

tain their relative ages, unless they had been found vertically above each other. The varying depths of an estuary, its banks of silt and sand, the set of its currents, and the influence of its tides in scouring out alluvium from some parts of its bottom and redepositing it in others, are circumstances which require to be taken into account in all such calculations. Mere coincidence of depth from the present surface of the ground, which is tolerably uniform in level, by no means necessarily proves contemporaneous deposition. Nor would such an inference follow even from the occurrence of the remains in distant parts of the very same stratum. A canoe might be capsized and sent to the bottom just beneath low-water mark; another might experience a similar fate on the following day, but in the middle of the channel. Both would become silted up on the floor of the estuary; but as that floor would be perhaps twenty feet deeper in the centre than towards the margin of the river, the one canoe might actually be twenty feet deeper in the alluvium than the other; and on the upheaval of the alluvial deposits, if we were to argue merely from the depth at which the remains were embedded, we should pronounce the canoe found at the one locality to be immensely older than the other, seeing that the fine mud of the estuary is deposited very slowly and that it must therefore have taken a long period to form so great a thickness as twenty feet. Again, the tides and currents of the estuary, by changing their direction, might sweep away a considerable mass of alluvium from the bottom, laying bare a canoe that may have foundered many centuries before. After the lapse of so long an interval, another vessel might go to the bottom in the same locality, and be there covered up with the older one, on the same general plane. These two vessels, found in such a position, would naturally be classed together as of the same age, and yet it is demonstrable that a very long period may have elapsed between the date of the