

ANSWER TO PAUL KIRCHHOFF

Dr. Kirchhoff's article appears to me of particular importance, since he does not deal only with isolated comparisons between Mexican and Chinese or Hindu mythology, but goes deeper, to compare the structures themselves of the religions of Central America and Asia in order to establish a correlation.

In fact, nothing is simpler than to find very similar myths which are common to both the Asian and Mexican religions. As an example, I would like to quote this passage from the *Mahabharata* (Adi Parvan LXVII): "The sage said to Draupadi: you may now call upon the god you wish, and by his grace you will have children. The young girl called upon the Sun God. The lord of light had her conceive a son, who was born with armor and weapons, and became quite expert in their use." It was said that he was born right after conception and that when he was born he was already adult.

All archaeologists interested in Mexican and Central American religions will quickly note the great resemblance between the paragraph which I have quoted and the myth of the birth of the

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Aztec God of war, *Huitzilopochtli*. Many examples such as this could be cited.

To discuss point by point the correlations that Dr. Kirchhoff has established would take up much space. On the other hand, I believe that the discussion would be fruitful if it were undertaken by experts in the Central-American as well as the Hindu and Chinese religions.

To establish a basis for the discussion, I would first like to give a general explanation of what we call in Mexican archaeology *Cultural Horizons*. This will permit an examination of Dr. Kirchhoff's opinions on the basis of the two fundamental measurements of space and time. I would pose the question in the following way: Are the relations that Dr. Kirchhoff establishes between the religions and the calendars of Asia and Central America probable, or at least possible, taking space and time into consideration?

For a number of years we archaeologists working in Mexico and in North Central America have been able to combine our investigations and to elaborate a *Chronological Table*, with which all are in agreement. This Table has been worked out according to two criteria: on the basis of stratigraphic exploration in each location, and with dates established in accordance with the Carbon 14 method. The findings of the two procedures have coincided, and this gives us great confidence in the Table and allows us to establish a true chronology for the region of the world called Central America.

We have pointed out what fundamental importance chronology has for the archaeologist. It is not enough for us to know that there are cultural traces in one zone; we are basically interested in knowing when and how long these cultural traces existed.

I will mention briefly the phases that we were able to establish within the chronological Table. Our dates are naturally not exact, as transposed to our calendar, but approximative. Nonetheless, these approximate dates will suffice for the discussion of Dr. Kirchhoff's article.

The first phase, the most ancient, is represented in Mexico by the hunters of mammoths and other extinct species in this region. The finds of Tepexpan, of Sta. Isabel, etc. show that

man existed and hunted mammoths around the year 10,000 B. C. The industries of Chalco, which were mentioned by Aveleyra and discovered by De Terra, and spear points and other stone instruments found in connection with mammoth bones are further proof that man lived and hunted these animals in the Valley of Mexico. I have proposed that this period be called the *Prehistoric Horizon*.

The second phase is that of the discovery of horticulture. McNeish's explorations in Tamaulipas inform us that cereals were cultivated in this area in a period which Carbon 14 puts at 7000 B. C., that is, contemporary with the period in which cereals were cultivated for the first time in Palestine.

In the course of explorations of the ancient bed of the lake of Texcoco, corn pollen was discovered at a depth of 70 meters. Sears and his collaborators place this pollen in a period in which man did not yet exist on the American continent. This indicates that corn is a forest plant which existed in America and was not brought from areas outside of the continent.

But explorations in the caves of New Mexico have shown, according to Mangelsdorf, that corn had been cultivated in the year 3600 B. C.; and corn has been found recently by McNeish in the Valley of Tehuacan, dating back to 5000 B.C. according to Carbon 14 data, and layers moreover which have permitted him to see the evolution of this plant's cultivation, from its most primitive states until the appearance of corn that might be called contemporary. These explorations, carried out with great care and the very precise technique of stratigraphy, have been confirmed by the relevant date of radioactive carbon.

I have taken the liberty of calling this the *Primitive Horizon*, but we could give it any other name, for example, the horizon of the beginning of agriculture.

The next horizon we call *Pre-Classical*. We find in this phase the establishment for the first time of the population in villages, and later in cities. We also find the writing of numerals with points and dashes, and the calendar, as well as a rich, very complex pantheon.

Shook discovered a stele in the Altos of Guatemala which could be dated 800 B. C., and I have found a large quantity of them with inscriptions which Carbon 14 has demonstrated to

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correspond to 600 B. C. But both Shook and I have found a perfectly elaborated calendar, with specific signs for days, for the year, for the months, etc., which must of necessity have been elaborated in a previous period. We can say that this calendar was devised, to give an approximate date, at the beginning of the first millennium B. C.

After the *Pre-Classical Horizon* follows the *Classical Horizon*, which began in 100 B.C., ending around 800 to 900 A.D. This is the phase of the great development of Central-American cultures: the Mayas, Zapotecs, Mixtecs, Teotihuano, etc.

