eastern Indian was not simply the result of artistic license taken by the painter (14, p. 153). Are these characteristics the result of European admixture, or do these Indians represent the peripheral fringe of early dolichocephalic arrivals in America *via* Bering Strait, pushed eastward by later Mongoloid peoples?

It has also been pretty well established that the Pacific islands could not have been inhabited previous to the habitation of America (16, p. 490). All the islands far enough off the South American coast not to be visible, such as Juan Fernandez and the Galapagos, had never been

inhabited prior to the discovery of America (27, p. 267). The supposed likenesses between the houses, the cloaks, and the defensive structures of the Maori and the Northwest coast Indians (4, pp. 321-328) are entirely superficial; so the theory of any connection there is untenable. Domesticated pigs and fowls, widely disseminated in Oceania at the time of discovery, did not exist in America but spread rapidly among the natives after their introduction (27, p. 268). There had been no exchange of cultivatable plants with the possible exception of the calabash, *Lagenaria vulgaris*, about which a verbal battle still continues (27, p. 269-270). While it is not impossible that a few stray mariners afloat on the Pacific may have reached America, it does not seem reasonable to suppose that any great number arrived by that route (14, p. 141). That at least one contact actually did occur has been proved by the finding in South America of a single Maori "patu" in a pre-European, possibly pre-Incaic, grave (4, p. 352).

Turning to northeastern Asia, however, the picture changes. Only about thirty miles separate the two continents at Bering Strait; in clear weather the American highlands are visible from the East Cape of Asia, and in winter ice forms across the strait (18, p. 28). Another route might have traversed, the Bering Sea by way of St. Lawrence Island, and it is pointed out by Ralph W. Chaney, of the Carnegie Institute of Washington, that this island lay in the pathway of a redwood forest belt which was continuous from North America to Asia in ancient times (33, p. 20). Further south there is still a third course, *via* the long semi-circular chain of the Aleutian Islands, which reaches within four hundred miles of Kamchatka, and even that distance is broken nearly into halves by the Commander Islands. This route is possible today with the primitive boats of the natives, but the sea is generally tempestuous, and examinations of the ancient middens and the inhabited sites of the Aleutian Islands do not show that they were a thoroughfare for great migrations (11, p. 34).

The similarity in type of the American Indians to the inhabitants of northeastern Asia and Polynesia is more than suggestive. They have the same range of color; the quality and distribution of hair is similar; they share the same dark brown eyes with moderate slant, the prominent cheek bones, and the posteriorly hollowed upper front teeth. Their similar mentality and behavior speak for their close relationship. Indeed, if a member of one or the other of these peoples were transplanted, and his body and hair dressed in the fashion of those with whom he was surrounded, he probably could not be distinguished physically by any means at the command of a scientific observer (16, p. 489). The American Indian languages resemble structurally a group of three or four dialects in northeastern Asia called the Americanoid languages, though the relationships are not close enough to cause the latter to be placed in the same category as any in North America (2, p. 366). There are similarities in religious ceremonials, beliefs, and traditions. Another feature common to northwestern America and eastern Asia in the use of slat armor of wood, bone, or ivory, and of the sinew-backed bow (2, p. 365), as well as coiled basketry (34, p. 215).

It seems almost necessary that a land bridge should have existed to

account for the migrations of animals and plants from one continent to the other, and, while there has been no connection in postglacial times, it is very probable that during the Wisconsin stage of glaciation the sea must have been so low, owing to the accumulations of the ice on the land, that a land bridge did exist (18, p. 31).

As to possible routes of early migration, a broad belt east of the Rockies, through the Mackenzie River Valley and extending southward, was uncovered at an early date, possibly twenty-five or thirty thousand years ago. Conditions in the Yukon Valley also may have been favorable for a long period. These western routes have probably been open much longer than those in northeastern North America by way of Hudson Bay, Labrador, or the Gulf of St. Lawrence (18, pp. 44-45).

The remains of Pleistocene mammals are found in Alaska, the Cordilleras, and to the southeast, as well as in Mexico and Central America. In eastern Canada they are found very rarely. These facts seem to point to the probability of their ingress from Asia and have an important bearing upon the migrations of early man, who would very naturally have followed and hunted these animals (18, p. 32).

