of infected insect vectors approximately 110 miles north into the largest population center of California.

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COMPARISON BETWEEN PRE-COLONIAL AND PRESENT-DAY OYSTERS

THE American Indian, who, prior to the sixteenth century, inhabited that area which is now the coastal region of Charleston County, South Carolina, made extensive use of *Ostrea virginica* as food. This is attested by the large number of Indian shell heaps found throughout the area. Any one familiar with the present-day oyster industry examining these shell piles immediately realizes that the size and evident quality of these pre-colonial oysters far surpassed those gathered to-day.

On the west bank of the Ashley River, about eight miles above Charleston, S. C., there is a large shell heap containing over 3,200 bushels of oyster shells. The geographic location of this shell pile is such that the oysters therein must have come from the nearby river. Practically all the oyster shells in this mound are over 3.50 inches from hinge to bill. To-day the Ashley River produces no oysters commercially, and even experimentally it is doubtful if any oysters could be gathered which would compare favorably with those from the Indian shell heap. Of course, the Ashley River is and has been for some years heavily polluted with sewage and mill waste. This pollution may have been the cause of the decrease in the size of the oysters of to-day.

In order to compare the size of pre-colonial oysters with present-day oysters in areas not affected by pollution, shells were collected from a large Indian shell heap on the edge of Sewee Bay, Charleston County, S. C. These shells came from oysters quite evidently gathered in the vicinity of Sewee Bay, which is far removed from any source of pollution. The largest individual oyster shell in this collection measured 8.00 inches long and 2.75 inches wide. Of 10 specimens selected as being the largest, the average length was 6.54 inches, with an average width of 2.56 inches. The average measurements of all specimens (50) were 4.29 inches by 2.51 inches.

From the same general locality, 290 live oysters were gathered from 15 different commercial beds. One hundred and forty of these specimens were chosen for their size, that is, the beds were carefully examined and these 140 individuals were selected as being the largest. The largest oyster in this group was 4.75 inches by 2.25 inches. The average of the group was 3.91 inches by 1.93 inches. In addition to this group, 150 oysters were gathered at random from the same beds. These were considered as being fairly representative of the oysters which could be gathered by commercial oystermen from this particular section of South Carolina. This group averaged 2.67 inches in length by 1.76 inches in width.

From these comparative measurements, the selected pre-colonial oysters were found to be 58.78 per cent. longer and 75.39 per cent. wider than selected present-day oysters. The ordinary pre-colonial oysters were found to be 62.23 per cent. longer and 76.89 per cent. wider than the ordinary present-day oysters, all of which were gathered in the vicinity of Sewee Bay.

These observations probably do not indicate that *Ostrea virginica* has become a smaller species in the past four hundred years. In all probability the small size of the present-day oyster is due entirely to intensive commercial fishing which does not allow it to reach its maximum growth.

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QUOTATIONS

THE ADVANCEMENT OF SCIENCE AND SOCIETY

DR. F. R. MOULTON, permanent secretary of the American Association for the Advancement of Science, addressed a communication to *Nature* which was printed in the issue of March 19, 1938. It reads:

Members of the American Association for the Advancement of Science have read with much interest the comments on their resolution on international cooperation of scientists which appeared in *Nature* of January 22, p. 150. As gratifying as these comments are, in one respect they differ somewhat from the spirit of the resolution.

Since I wrote the resolution and am suggesting to the Executive Committee that it extend formal invitations for an international conference of representatives of scientific societies to be held in London this coming summer, I should like the privilege of explaining the spirit of the resolution, which I believe represents the present sentiment of a large majority of the members of the American Association. By frank expressions of opinions well in advance of the contemplated conference we shall be able to make progress towards mutual understandings of possible slightly different points of view and thus prepare the way for constructive action at the conference, if it should be held.

The resolution passed by the American Association on December 30 was published in the article in *Nature* referred to above.

The preamble to the resolution consists of two distinct parts, the first of which acknowledges the profound effects of science upon society and thereby admits a heavy re-