

LAGOA SANTA MAN

By ANIBAL MATTOS

The fossil man of Lagoa Santa discovered by Peter Wilhelm Lund in Sumidouro Cave (map 1, *No. 6*) in the Highland of Minas Gerais, Brazil, is well known. (Hansen, 1888; Hrdlička, 1912; Lütken, 1883; Quatrefages, 1879; Rivet, 1908; Ten Kate, 1885.) Research in recent years has thrown new light on the problem of Lagoa Santa man, which now rests on two important questions: the contemporaneity of the human remains with extinct species of mammals, and the relationship of his abundant stone artifacts with other archeological horizons.

Confins finds.—In a cave, Lapa de Confins, remains of the Lagoa Santa type were found associated with extinct mammals. This cave, repeatedly flooded in the past, though in recent times dry and with the entrance blocked, contained mammalian and human remains in a stratum 6½ feet (2 m.) deep and immediately under a layer of stalagmite or calcareous material. Dr. W. Tansley, of the University of Chicago and McGill University, examined the cave and agreed with our conclusions. The fossil mammals included only extinct species characteristic of the Pleistocene period: *Arctotherium brasiliensis*, *Palaeolama weddellii* (llama), *Hydrochoerus giganteus*, *Hippidium neogaeum*, *Machaerodus neogaeus*, *Pecari*, *Tayassu*, *Tapirus*, and *Mastodon*. The human skeleton had evidently been left on the surface after death, as it was broken and bore marks of rodent teeth, but was later buried in the alluvium brought by inundating waters. Subsequently, the cave was left high and dry. The cranium is dolichocephalic, hypsicephalic, and somewhat pyramidal, prognathous, especially in the subnasal region, and mesorrhin, with megaseme orbits, and a shallow, elliptical palatine vault. The norma lateralis is striking for its submaxillary prognathism. The hypsicephaly and pyramidal form of the skull, especially the former, are regarded as typical of the Lagoa Santa skull. (Hansen, 1888; Rivet, 1908; and others.)

The association of mammals ordinarily regarded as Pleistocene with the Confins skeleton do not imply great antiquity of the remains, but recency of the mammals. There has been a similar caution about the probable age of the human fossils of Lagoa Santa. (Rivet, 1908; Hansen, 1888; Hrdlička, 1912.)

Campo Alegre finds.—In a rock shelter at Campo Alegre, we found the fragments of fossilized human bones of eight individuals in thin layers of ash and calcareous material slightly below the surface.

Deeper, we uncovered crude fragments of arrow points and, finally, a flexed human skeleton of the Lagoa Santa type with the knees against the chin and the arms bent. Near the skeleton were various implements, in which natural rock forms had been utilized. This is the first discovery of artifacts with the Lagoa Santa physical type. These included grinders, axes of irregular shape, and stones with small pits, all probably used to crush palm nuts. The similarity of these artifacts to those of the shell mounds, or sambaquís, of the coast seem to indicate a relationship between the coastal and cave cultures.

In other caves we found the fossilized remains of three individuals of the Lagoa Santa type with some of the bones calcined. In certain caves, especially Sumidouro Cave, the fossilized remains, some showing the effects of fire, were deep at the entrance of the cave, suggesting a long occupation of the sites.

Lapa Vermelha finds.—In this cave we found fragments of various skeletons of the Lagoa Santa type. Nearby were sites of a recent native culture with abundant pottery, stone axes, and petroglyphs on the calcareous rocks. The Lagoa Santa people made neither pottery nor petroglyphs.

Santa Quiteria finds.—In the Municipio of Santa Quiteria in the State of Minas Gerais we found three important archeological sites extending Lagoa Santa man beyond his previous known habitat in Brazil—an area defined by the valley of Rio das Velhas.

Vargem do Bento da Costa finds.—At Vargem do Bento da Costa, in a black, ashy soil, we found part of a human maxillary with typical Lagoa Santa dentition. This site lacked the crude, unornamented pottery which occurs in more recent sites of the region.

Other finds.—Dr. Bastos de Avila discovered fossilized remains of Lagoa Santa man at Lapa de Carrancas, near the city of Pedro Leopoldo. Dr. A. Cathoud (1937) published a study of a Lagoa Santa type skull, which was probably a woman, judging by the delicate outlines, little-developed mastoids, and other features.

It has become evident that there were two or three types of Lagoa Santa man. Eickstedt, following Lund, postulated two ancient types: one of the mountain caves, one of the sea coast. We consider the type found in association with extinct mammals at Confins to be older than that at Lagoa Santa. Precise cross-dating of artifacts associated with Lagoa Santa remains with those in the sambaquís is impossible, as the latter have been almost entirely destroyed without scientific study. A fortunate exception is the sambaquís of Torres, Rio Grande do Sul, which were carefully studied by Serrano (1938, 1938 a).

BIBLIOGRAPHY

- Cathoud, 1937; Hansen, 1888; Hrdlička, 1912; Lütken, 1883; Mattos, 1937; Quatrefages, 1879; Rivet, 1908; Serrano, 1938, 1938 a; Ten Kate, 1885; Walter, 1937.