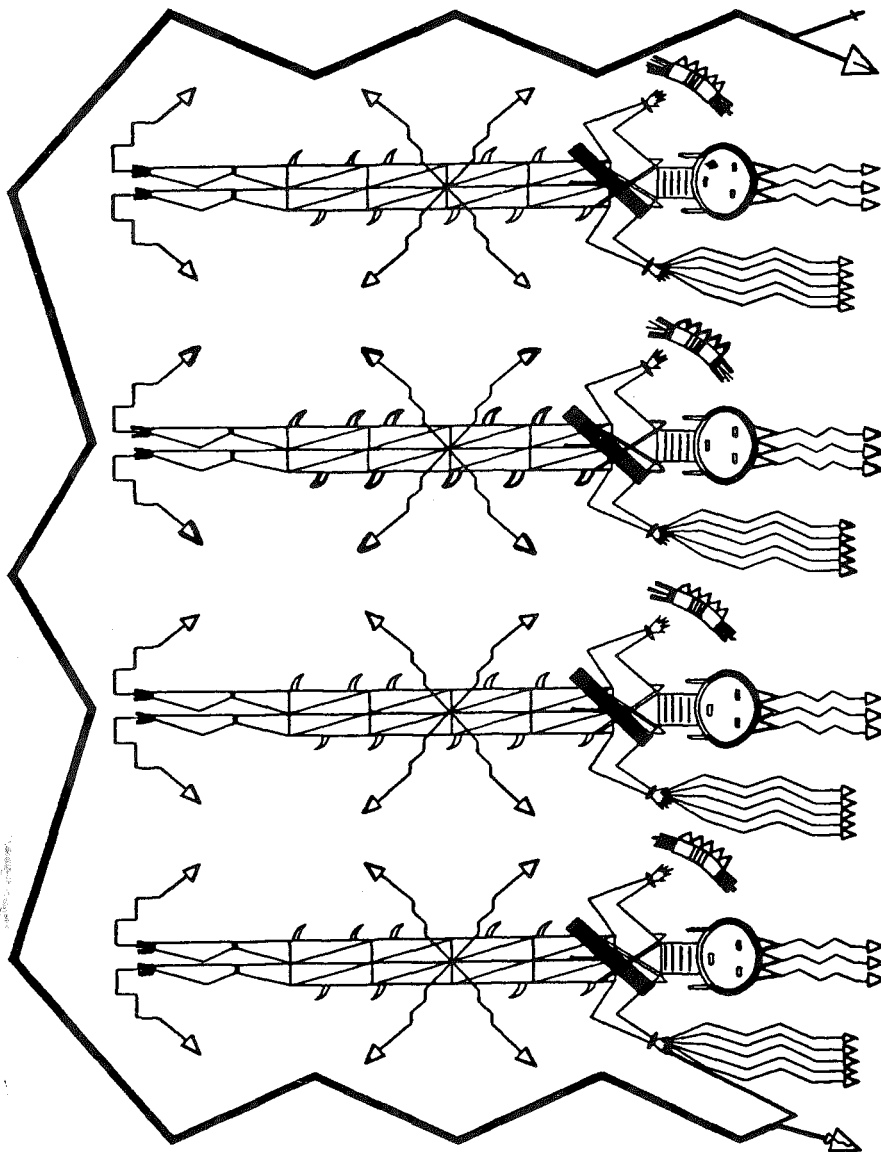


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ANNOUNCEMENTS

1986 STUDENT PAPER COMPETITION The Society awarded two prizes in two categories: undergraduate paper winner was Hugh Matterness (UNC Greensboro) for his paper "A Consideration of Data Relative to the Origin of the American Indian," and graduate paper winner Mary Ellen Chatwin of Jourxtens, Switzerland, for her paper "Food Cycles and Eating Habits of Americans in Switzerland." Ms. Chatwin's paper appeared in The Southern Anthropologist 14(1986):1:12-18. Mr. Matterness' paper appears in the issue of The Southern Anthropologist.