It is also a modern conception that the climate during at least one of the interglacial periods was as warm as or warmer than the present climate of North America. Near Toronto, Ontario, interglacial deposits have been found containing many specimens of trees that we have today, namely, red cedar, pawpaw, hickory, osage orange, oak, elm, and maple (18, pp. 25-26). It follows that the climatic conditions were as favorable to migration, for Quaternary mammals or early man, as these conditions are at present.

Man cannot be supposed to have reached the colder northeastern limits of Asia before the warmer and richer parts of that continent were settled or hunted over, but the theory is plausible that from the exhaustion of resources or the incursion of enemies they gradually were forced toward the East Cape (16, p. 490). Climatic change was a chief cause back of the migrations of archaic man, as it was for the large herds that he followed (15, p. 125). The northeastern portion of the Asiatic continent was never fit, in man's time, to support a large number of human beings (16, p. 492). The hunting tribes were forced farther northward and eastward for existence, until at last they began the great adventure into America. These primitive migrations from Asia could not have been the result of a fixed plan and were not confined to any one period. They continued, wave upon wave, for thousands of years, the latest being perhaps that represented by the Eskimos in the northwesternmost part of America (23, pp. 29-30). Quite likely there were rediscoveries of the New World by various routes, and the dribbling over very probably continued from the arrival of the first parties to the historic period, when Eskimos were found to be trading across St. Lawrence Island and Bering Strait (16, p. 493).

These ages witnessed the building up and tearing down of a multitude of cultures, some advanced and others archaic, and they also saw an outstanding diversification of languages. "Thus from out of the mist of an almost inconceivable past, the wraithlike outlines of the earliest races of America come into view, but very faintly. Then the dust

of the ages falls upon and covers them. Unrecorded and unnamed, like the substance of a dream, they have past and left no sign (33, p. 20)." During these many years great changes had come about, changes in climate, and, consequently, in flora and fauna, and changes among the tribes. Certain of them in Central and South America advanced to civilizations comparable to those existing in Egypt and Mesopotamia two thousand years before Christ (17). Certain groups had retrograded, and new tribes were forming from overpopulated centers, drawing off into new territories, driving others before them and afterwards becoming the nucleus for further development and modification.

In considering these migrations it is natural to think of them as almost impossible for primitive man to carry out, but we are quite apt to underestimate greatly the territory covered by Indians in their travels. For example, when Tecumtha and his agents were trying to rally the Indian nations to protect their lands, they covered the entire country from the Seminoles of Florida to the tribes of the Missouri River. The Iroquois of central New York were familiar with the Black Hills of Dakota. They went to South Carolina to attack the Catawba and marched against the Creeks in Florida. "Western Indians traveled hundreds of miles to obtain blankets from the Pueblos and some plains Indians are known to have traveled two thousand miles on raids. . . . They (the Indians) had covered the entire continent with a network of trails over which they ran long distances with phenomenal speed and endurance; the Tarahumare mail carrier from Chihuahua to Batopilas, Mexico, runs regularly more than five hundred miles a week; a Hopi messenger has been known to run one hundred and twenty miles in fifteen hours" (25, p. 735). DuPratz (7, pp. 122-129) living with the Natchez in the sixteen hundreds talked with an old Indian who had made one trip to the mouth of the Columbia River, Oregon, and another to the Atlantic Ocean and Niagara Falls!

The racial relations of the American aborigines with the inhabitants of the Old World have been most ably summed up by Dr. E. A. Hooton (12, pp. 361-362):

Briefly, then, my present opinion as to the peopling of the American continent is as follows: At a rather remote period, probably soon after the last glacial retreat, there straggled into the New World from Asia by way of the Bering Straits, groups of dolichocephals in which were blended at least three strains: one very closely allied to the fundamental brunet European and African long-headed stock called 'Mediterranean'; another a more primitive form with heavy brow-ridges, low broad face and wide nose, which is probably to be identified with an archaic type represented today very strongly (although mixed with other elements) in the native Australians, and less strongly in the so-called 'Pre-Dravidians' such as the Veddahs, and also in the Ainu; thirdly an element almost certainly Negroid (not Negro). These people, already racially mixed, spread over the New World carrying with them a primitive fishing and hunting culture. Their coming must have preceded the occupation of Eastern Asia by the present predominantly Mongoloid peoples, since the purer types of these dolichocephals do not show the characteristic Mongoloid features.

