ARCHAEOLOGICAL EVIDENCE CONCERNING THE ORIGIN OF SWEET MAIZE

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Correns (1) has demonstrated by means of genetic studies that the "sweet" character in maize endosperm is due to an inability to complete the formation of normal maize starch, that the presence or absence of this starch-forming ability acts as an independent character pair in inheritance, and that no other feature is peculiar to the sweet group.

East (4), by similar means, has proved that sweet maize varieties not only do not belong to a unit group, but consist of both dent and flint varieties which have lost their original starch-forming power. This condition in East's opinion may have appeared through mutation in each of these groups, but more likely first took place among the flint types and was extended by hybridization. Such signal evidence as this, reinforced by that of a more general nature, such as the recessiveness of the sweet character, the presence of an apparent extra pair of chromosomes in certain sweet varieties, and the fact that the sweet type is the least able of the maize endosperm types to survive in the wild state, seems to prove conclusively that sweet endosperm is of mutative origin and that it represents a later departure among the endosperm varieties of the species.

As to the probable time or place of such mutation or mutations, however, there has been no significant evidence except that of a negative kind, for the absence of sweet varieties among the innumerable maize specimens which have until now been recovered from various archaeological sites of pre-Columbian age may be interpreted as indicating that the type was unknown to the various human cultures represented by such excavations, and has suggested a modern or post-Columbian origin. The recent discovery, then, of what is thought to be an ear of sweet maize in a prehistoric Peruvian tomb illuminates to some extent these latter questions.

THE HUAMACHUCO EAR

The ear referred to (Fig. 1) is specimen No. 4-3613 of the Field Museum, and was loaned the writer, together with other prehistoric maize specimens, through the courtesy of Professor A. L. Kroeber, of the Department of Anthropology of the University of California.

1Contribution from the Division of Agronomy, California Agricultural Experiment Station, Berkeley, Calif. Received for publication December 3, 1929.
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3Reference by number is to "Literature Cited," p. 513.