1987 SAS ANNUAL MEETING IN ATLANTA, GA March 25-28 at Ramada Capital Plaza, Atlanta, Ga. Tom Collins, Program Chair, Memphis State U.

STUDENT VOLUNTEERS We need students to help with registration and monitor book exhibits at the annual meetings in Atlanta. The registration fee will be waived for all volunteers. Contact Tom Collins, Professor of Urban Studies, Memphis State U, Memphis, TN.

1988 KEY SYMPOSIUM TOPIC "Minorities in the New South" will be the key symposium topic. Papers on a broad range of minority groups, e.g., blacks, Hispanics, Native Americans, and Southeast Asian immigrants, are to be on the agenda. Andrew W. Miracle, Texas Christian University, Fort Worth, TX 76129 is organizing the symposium. Those wanting further information can contact Dr. Miracle.

1988 SAS ANNUAL MEETINGS held in conjunction with the SFAA in Tampa, Florida. Michael Angrosino will serve as both Local Arrangements and Program Chair. Date to be announced at 1987 SAS meeting in Atlanta.

1988 SFAA ANNUAL MEETING THEME The theme of the 1988 annual meeting of the Society for Applied Anthropology, held in conjunction with SAS (see above), is aimed at reaffirming the continued importance of multidisciplinary cooperation in the practice of applied anthropology. Consequently, for 1988 annual meetings the Society invites individuals to address the theme "Applied Anthropology in a Multidisciplinary Perspective" by developing sessions focusing on the following issues:

- What are the unique contributions of applied anthropology in multidisciplinary research.
- How are goals and objectives defined in multidisciplinary research?
- What anthropological techniques are most useful in team research?
- How are obstacles engendered by multiple paradigms overcome?
- What mechanisms have been developed to translate anthropological data for non-anthropologist users?
- Which other disciplines have demonstrated successful use of anthropological concepts and research techniques?

- How can research designs be modified to include anthropological methodologies?
- What research principles are best approached through a multidisciplinary perspective?

We encourage individuals who have worked in multidisciplinary settings to develop sessions focusing on any of the above questions, as well as issues not mentioned in the above list. Sessions may be developed to include non-anthropologists who wish to address how anthropology has helped (or hindered) their investigations. Sessions may be constituted entirely of anthropologists, of multidisciplinary research teams, or individuals who hire social scientists. We invite non-anthropologists to join in our investigation of applied anthropology in its multidisciplinary setting. Sessions and papers focused on multidisciplinary efforts are especially encouraged, although other applied topics will be eligible for acceptance in the program. For more information contact:

CONFERENCE ON NATIVE AMERICAN MARCH 5-7, 1987 "From Big Game to Bingo: Native Peoples of the Southeastern United States, A Retrospective Occasioned by the Sesquicentennial of the Great Removal." was held at Florida State University, Tallahassee, Florida. Dr. J. Anthony Paredes organized the conference with an award from the Florida Endowment for the Humanities. The program included anthropologists, historians, and contemporary tribal leaders from Alabama and Florida. The formal program brought into focus social and cultural change among southeastern Indian peoples from first European contact to the present with a broad historical context. Paper abstracts and information are available from: J. Anthony Paredes, Department of Anthropology, Florida State University, Tallahassee, Florida 32306-2023.

VIDEOTAPES FOR CULTURAL ANTHROPOLOGY Family relationships in different cultures around the world is the subject of a series of videotapes developed by Lenora Greenbaum Ucko in cooperation with the Educational Television Section, TASC, John F. Kennedy Center, Fort Bragg, North Carolina. Four tapes are available, one each from Latin America, the Middle East, Southeast Asia, and the West. A fifth one on West Africa is in the planning stage. The series is useful for teaching and demonstration purposes and may be ordered without charge by writing to: Robert Haynor, Director; ETV-TASC; JFKSWC; Fort Bragg, NC 28307:

AD702-84-0890 - Understanding European Culture - Germany: The Fisherman and his Wife.