At a somewhat later period there began to arrive in the New World groups of Mongoloids coming by the same route as their predecessors. Many of these were probably purely Mongoloid in race, but others were mixed with some other racial element notable because of its highbridged and often convex nose. This may have been either Armenoid or Proto-Nordic (or neither one). These later invaders were capable of higher cultural development than the early pioneers and were responsible for the development of agri-

culture and for the notable achievements of the New World civilization. In some places they may have driven out and supplanted the early long-heads, but often they seem to have inter-bred with them, producing the multiple and varied types of the present American Indians—types which are Mongoloid to a varying extent, but never purely Mongoloid. Last of all came the Eskimo, a culturally primitive Mongoloid group, already mixed with some non-mongoloid strain before their arrival in North America.

The working out of the distribution of the racial types in America is a most complex and interesting and unsolved problem. If all the peoples entering America came through the bottle neck of Alaska, it is reasonable to suppose that the first comers would travel or be pushed to the remote marginal areas (14, p. 142). In many parts of the New World, brachycephals are superimposed stratigraphically upon dolichocephals (14, p. 143), and in the more remote parts of South America, very primitive strains of non-Mongoloid long-heads are evident.

It is quite certain that the earliest new-comers to America were primitive in the extreme. Successive waves were probably in various stages of culture, but it is almost certain that none had passed beyond the hunter-and-fisher stage or had developed anything like a sedentary social system. It is now generally believed that all developments toward higher culture made by the Indians were accomplished by their own efforts, with no outside help (23, p. 30). The biological-agricultural evidence wholly supports the theory of an autochthonous development of the pre-Columbian civilization in America (24, p. 382).

There has not yet been found conclusive proof that man existed in the New World prior to the last glacial period, although a number of artifacts and human skeletal remains have been brought to light, suggestive of great antiquity. Among these are discoveries made by Dr. Abbott near Trenton, New Jersey (3, p. 27), finds in Nebraska (1, p. 70), and the Argillite culture described by Skinner and Spier (8, p. 264). At Conklin 9 Cave, New Mexico, and in Gypsum Cave, Nevada (29, p. 79), and in an ancient lake bed near Las Vegas (10, p. 48), remains of extinct species of mammals were found in association with those of man. Certain well-authenticated discoveries of arrow points with the remains of extinct species of bison are on record, none more celebrated than the finds at Folsom, New Mexico (29, p. 79), and at Dent, Colorado (28, p. 7). The Minnesota Man discovered in 1931 was found buried in a deposit which geologists say is 20,000 years old (10, p. 50). The Punin skull, found embedded in volcanic ash in the Andean region of Ecuador along with the bones of the extinct horse, camel, and mastodon, caused Sir Arthur Keith to say (15, p. 133), "The discovery at Punin does compel us to look into the possibility of a Pleistocene invasion of America by an Australoid people." The ground sloth probably was still in existence when man reached South America (29, p. 78). At Melbourne, Florida, human remains are definitely present in the same deposits with a large number of extinct mammals, although the geological evidence points to a fairly late date for the formation of these beds, probably not further back than ten or twenty thousand years (29, p. 79). The artifacts found with the bones of extinct animals are apparently always of the types called Folsom, Folsom like, or Yuma (15, p. 149), and, while it may be dangerous to draw too positive conclusions, these types resemble quite closely those of Solutrean Europe (15, p. 136).