The last is the horizon that we call *Historical*. We have historical accounts of it, kept by the natives and transmitted by the Spaniards, or written by the same natives using our alphabet, but in their own languages. This phase extends from 900 A. D. to the period of the Conquest, which can be fixed at 1520. I have been able to read accounts of it written in native documents, in hieroglyphic writing, in the Mixtec Codices, and the earliest date I have found so far is 690 A. D.

Such is the chronological development of culture in Mexico and that part of North Central America that we call Central America. This very simple scheme will help us greatly in the discussion that follows. For those who are interested in more complete information, I recommend the study by Jimenez Moreno, published in the book, *Esplendor de Mexico Antiquo*.

So much for the analysis according to the measurement of time. To sum up: a calendar and writing existed in Central America in 1000 B. C.

Let us now turn to space.

Only two ways are possible for a group of people to come from Asia to America, three in reality if we count the Continent of Mu, which some people believe has been submerged in the Pacific; but for all intents and purposes we may as well leave it submerged there. Two possible routes then remain; either crossing by the Behring Straits and the Aleutian Islands, the small space that separates Asia from America, or crossing the Pacific. To consider the first, it is precisely in the Northeast part of Asia and in the Northwest part of America that people possessing no calendar or writing, nor for the most part any kind of agriculture, existed. How is it possible then for us to claim

that knowledge of these came from Asia to America, if precisely in these areas, through which the passage would have taken place, this knowledge never existed?

We tend to believe that this religion and calendar from India and China passed through Mongolia to Siberia, crossed the Behring Straits, continued through California to New Mexico, where we begin to find agriculture, to Mexico, where we already find writing, and, to be sure, well into the center of Mexico. Is it possible to believe that this long trek could have taken place without leaving the slightest trace in passage? How could this knowledge have come across these immense distances without manifesting or divulging itself before it reached Mexico?

As can be seen, this route seems most improbable. But another remains: via the Pacific Ocean.

America is an island, the largest island in the world. To reach Mesopotamia, Egypt, the Valley of the Indus or to cross Turkestan to China, one must go by land, while in order to reach America from Asia, if the Behring Straits are not crossed, one must cross the ocean, and for that some type of boat must be available.

We know that the calendar and writing, which are closely connected with religion in Central America, existed there from the year 1000 B. C. The question is therefore: who, in the year 1000 B. C. could have crossed the Pacific. Evidently not the Polynesians, since we know that the Polynesian population is relatively young.

Explorations carried out in islands close to America show that they were populated only in the first century B. C., at the earliest, but by this period, in Central America, we have reached the beginning of the Classical Horizon, and writing and the calendar had existed for a long time among the Mayas and other ethnic groups. Hence it could not have been the Polynesians who brought his knowledge to America. One thinks then of a more ancient culture, which existed in Asia in the year 1000 B. C. I refer to Chinese culture. In this period the Chang dynasty governed North China, but it apparently did not have sufficient boats to cross the Pacific, nor did it have any interest in crossing it. The economic interest of this dynasty was oriented toward the Chinese interior and not toward undertaking transoceanic expeditions.

We know, for instance, that the culture of rice had been introduced in Japan from the year 300 B. C. Is it possible to believe that the Chang dynasty, and the Tch'ou which followed, could have considered undertaking such far-reaching maritime expeditions without having previously colonized Japan? Naturally I am not thinking of people who might have been shipwrecked and who could have reached the coast after undergoing many vicissitudes in a long and perilous ocean crossing. This is always possible. But could shipwrecked people have brought such an old and established knowledge of religion and the calendar as that which has been proposed by Dr. Kirchhoff?

In order for these Asian ideas to have formed the basis of Central American religion, not just a sporadic but constant contact would have been necessary. And it would have required not only that boats come frequently from China but also that they return to China.

To come and go from Asia to America would have required a compass, which at this time had not yet been invented. I have consulted with Chinese specialists as well as specialists on various Chinese problems, and they are all agreed that there is no evidence to assume that boats capable of crossing the Pacific existed at this time. The "junks" which were then built, in their opinion, could have been used only for coastal navigation, such as the Egyptian boats or the fleets in existence at the time in the Mediterranean, and that they could not have crossed the ocean. Let us now join our two conceptions of time and space. According to the data of the period, Hindu religious ideas, after having passed through China, would have had to reach Central America before the year 1000 B. C.

Let us now consider space. In order to carry these ideas from China to Central America, it would have been necessary to cross the Pacific, and this could have been done only with boats capable of withstanding an ocean crossing, with good navigation technique and good instruments, neither of which existed at the time. I will not deny, naturally, that many centuries later, when the Polynesians were already established in the South Sea Islands, the boats of these extraordinary navigators could have reached America and could have brought certain products, such as for instance cocoa, instruments, such as a special type of stone

hatchet, etc. But this took place when the Central American cultures were already in full bloom. If something was added to these cultures, it was most certainly not fundamental in religion, in writing, in the calendar, nor in agriculture, ceramics or any of the other aspects that characterize these civilizations.