AD702-84-0897 - Understanding Latin American Culture - A Watch from the World Beyond.

AD702-87-0727 - Understanding Arabic Culture - The Sheikh of the Mat.

M0562 - Understanding Southeast Asian Culture - The Shadow on the Wall.

For further information, contact: Dr. Lenora Greenbaum Ucko, 555 F. Winding Creek, Fayetteville, North Carolina 28305 (919-484-1525).

A Consideration of Data Relative to the Origin
of the American Indian
Hugh Matternes
University of North Carolina at Greensboro

One of anthropology's goals has been to understand how people came to occupy the many diverse environments in which they are found. Humans have managed to gain the widest distribution of any animal species that has ever lived (Davis 1978:54). They live in environments ranging from the temperate to the harsh. What appears to give humans this great adaptability is culture. Culture takes over where physical adaptation left off and enables people to survive even where biological systems are ineffective.

To understand the adaptive capability of culture, one needs to know how humans are distributed. The modern contention that they evolved from a single species does not always account for where one finds them living. Geographical barriers exist which were impossible for all but high-technology cultures to overcome. Less sophisticated cultural forms managed to overcome these; we find humans living where theoretically they should not be. Understanding where they come from, how they got there, and how long they have been there enables the anthropologist to shed a little more light on how culture operates.

Our knowledge of how people got where they are results from many generations of speculation and theory based on a huge amount of data. This paper addresses what data was considered relevant to the origin of the American Indian. Three hundred years of inquiry has produced a host of theories based on what evidence was available at particular times. To date we have not completely solved the origin of these people. We have done what all our predecessors have done - we have formulated a rough theory that supports as much evidence as it possibly can.

Examination of what evidence was considered valid during a particular time, allows one to realize why certain theories were proposed. By comprehending why some data were considered valid and other forms were rejected we gain an understanding of why certain methods of inquiry were capable of reaching a solution and others were doomed to fail. In the study of Indian origins, three distinct approaches were used. The first approach considers the American Indian from evidence based on Western cultural sources rather than a direct inquiry of the Indian Culture. The second approach focuses on the American Indian and considers data from direct observation of Indian cultural remains, particularly archeological and osteological data. The third approach considers what information living populations are able to provide. In each case different conclusions were reached, reflecting the potentiality of each approach.

The Colonial Perspective

The discovery of the New World led to encounters with a new variant of the human species never seen before by Western Man - the American Indian. This previously unknown form had managed to remain outside the realm of the Biblical creation story, yet his presence indicated some form of humanoid (McNeil 1978:389). The Indian's manner of lifestyle, temperament, and lack of a Christian religious sense led many early Europeans to consider him a demon, or sub-human. To some, the lack of Biblical mention merited classification as a non-human (McNeil 1978:389)

The arrival of the Spaniards in the Americas demanded a scientific and theological classification for the Indian. Since no biblical mention is made, early Spanish explorer Las Casas insisted that Indians were not human, but animals capable of being put to work for man's better interests. A Papal Bull was drawn classifying American Indians as non-human, enabling the Spaniard to enslave them (Fewkes 1960:163).

Missionaries, sent in hopes of raising the Indian to a state of grace and acceptance of the Christian culture (Hollowell 1960:38), were among the first to consider who the Indian might be. They considered a very select amount of data, chiefly that of the various biblical texts, and a very biased assortment of cultural characteristics (Hollowell 1960:6). Between 1550 and 1600, separate studies by Gomera, Leries, and Les Carbat concluded that the American Indians were ancestors of Canaanite tribes (Fewkes 1960:163). These theories were synthesized by Father Gregor Garcia into the Lost Tribes theory (Hollowell 1960:4). Garcia felt that the Jewish tribes, mentioned in the Bible as lost in the wilderness, managed to get to the New World. Here they reverted back to a Nstage of savagery and lost their Jewish heritage before European Contact (Hollowell 1960:4). This theory gained much support from various communities. It tied Biblical records to an unknown people and supported Enlightenment ideas. The American Indians were viewed as a classic example of man fallen from grace. Unlike Western man, they had fallen low enough to lose their heritage, but could be raised to a state of Utopia.