These finds do not prove the great antiquity of man in America, for the conception that many of these extinct forms have lingered on to within a few thousand years or less is gaining ground. This may possibly have been caused by the north and south direction of American mountain chains, furnishing a safe migration corridor for use during great changes of climate (15, p. 75). A vast amount of extinction has apparently taken place since the recession of the last ice sheet, which is most difficult to explain unless, indeed, the cause be man himself, which is hardly probable (29, pp. 76-77). To sum the whole situation up, however, until man-made objects or human remains are found in an admittedly undisturbed Pleistocene stratum, the antiquity of man in America will remain an unsettled problem (13, p. 563).

A few years ago a new criterion appeared upon the scene which held out great hope of solving the racial origin problem, namely, the blood grouping of a people. The American Indians belong almost entirely to group O, having practically no agglutinogens in the blood. The Blackfeet and Blood Indians of Canada appear to be among the few exceptions to this rule being high in A (22), while the Caraja Indians of South America rate high in B (9).

The blood groupings of the Mongoloid peoples are, strange to say, very different from this. The north Chinese, north Koreans, and Manchus are high in B and low in A, while the south Chinese, south Koreans, and Japanese are high in A and moderate in B (30, p. 247).

This difference between the blood groupings of the American Indians and their closest racial relatives would seem to indicate that their separation occurred before the A and B mutations appeared. The western Eskimos in America are high in B, while all other Eskimos are largely of the O group, showing possibly that the western Eskimos were the last to come into America after having been modified by the mongoloids of North China. It is interesting to note that all peoples having more than fifty per cent of their individuals in the O grouping are isolated peoples like the Philipinos and the American Indians. It is thought by some scientists that agglutinin A did not originate much before the Christian era (12, p. 354), but their theory has received a rude jolt from the work of Landsteiner and Miller, who have apparently demonstrated the factors A and B in anthropoids. If this be true these agglutinogens must have originated prior to the development of present-day man (30, p. 250). The blood-grouping theory of the relationships of races will have to be further developed before it will be of much help in solving the American Indian problem.

Even the lowly louse has contributed his share of evidence for the folk passages across Behring Straits. Ewing secured hair samples from some twenty pre-historic American Indian mummies. Lice were found in all—those from Peru little different from those of the southwestern United States. While the evidence is not beyond question, it has been shown that the head lice of the Chinese and Eskimos of the Aleutian Islands are quite similar to the insects discovered by Ewing (35, p. 26).

In speculating upon the length of time that the Americas have been inhabited by man, it is well to remember that upon discovery they were settled from one end to the other by a population variously esti-

mated at from five million to fifty million. These inhabitants had been there long enough to have become completely adjusted to the change from arctic to tropic conditions, from sea level to the highest habitable altitudes, to have established tribal boundaries, and to have produced twenty-three separate culture centers. Industries had been developed—irrigation, metallurgy, architecture, sculpture, ceramics, textiles, and a real agriculture.

Three hundred and sixty-eight tribal groups had been developed, varying in organization from the anarchy of the Eskimo to the League of the Iroquois, and from the military theocracies in Central America to the communistic despotisms in Peru (26, p. 97).

It is believed that in the United States and Canada there were six hundred dialectic groups, four hundred for Mexico and Central America, and eight hundred in South America (34, p. 177). During the time elapsed since the discovery, there has been very little change in the Indian and Eskimo languages. This affords some idea of the length of time necessary for such changes (27, p. 253).

The lengths to which scientists go in attempting to determine the relative lengths of time that the Eastern and Western Hemispheres have been inhabited by man may be indicated by the following: the ratio of iron meteorites found is 79 for the Eastern Hemisphere as against 182 in favor of the Americas, while for stone meteorites the ratio is reversed. These theorists argue that as a natural result of longer occupation the valued metallic objects have been used up (26, p. 124).

Then again, the shell heaps or kitchen middens of the New World do not approach in thickness those of the Old World. The extreme depth of shell heaps in America is probably in the neighborhood of forty feet, while at the Anau Kurgan sites in Russian Turkestan, the rubbish rose to a height of one hundred seventy feet, and a mound at Susa in southern Mesopotamia was found to be at least one hundred feet thick (26, pp. 107-108).

