A Method of Restoration of Indian Mounds

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ABSTRACT

Mounds may be preserved in their present state or restored to their original contour by calculating the equation of the curve of the mound. This can be done by certain primary excavations made in the most advantageous places. The procedure would be to excavate near the toe of the mound on either side until the top of the original mound is uncovered. This line is usually easy to place as the difference in the soil above and the mottled appearance of the mound itself is very evident. If the point where this top line intersects the original base of the mound is found, so much the better. If this point is not found, however, it will be necessary to calculate it from the slope of the top and the base line as found, or estimated. Readings should then be taken on the top slope of the original mound and tabulated for elevation above the base of the mound and distance, at right angles, from the center line or axis of the mound. Thus 68'/4.5 would mean that 68 feet from the axis the top of the mound was 4.5 feet above the old base.

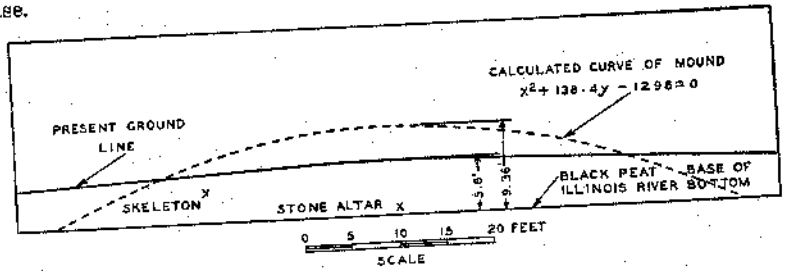

Fig. 1.

The equation of the curve of most mounds will be of the form, $Ax^2 + By - C = 0$, where A, B, and C are constants for any particular cross-section of a mound. By taking measurements from the true axis of the mound the value of "A" in the equation will be 1. The value of "C" is easily determined by finding the point where the top slope of the mound intersects the old base. Then y will be zero and "C" will equal x^2. To determine the value of the constant B several elevations should be taken and referred to the axis, and these values of "x" and "y" substituted in the formula and the average of the value thus found used as the true value of "B".

The procedure may be illustrated by an example: In the excavation of a certain mound, the original toes of the mound were found to be 36 feet either side of the axis. That is x was plus or minus thirty-six when y was zero (see Fig. 1). Substituting 36 and 0 for x and y in the equation we find C is 1296. Then, by elevations taken on the mound, it was found that

28 feet from the center the original mound was 4.4 feet above the old base. Substituting these values of "x" and "y" in the equation we find B is 138.4. Thus the equation for the curve of the mound becomss $x^2 + 138.4y - 1296 = 0$. At several places where the top of the old mound could be seen this equation was checked and found to be correct in every instance.

This method is valuable because where time, the elements, and man have partially destroyed a mound it can be restored to its original form by calculating this curve. The mound shown in Fig. 1 had been under cultivation for a number of years and had been almost obliterated. To restore it to its original shape it was only necessary to rebuild to the curve $x^2 + 138.4y - 1296' = 0$. The mound was but 5.8 feet high due to cultivation. By letting $x = 0$ in the equation and solving for y we found the original height of the mound was 9.36 feet. Let it be emphasized that comparatively few elevations are necessary and very little excavation need be done to make sufficient determinations to estimate what the original contour of the mound was, at the time it was built.