The popularity of Garcia's theory established it as the explanation for the American Indian. Thomas Thorowgood drew heavily from it in Jews In America to show that 50 Jewish cultural traits could also be found in Indian culture (Fewkes 1960:5). In 1830 additional religious evidence was introduced by Joseph Smith (Hollowell 1960:112). Smith proclaimed a divine messenger unveiled to him the names of the lost Jewish tribes that wandered into the New World (Pusuite 1985:239). While the impact of these theories was important, they lacked specific bits of evidence, principally how the Hebrews ever got to the New World. This reflects the idea that group identification was more important to establishing an origin than a means of movement from the Middle East to North America.

In 1665, Isaac de la Peyerre responded to this problem. In his opinion, the Bible referred only to those events in Western/Jewish history. Since the Indian was not mentioned anywhere in the Bible, they were not created at the same time as Adam and Eve and could not have the same ancestry as the rest of the world. He eliminated the question of how the Indian got to North America by stating they were created here (Hollowell 1960:5). English colonist George Combe subscribed to this idea and noted that the Indian had a tendency to disassociate himself from Western culture, preferring to die out rather than acculturate. This suggested a basic difference in brain structure, providing support to Peyerre's conclusions (Gould 1981:51-52).

The emphasis of the Colonial perspective was on who the Indian was without consulting the Indian. Western scholars felt that all one needed to understand the American Indian's origin was to review Western theology. No data came from the Indian. Theorists noted that the Indian was highly subservient to Western Man. They were creatures to be raised from savagery or put to work in the fields. Without consideration of the Indian as a data source, no true answer to the origin of the Indian could ever go farther than the ethnocentric opinion of the individual investigator.

Consideration of the Indian's Past

During the late 18th and early 19th centuries, investigators became interested in the credibility of the Separate Creation and Lost Jewish Tribes theories. They turned to the study of Indian physiology as a source of information. Craniometric studies, aided by recent technological advances (Hollowell 1960:93), attempted to determine the racial stock of the Indian. De Uloa determined, in 1772, that the North and South American Indians were the same race, concluding that the Americas were populated by a single racial entity (Hollowell 1960:95). Blumenbach extended this work; he noted that there were specific racial traits that coincided with Mongoloid skulls (Spencer 1982:282). This led him to believe that the Indian was of Asian ancestry (Spencer 1982:282). Others reached the same conclusions; the question of origin boiled down to a question of Monogenism or Polygenism.

Supporters of Monogenism pointed out that Biblical texts favored a single creation. The Indian was viewed as a degenerate human form resulting from a fall from grace. Other scholars noted that cranial studies supported Asian ancestry. These were substantiated by Russian explorer Geor Stellar's observations of the East Russian natives:

"I may conclude that the inhabitants of this American Coast (referring to the Alaskan Coastline) are of the same origin as the Kamchadals, with whom they agree completely in such peculiar customs and utensils..." (Golder 1968:46)

Monogenists concluded that these races were of the same origin, but could not explain how the Indian got to the Americas. Evidence supported a connection with the Eurasian continent, but none could be found.

Polygenists argued this point in their favor. Louis Agassiz forwarded the opinion that different races of the world were the result of separate centers of creation (Gould 1981:43). He determined that a center in the Americas was the origin of the American Indian. Samuel G. Morton pursued Agassiz's theory with special emphasis on American Indian crania. Morton studied hundreds of Indian skulls and determined the Indian was created separately. He cited their substantially smaller brain capacity as primary evidence for his ideas (Gould 1981:51). Morton agreed with De Uloa but rejected Blumenbach on the grounds that Asian cranial morphology was not present in all American populations (Hollowell 1960:95). Morton fell under scrutiny because his theories were heretical. Polygenists constantly faced the problem that their beliefs fell outside the bounds of Christian doctrine (Hollowell 1960:100-101). If they could ignore theological sources, the Polygenist position was much stronger. In their day, however, theological evidence tended to carry more weight than empirical data.