Whatever the racial origin of the American Indian, he has been on these continents long enough to have received a Mongoloid "wash" which made the whole of America "akin," and to develop cultures and characteristics which are fundamentally similar, such as the methods of working with stone, clay, bone, and wood, weaving and basketry, the construction of homes, the making of clothing and fire, agriculture, ideas of medicine and religion, games, folk lore, social organizations, and conceptions of nature. The behavior of all Indians is much the same in their family and tribal relationships and in their ceremonies, songs, warfare, and other activities (16, p. 482).

The constitution of the Indian is much the same everywhere. Although not exceptionally strong, he has physical endurance. He is little subject to degenerative diseases, such as cancer, cretinism, insanity, etc., but is an easy prey to alcohol, and is affected quickly by tuberculosis, measles, smallpox, and syphilis (16, p. 482).

All this leads to the strong presumption that the advent of man in America came at about the end of the last glacial period, or, putting it in years, from ten to fifteen thousand years ago. In the early post-glacial period the climate was so cold that the reindeer grazed as far

south as Kentucky, while the mammoth, the giant sloth, and the peccary found pasturage in the upper Ohio and Delaware Valleys (3, p. 23). Recent competent criticism (32, p. 87) has concluded that legends of the mammoth told by certain northern tribes are "historical traditions rather than mere myths of observation or recent Causasian introductions."

For some reason or other the red race built up its highest cultures in Mexico and Peru. In Peru the wonderful weaving of the Incas rivaled the Gobelin tapestries, and their surgery was far advanced. The Mayas had astronomical observatories and had worked out a better calendar than any used in other parts of the world. Their sculpture and architecture were well developed, and in mathematics they had conceived the zero several centuries before the Arabs and while the British Isles were a wilderness (21, pp. 5-14).

Cortez says in his second letter to Charles V (20, p. 263): "I will not say more than that, in the service and manners of the people, their fashion of living was almost the same as in Spain, with just as much harmony and order; and considering that these people were barbarous (and this from Cortez!), so cut off from the knowledge of God, and other civilized peoples, it is admirable to see what they attained in every respect!" Of the residences of Montezuma, he writes (p. 265): "So I limit myself to saying that there is nothing comparable with them in Spain."

In pottery, the American Indian excelled, and among the ceramic forms that he used, may be found most of those created by the natives of all other parts of the earth (27, p. 287).

As to agriculture, it is well to dwell upon the thought that the economic might of the United States rests upon maize, long-fiber cotton, potatoes, rubber, beans, tomatoes, and tobacco—our heritage from the Indians (31, p. 246).

Even in the Pueblo region of the United States, a great population existed, organized on a pacific basis, living in great apartment houses, and approaching the civilization of Mexico in their arts (21, p. 11). From these centers of development the influences faded out toward the northern borders of North America to the wild tribes of the North. We should always remember that (21, p. 15): "There was as great a gap between a Sioux warrior and a Maya astronomer as there was between an English swineherd of the seventeenth century and Galileo."

In the field of mechanics, the New World was not without its developments and discoveries, for example, the suspension bridge of the Andes, the hammocks of South America, the ventilation shafts of the Kivas, the bolas, and possibly the snowshoe of the North (34, p. 185).

What a fascinating speculation it is to wonder what these people would have accomplished if they had not been destroyed by the Europeans! What if they had continued to develop, their cultures being cross fertilized by migration, conquest, commerce, and travel? But never, alas, was a less developed civilization struck such an overwhelming and stunning blow from a greatly overpowering force, than when Europeans invaded America.

Another peculiarity of the early inhabitants of the Americas is the almost complete disassociation of the peoples of the two continents. It is known that the first peoples to migrate from North America into

South America were very primitive—without agriculture, pottery, metals, or stone celts. They probably wore clothing made of skins and used coiled basketry; some had bows and stone-tipped arrows and others had none (27, p. 259). There is no language common to South and Central America except that of the Arawak, whose migrations through the Antilles to Florida probably did not long antedate the discovery (27, p. 253). Many other elements of culture were decidedly different, and not a single object of Central American or Mexican manufacture has ever yet been found in South America (27, p. 292). It is probable, however, that, just before the discovery, coastwise trade brought the knowledge of metallurgy to Mexico from South America (27, p. 294).

