

## **Pre-Columbian Magnetic Sculptures in Western Guatemala.**

In February, 1976 the senior author reported the discovery of a sculptured turtle-head with magnetic properties at the Late Formative ceremonial center of Izapa on the Pacific coastal plain of Chiapas State in Mexico. (1) Although no temporal context can be definitely established for the sculpture, radio-carbon dates as early as 1500 B.C. have been confirmed for material taken from the interior of the largest mound at the site. (2) Some 150 km farther to the southeast, at the ancient ceremonial center of Monte Alto in Guatemala, far more primitive sculptures have been encountered which can be accurately dated to ca. 2000 B.C. (3)

During field investigations in February 1979, the present authors discovered that many of the Monte Alto sculptures are magnetic as well. Inasmuch as certain distinctive patterns of magnetism recur with some frequency, it would appear that the sculptures were executed by artisans who were aware of these properties. If this is true, the Monte Alto sculptures no doubt deserve recognition as the oldest known magnetic artifacts in the world.

Two general styles of sculpture stem from the Monte Alto site -- one representing a human head, and the other, a human body. Since both the heads and the bodies are rather crudely shaped from large, rounded basaltic boulders, the subjects have a decidedly corpulent appearance. Because they seem to be male figures, they have been termed "fat boys" in the archaeological literature. Of the collection of "fat boy" sculptures from Monte Alto on display in the town park of La Democracia, Guatemala and in front of its local museum, four of the heads and three of the bodies were found to have magnetic properties. All four of the heads have a north magnetic pole located in their right temples, while three of them have south magnetic poles below the right ear and the fourth (that in front of the museum) has a south magnetic pole in its left temple. Such a pattern of occurrence is unlikely to be a matter of chance, even in a sample size as small as four.

Of the three "fat boy" bodies, two have both their north and south magnetic poles located within 10 cm of one another near their navels (specifically, between the fingertips of their hands which embrace the most rotund portions of their abdomens.) The third body sculpture that exhibited

magnetic properties has its north magnetic pole located in the back of its neck, but no south pole was encountered within the exposed area of the sculpture. (Possibly it is located near the base of the sculpture, which is buried in the earth.) The latter example obviously does not fit the pattern of the other two; on the other hand, the similarity of locations of the magnetic poles strongly suggests that the sculptors were aware of their presence.

One final sculpture from the site of El Baúl, some 20km northwest of Monte Alto, likewise displays magnetic properties. A stone tablet about a meter in length and half a meter in width depicts two men seated with their arms crossed over their chests. A north magnetic pole is found at the navel of both figures and a south magnetic pole is found beneath each of the figures, yielding four distinct polarities in one block of stone. The similarity of location of the north magnetic poles of the El Baúl tablet and the Monte Alto figures seems too striking to be a matter of coincidence, but the authors are at a loss to explain either the patterns of occurrence in the heads and bodies of the "fat boy" sculptures or any possible significance they might have had.

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### **Footnotes**

1. Malmstrom, V.H., *Nature*, 259, 390-391 (1976).
2. Ekholm, S.M. *Papers of the New World Archaeological Foundation*, 25, 1 (1969).
3. Graham, J. Personal communication.
4. Since the preparation of this report, four additional magnetic sculptures from the same site have been reported by J. Rudloe. Three of these are stelae currently on display in the courtyard of the museum at La Democracia and the fourth is a "fat boy" sculpture on exhibit in the Popul Vuh Museum in Guatemala City. Personal communication.

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