With the purchase of the Louisiana Territory, reports circulated of mounds and other earth works beyond the resident Indian's cultural ability. Most earth works were attributed to others, such as the Spaniards, not to the local Indians (Hollowell 1960:111). In Ruins - A Survey of the Revolution of Empire, Volney asserted that a race of ancients constructed these great ruins (Hollowell 1960:110). Work by Squire and Davis concluded that the ruins of Peru and Mexico bore resemblances, probably the result of the same group of people (Hollowell 1960:115-116). The underlying theme was that the present Indian populations were not indigenous. Considering the magnificence of the assorted ruins and the conditions in which the Indian lived when first contacted by Europeans, one could believe this was the case. Unfortunately, little direct proof existed for

or against this idea. During the latter half of the 1800's, Cyrus Thomas became interested in proving whether or not there was a connection between ancient and modern Indians (Hollowell 1960:120). His work, supported by the Bureau of American Ethnology (Fagan 1981:60), concluded that the people who built the ruins in North America were the same Indians living there today. Thomas noted that the differences between the prehistoric and the modern populations reflected a dramatic change in lifestyle (Hollowell 1960:120).

Unquestionable proof of the link between modern and prehistoric populations did not come until 1929. Working with the Pecos Pueblo Indians, archeologist A. V. Kidder established the first continuous cultural sequence from prehistoric to modern times (Fagan 1981:60). These investigations acknowledged a change in the Indian culture from one form to another. This meant that the modern Indian's culture did not necessarily represent that of the ancient form.

In the early 1880's, pioneer linguist Albert Gallatin organized the American Indian Languages into linguistic families (Hollowell 1960:64). His primary interest was in establishing an order to identify various Indians groups, but others interpreted the relation of Indian languages as a sign of common ancestry (Fewkes 1960:209). Taking their information largely from second hand sources, theorists compared different language groups to languages found elsewhere in the world. Early linguists like Petitot, Lefon, and Paravey concluded that links could be made with Celtic, Sumarian, and Japanese languages, respectively (Fewkes 1960:209-210). Linguistic methodologies were not consistent; most were based on the comparison of distinct words regardless of use or meaning. Until Chamberlain synthesized linguistic methods these studies stood as valid evidence of Indian ancestry (Fewkes 1960:209).

In 1887, Geologist Edward Forbes presented a paper arguing that the only way life moved from one continent to another was over land bridges caused by movement of the sea floor. He concluded that periodically the sea floor rose and fell (Holmes 1945:488). This provided the Indian potential access to the New World from anywhere (Fewkes 1960:164-165). Theories ranged from the plausible to the absurd. The most popular theory came from Daniel Brinton's Races and People. He believed that all races originated in Europe and diffused outward via a complicated series of land and ice bridges (Leguna 1960:148).

Another theorist, Mendes Correias, postulated that the Indian was a migrant from Australia, based on similar cultural traits (Boas 1960:359-360). Ethnologist Van Hornbestal supported this theory with a report comparing Polynesian and South American musical instruments and their musical pitches (Boas 1960:360) Another comparative study by Imbelloni compared clubs from South America and Polynesia, finding them identical (Boas 1960:360). He also noted the absence of certain plants, grown world-wide but not in the Americas or Polynesia (Boas, *ibid*). For most land bridge theorists, evidence was weaker than speculations, but their work would not be dismissed until the world stratigraphic sequence for sedimentary rock was established in the 1930's (Spencer 1982:283).

With the exploration of the South American interior, evidence supportive of the polygenic theory emerged. Danish explorer, P. W. Lund, reported finding material belonging to an extinct man in the Brazilian mountains. In 1835 he excavated the caves of Logoa Santa, recovering a collection of extinct animal bones in close association with human skeletons. These humans were characterized by a forehead slope much different than any other human skull encountered. Lund concluded that these were the remains of a human species living at the time of the extinct animals (Hrdlicka 1912:153-158).