It is evident from the foregoing that anything like an accurately dated history of the American aborigines is out of the question in the present state of our knowledge. Archeologists and historians, however, have been able to work out the chronology of the most civilized portions of the Americas since about 1500 to 1000 B. C., and the following chart will give a rough idea of the time relationships of the civilization of the areas of southwestern United States, Mexico, and the Andean region (28, pp. 4, 5; 23, p. 47).

	Southwestern United States	Central America	Andean Area	
1500 or 1000 B.C.	Basket Maker Period	Archaic and Introductory	Archaic and Migratory	
0				
100	Pueblo I	Old Empire of Mayas and Northwardly Expansion in Yucatan	<i>Highlands</i>	<i>Coast</i>
200			Advanced	Early
300			Archaic	Chimu
400			or	and
500			Tiahuanoco I Period	Nazca Culture
600	Pueblo II			
700				
800			Tiahuanoco II Empire	
900	Pueblo III	1st Period of Decline		
1000			Decline	
1100 ^a				
1200	Pueblo III	New Empire		
^b				
1300	Pueblo III	Toltec Period	Early Incas	Late Chimu and Nazca
1400				
^a				
1500	Pueblo IV	Second Decline	Inca Empire	
1600			Empire	
^b				
1700	Pueblo V			
Present				

It is estimated that not much more than two thousand years should have been necessary for the highest American culture to have risen from a primitive agricultural status. This conclusion is arrived at largely by comparison with early Old World cultures. Crete rose and fell in about twenty-six hundred years; Egypt in approximately three thousand years; and the Sumarian civilization rose and declined between 5000 and 2000 B. C. (12, pp. 352-353). If that time is chosen as approximately correct (and it must be acknowledged that no discoveries of cultures, in any way extensive, in America can be proven conclusively to have antedated 1500 or 2000 B. C.), then there is an hiatus of ten or twelve thousand years between that date and the closing of the latest glacial period that still remains to be accounted for. During just how much of this period the gradual infiltration of man into America was taking place is still a matter of theory and conjecture.

The development of civilization in Central America and Mexico is a fascinating study, filled with romance, and one that causes us to wonder again about the reason for the development and dissolution at certain times and in certain places of centers of human culture! What happy combination of circumstances brought about the first great Maya empire? And why did it collapse along about 700 A. D.? Was it a change of climate, or exhaustion of the soil, or was the population swept away by yellow fever or some other pestilence? This apparently, was followed by a great period of recovery and a second empire from 1000 to 1200 A. D., which was probably brought to an end by invasions of Mexican tribes from the north (31, p. 239), ending with Toltec rule and bringing the great Quetzalcoatl. The archeological finds of this period include gold figurines from Colombia and Costa Rica and turquoise exchanged with tribes of New Mexico for parrots, some of which were ceremonially buried at Pueblo Bonito and other ruins in the Southwest (31, p. 241).

From Central America as a center spread the cultivation of maize, beans, tobacco, and cotton, the use of the bar loom, the painting of pottery, the erection of pyramidal structures, and the cult of human sacrifice (34, p. 212).

The culminations of civilization in these areas seem to have been in Peru about 800 A. D., in the Maya area 1000 A. D., and in our own Southwest about 1200 A. D. It may be found yet that the mound area with its strange pottery development flourished at about that same time or a little later (34, p. 175).

The population of North and South America at 1200 A. D. has been estimated by Spinden at about fifty million (34, p. 176). At the time of early white contact, the population was densest, of course, in Mexico and the Andean highland. In North America north of Mexico the most thickly populated localities were the western coast, the eastern gulf states, and the northeastern states, with an especially densely settled spot in the Pueblo region. Florida, the Carolinas, and the Great Lakes region came in for a good quota, while the great central plains and especially the cold north were rather sparsely settled (19, p. 5).

