

in percolating through the porous limestone, and the power of dissolving limestone through which they pass, and the rate at which they are deposited in the cavern is calculated and compared with the water evaporates. Thus the rate of growth depends also upon the amount of evaporation, for if the dripping water were allowed to run over the floor of the cave, it would not be so exposed to the air, and the rate of evaporation would be slow, while in a cave where the conditions are such that the temperature is high, the evaporation would be slow, while in a cave where the temperature is low, the evaporation would be high, and the rate of growth of the stalagmite would be slow.

The stalagmite in Cave 3 at Copan are about 10 inches high, and the amount of annual rainfall and the amount of evaporation are probably about the same.

The stalagmite in Cave 3 at Copan is about a thickness of six inches, and the amount of evaporation is probably about the same as the entrance of water to the cavern. It had partly decomposed, and had a thickness of about six inches, the decomposition of the walls of the cavern.

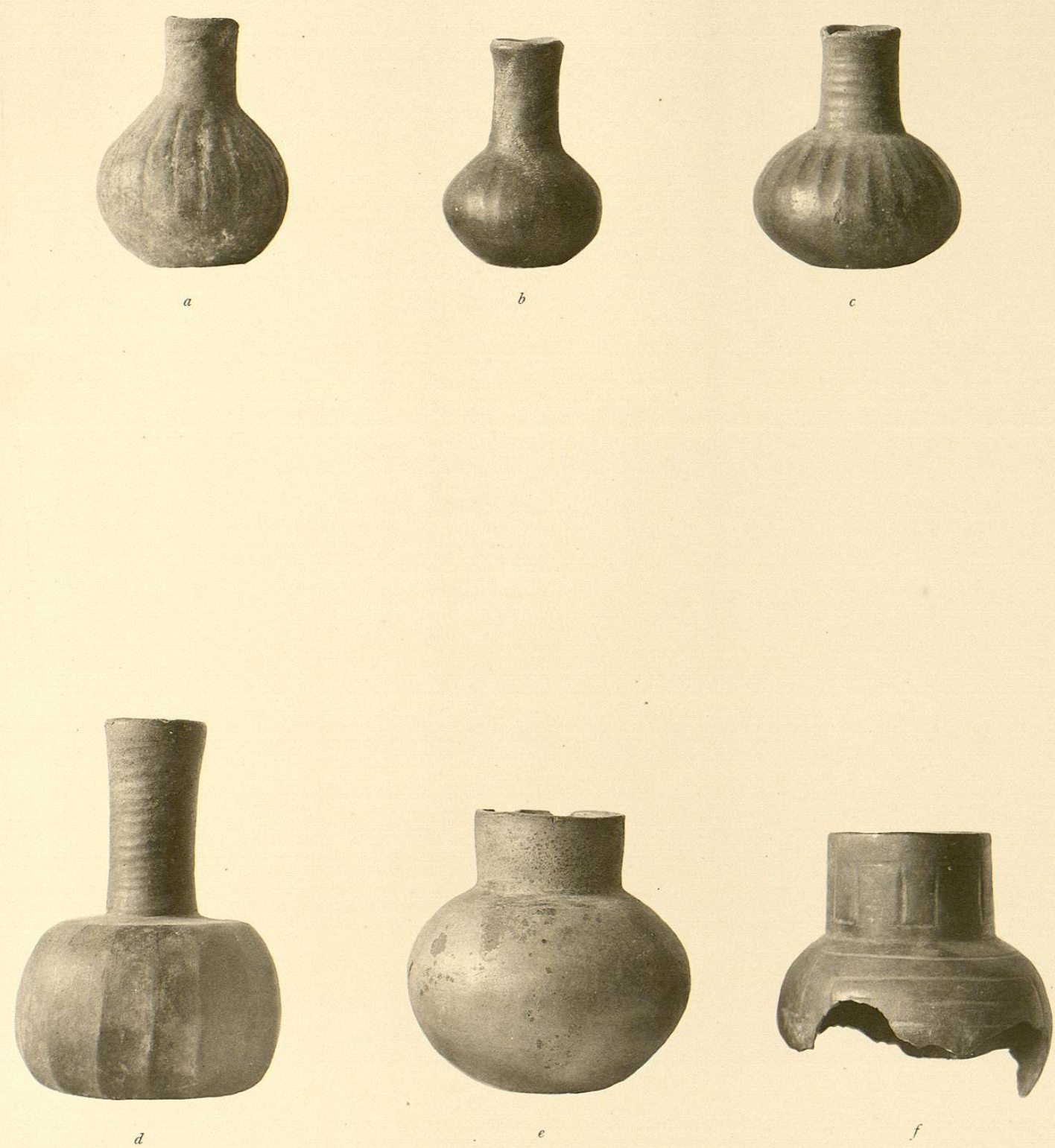
It is not easy to make an estimate of the time that it took for these various stalagmites to take place, and the amount of stalagmitic formation being scarce.

At Kent's Cavern near Torquay in Devonshire was opened in 1825, inscriptions of the dates 1694, 1736, and 1830 were found upon the walls; the oldest of these dates was covered with a thin stalagmitic accretion showing an increase of one inch in two hundred and fifty years.* If such an instance were taken as a standard, it would give a period of thirty thousand years to the formation of the stalagmite in question.

This of course would not be the conditions which would determine the growth in the two cases are very different. Although the annual rainfall is probably not very different, and the amount of carbonic acid in the air may be taken as the same, the average temperature, which is a very important determining factor, is very different in Devonshire and Honduras, while the conditions pertaining in the interior of Kent's Cavern, where there is much moisture and low temperature, are the reverse of those pertaining to Cave 3.

In the Cave of Inghelborough, where rapid evaporation is caused by air currents, a stalagmite on which observations have been made since 1839, has been growing at a rate of about three tenths of an inch annually. It is evident, therefore, that the presence of a few inches of stalagmite is of little value in determining lapse of time.

* Transactions of the Edinburgh Geological Society, 1839-57.



POTTERY FROM CAVERNS OF COPAN.