Other anthropologists, Ameghino and Ensayos, recovered tools with 'early human' and fossil primate skeletons (Hrdlicka 1912:12). Ameghino reviewed all recovered material and postulated that mankind had originated in the jungles of South America, differentiated, and spread over the world via land bridges. In the final episodes, the modern form of the Indian returned to the Americas from Asia (Fewkes 1960:165). Ameghino's theory was the first to have substantial evidence to support his findings. His work never got much attention because it was published in obscure journals, but as the century closed, other anthropologists began to notice his work.

The question of time was explored to determine the answer of Indian origins. A. R. Wallace published The Antiquity of Man in North America in 1887. Based on shell midden and glacial rift artifacts, he implied that man was in North America as far back as the end of the Ice Ages. This established the first relative date for Indian occupation (Leguna 1960:149). Archeological excavations yielded a firmer estimate. Figgins' excavations at Folsom revealed spearpoints imbedded in bison skeletons known to have been extinct for at least 2000 years (Wilson 1980:1). The discovery of the Promontory Point site suggested occupation of the Lake Bonneville, Utah area as long as 10,000 years ago (Boas 1960:362). Archeology provided evidence that the Indian was a much older race than expected and occupation of the Americas went deep into geologic history. This evidence, however, supported each of the major theories of origin equally well.

In 1910 a Smithsonian Institution's Expedition went to South America (Hrdlicka 1912:6-8). Ameghino's theory raised enough controversy among American anthropologists to warrant an investigation into the fossilized remains. After examination of specimens, noted as ancient races, they concluded that these were modern forms showing either secondary evolutionary traits or traits modified culturally by cranial deformation (Hrdlicka 1912:preface). Most of the skeletons had been disturbed from their original positions or were buried in ancient Strata, and in both cases, were not as old as the material around them (Hrdlicka 1912:preface). Ales Hrdlicka, director of the expedition, drew the following conclusions:

"Some students have held that America was peopled from the Old World because conditions of life were more complex on that continent than in the New, and because Simians most closely allied anatomically to man are indigenous to the Eastern Hemisphere. As none of the higher apes occur in America, it is reasoned that man, who is regarded as related to these animals, could not have evolved in America" (Fewkes 1960:160)

Ameghino's theory was thoroughly demolished; examination by professional physical anthropologists determined that the Indian had origins outside the American continent. No specimens other than modern forms were known in America and the report indicates that none were expected to be found (Hrdlicka 1912:preface).

Franz Boas considered the question of Indian origin in his paper "Relations between Northwest America and NorthEast Asia" in which he questioned what traits are and are not exhibited between the two locales (Boas 1960:363). He reasoned that certain traits had a chance to diffuse into the Indian culture from Asia before the land bridge sank. He noted which traits were shared and which were found strictly in the Americas (Boas, *ibid*). Boas's work created a

cultural-temporal image of when the Asian-Indian culture had separated. With the establishment of the Bering land bridge as a possible route of migration, Boas's work indicated that the entry population lived in a very simple culture.

The last major study before World War II was Hrdlicka's "Anthropological Survey of Alaska" (Spencer 1982:283). His study of morphological and cultural distribution patterns provided proof that movement was from Asia to America (Spencer 1982:283-284). His attempts to establish a link with Siberia using archeological evidence yielded nothing (Bishop et al 1930:326-327). In 1938, scholars rejected his theory due to insufficient amounts of evidence (Spencer 1982:285).

At the start of World War II, the origin of the Indian was more uncertain than ever. The 1910 Expedition determined the Indian did not originate in the Americas and Hrdlicka's lack of archeological evidence in Alaska indicated that the Bering land bridge was not the entry point for the early Indian. This left anthropology without a supportable explanation of how the Indian arrived in America. Most scholars felt that the Indian probably crossed the Bering land bridge. However, definitive proof was lacking.