References

1. Bell, Earl H., 1934. An evaluation of recent Nebraska finds sometimes attributed to the Pleistocene. *Wisconsin Archaeologist*, Vol 13.
2. Boas, Franz, 1933. Relationships between North-west America and North-east Asia. *The American Aborigines*. Toronto.
3. Brinton, Daniel H., 1901. *The American race*. Philadelphia.
4. Dixon, Roland B., 1933. *Contacts with America across the southern Pacific*. *The American Aborigines*. Toronto.
5. Dorsey, H. W., 1932. Chief Clerk Smithsonian Institution, letter dated August 25.
6. Dunn, Jacob P., 1919. *Indiana and Indianans*, Vol. 1. New York.
7. Du Pratz, M. Le Page, 1763. *The history of Louisiana*, Vol. 2. London.
8. Goddard, Piny Earle, 1927. Facts and theories concerning Pleistocene man in America. *American Anthropologist*, Vol. 29.
9. Golden, Gerald, 1930. Distribution of blood groups in South American Indians. *Lancet* 2:278.
10. Guthe, Carl E., 1935. *North America*. Amer. Archaeological Ser. Pan American Union, Washington, D. C.
11. Holmes, W. H., 1919. Problems of intercontinental communication. *Bur. of Amer. Ethnol.*, Bul. 60.
12. Hooton, Earnest Albert, 1930. *The Indians of Pecos Pueblo*. New Haven, Conn.
13. Hooton, Earnest Albert, 1932. *Up from the ape*. New York.
14. Hooton, Earnest Albert, 1933. Racial types and their relations to Old World types. *The American Aborigines*. Toronto.
15. Howard, Edgar B., 1935. Evidence of early man in North America. *Journ. Museum Univ. Pennsylvania*, Vol. 24.
16. Hrdlicka, Ales, 1925. The origin and antiquity of the American Indian. *Ann. Rep. Smithsonian Inst.*, 1923.
17. Jenness, Diamond, 1933. Preface, *The American Aborigines*. Toronto.
18. Johnston, W. A., 1933. Quaternary geology of North America in relation to the migration of man. *The American Aborigines*. Toronto.
19. Kroeber, A. L., 1934. Native American population. *Amer. Anthropologist* Vol. 36.
20. MacNutt, Francis Augustus, 1908. In Fernando Cortez, his five letters of relation to the emperor Charles V. Vol. 1. Cleveland.
21. Mason, Gregory, 1931. *Columbus came late*. New York.
22. Matson, G. A. and H. F. Schroder, 1933. Blood grouping among the Blackfeet and Blood Tribes of American Indians. *Journ. of Immunology* 25:155.
23. Means, Philip Ainsworth, 1931. *Ancient civilizations of the Andes*. New York.
24. Merrill, E. D., 1931. The phytogeography of cultivated plants in relation to assumed Pre-Columbian Eurasian-American contacts. *Amer. Anthropologist*, Vol. 33.
25. Myer, William E., 1928. Indian trails in the Southeast. *Ann. Rept.* 42. *Bur. Amer. Ethnol.* 1924-1925.

26. Nelson, N. C., 1933. The antiquity of man in America in the light of archaeology. *The American Aborigines*. Toronto.
27. Nordenskiöld, Erland, 1933. Origin of the Indian civilizations in South America. *The American Aborigines*. Toronto.
28. Roberts, Frank H. H. Jr., 1931. The ruins at Kiatuthlanna, Eastern Arizona. *Bur. Amer. Ethnol., Bull.* **100**.
29. Romer, Alfred S., 1933. Pleistocene vertebrates and their bearing on the problem of human antiquity in North America. *The American Aborigines*. Toronto.
30. Snyder, Laurence H., 1927. Blood groupings and its practical application. *Archives Pathol. and Lab. Medicine*, Vol. 4. Chicago.
31. Spinden, H. H., 1933. Origin of civilizations in Central America and Mexico. *The American Aborigines*. Toronto.
32. Strong, W. D., 1934. North American Indian traditions suggesting a knowledge of the mammoth. *Amer. Anthropologist*, Vol. **36**.
33. Thompson, Edward Herbert, 1932. *Perple of the serpent*. New York.
34. Wissler, Clark, 1933. Ethnological diversity in America and its significance. *The American Aborigines*. Toronto.
35. Zinsser, Hans, 1935. History and the louse. *Atlantic Monthly* (January).