Their efforts, however, had not been in vain. During this period research had dismissed nearly every major theory of Indian origin on the grounds of insufficient evidence. It implicated origins of the Indian and eliminated osteological anthropology as a source of definitive proof. The problem was perspective. Anthropologists felt the answer to their questions could only be found in the records of the past. The modern population was of no value to this research. Therefore, it was never considered. World War II changed this; the living Indian was realized to be equally as important as his past.

Consideration of the Living Indian Population

The close of World War II brought about the realization of the gene's significance. Its potentials for anthropology were many; researchers were capable of seriously considering what constituted a race, what characterized a race, and how long it took to create a race. Genetic trait comparison was considered a valuable asset to the understanding of how the Indian migrated (Simmons 1971:679). It provided clear, precise information that could be found in living populations. Anthropologists realized that "unlike culture traits, which may diffuse, genes are spread by movements of people. Without actual migration it is inconceivable that (a) gene...could spread several thousand miles through an unknown number of breeding populations in a historically reasonable length of time..." (Newman 1958:34).

The gene provided anthropology with a new perspective. Whereas previous researchers worked either with material from past populations or with Western cultural data, this new shift studied the living Indian populations to determine what genetic material they possessed. Using comparative analysis, it was hoped that correlations would show what groups were genetically related.

William S. Laughlin and J. C. Spuhler first tested this idea in the late 1940's and early 1950's. Laughlin combined the data received from the newly invented Carbon-14 testing with Spuhler's Pueblo gene studies to determine the relative biological distance between two known populations (Spencer 1982:288). By testing for simple dominant/recessive traits, Spuhler showed that a living population, believed to have moved from a Rio Grande occupation site, was genetically related to groups still living in the Rio Grande area. The differences he noted generated the first biological distance to be determined

genetically (Spencer 1982:282). Spuhler later tested his method between different racial populations. His comparative data determined that the American Indian was genetically closer to the Mongoloid race than either the Caucasoid or the Negroid (Spencer 1982:287). Encouraged by Spuhler's success, other researchers took to the field.

One of the most successful researches, conducted by Dr. William C. Boyd, centered on the premise that the differences between race could be based on gene frequency changes (Spencer 1982:287). Since the American Indian appeared to be the most recent example of racial evolution, he concentrated on determining affinities between Indians and Asiatics. Boyd collected blood samples from thousands of subjects. He compared them and determined that:

"In Blood group frequencies, except for the absences of Blood group B, American Indians are Asiatic in type and are differentiated chiefly by the low frequencies. These two important differences, however, seem enough to enable us to distinguish them serologically as separate races" (Boyd 1971:573).

Boyd noted frequency patterns that led him to hypothesize on the number of migrations that took place. By comparison of blood groups, he found that three types of American Indian could be recognized (Boyd 1971:572). These, he argued, could be representative of three separate migrations. Growing evidence from the archeological record indicated that this possibility could be valid (Fewkes 1960:188-189).

With the invention of Carbon-14 dating, archeology determined that man had been in the New World for much longer than previously supposed. MacNeish found occupations in Peru as early as 20,000 years ago (Wilson 1980:7). Occupational sites upwards of 40,000 years old were found in California, and in Canada, a skeleton at least 50,000 years old was recovered (Wilson 1980:79). Geologists correlated these finds with the advances and retreats of the Wisconsin Glacial period. Retreats could have allowed migrants to cross the Bering Straits Land Bridge in intervals as early as 70,000 years ago (Wilson 1980:3-5). Boyd's theory had gained the support of several different fields.

For nearly 50 years, linguistics had been considered an invalid method of studying Indian origins. Languages seemed to be too dynamic to consider. In 1954, linguist Morris Swadesh developed glottochronology, a relative dating system for languages based on the distancing of sounds (Vorgeten 1958:55). This system enabled anthropologists to place a language into a temporal framework, relative to the languages around it. Swadesh was able to identify ten distinct language bases which he felt were the result of separate migrations to the New World (Vorgeten 1958:55). This information implied that separate cultures within genetic groups migrated into the New World. Migration into the Northern hemisphere would therefore appear to be a much slower process than the 'mass exodus' which migrations were generally viewed (Brues 1977:294).

Cultural geographers added support. Kingsley Davis, author of the currently accepted migration theory, points out that the impetus for movement is the influx of a culturally superior group into the environment (Davis 1974:52). Less developed cultures, unable to compete with the new arrivals, are gradually pushed out. Evidence points to Asian movements in a northward direction, following game herds, and westwards towards isolated islands suitable for fishing. Boyd's studies showed a relationship between the Ainu and the American Indian (Simmons 1971:679). Under Davis' theory, the Ainu's relatively remote

location can be explained as another direction of movement away from the advancements of the incoming Mongoloids (Brues 1977:295).

Recent research confirms that a number of migrations took place. William Laughlin's research all but absolutely confirmed that the Indian crossed the Bering Straits into the New World (Spencer 1982:285). He was able to determine that the early migrants crossed in a state of hunting and gathering, taking advantage of the vast herds that wandered the northern territories. Their movement was not deliberate; they appeared to follow the most available supply of food.

Anthropology currently believes that migrations into the Americas took place during three broad time periods (Williams et al 1984:17). The first, termed the Paleo-Indian migration, appears to have been before 16,000 B.P. Then the Wisconsin glacier movement appears to have closed off the straits outlet until 14,000 years ago when the Na-Dene hunters are believed to have entered. These two groups comprise the bulk of the Indian population, accounting for all biological and cultural groups outside the Arctic Circle. The final group to migrate, the Eskimo/Aleutian populations, appears to have migrated before the final relapse of the glaciers, about 9,000 years ago (Williams et al 1984:2-3).

It appears that the general origins of American Indians have been determined. The data indicate that we are on the right track, but there are numerous considerations that need to be resolved. Probably the most important is the lack of data absolutely confirming the Bering land bridge as the source of Indian migration. The problem is complex; absolute proof exists in the form of archeological sites located at the bottom of the Bering Straits. No one has developed a method of locating and excavating such a site; the need for such data is not critically in demand. I feel that our standing geological and archeological material supports the Bering Strait land bridge theory of migration better than any other possible suggestion. Beyond a general knowledge of three migration sequences, we have no idea in what order the Americas were populated. Linguistic evidence suggests ten or more cultural groups entered; however, no arrival order can be determined. Within the bounds of North America alone migrations of more recent cultures have yet to be resolved, let alone the considerations of where the original Paleo-groups settled. In essence, however, we have probably established the basic origin for the American Indian.

It has taken Western thinkers 300 years to work out the origin of the Indian; the future is left to sort out the details. Continued studies of genetic movement will provide the answer to the fine points. Genetic studies are still at a very primitive state. Little, if any, work has been done to compare gene sequences beyond blood grouping and simple dominant/recessive correlations. This information can give only an indication of broad affinities. With better understanding of how genes operate and how gene pools flow, new data will deliver a more distinct picture of exactly where the American Indian came from and exactly who he is.

The differences in approach and consideration of evidence can cause different conclusions to be reached. During the early years of colonial history, questioning of the Indian's humanity resulted from a completely impersonal approach to their origins. The self-centered, ethnocentric perspective of the early inquiries provided only rhetoric and opinions, nothing of redeeming scientific value. The era of the late eighteenth and early nineteenth centuries marks a time of recognition of the Indian, but only in the past tense. Most of these scientists approached the Indian as a form of life that used to exist, not as a living entity. The modern approach has succeeded

primarily because there is recognition of modern Indian populations as a source of information and because development techniques are geared towards understanding what data the living sample is able to provide. This approach recognizes that Indians are human and that they have been and are still existing on the American continents. By consideration of who the Indians were and who they currently are, a clear picture of where they came from can be drawn. Previous approaches did not use this method. For this reason they could only achieve partial results. The lesson learned from this study is simple: what evidence one considers valid determines what conclusions one is capable of drawing. Sound conclusions reflect sound consideration of all evidence, not the other way around.

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