

fish from the creek into the river. The upper portion of these wooden structures has entirely disappeared in the long lapse of time that has ensued since they were placed there. The edge of the flats on which the stakes stood¹ was covered with about two and a half to three feet of water on the flood tide. At slack water it forms a low mud-bank slanting toward the creek. Three different stations² were located, probably all that exist, in the bed of the creek referred to. This opinion is based upon careful examinations, made within the past four years, of nearly every inch of ground in the neighborhood of the wooden stake-ends, by dredging in sections between certain points marked upon the creek's bank. The implements found in one of the stations are generally made of argillite, with a few of quartz and quartzite. Some were very rude in character, and not unlike the palæoliths found by Dr. C. C. Abbott in the Trenton gravels.³ Objects of stone and pottery rather better in finish than those at station A have been found at the two other stations, B and C.'

The remainder of my letter of November, 1887, is correct: the other portions must be read subject to the changes that this repetition may suggest, which have been copied from a duplicate letter made by me before sending it (in October, 1889) [1887? —ED.] to the journal referred to, for publication.

A unique collection from the supposed aboriginal fish-weir sites is now at the Peabody Museum, Harvard University, where any one interested in the subject may examine them. Most of the objects presented were collected by myself and friends, whose names are attached to their specimens. Work was abandoned on the locality two years ago, careful hand-dredging having exhausted the relic-beds. Last summer the steam-dredge used in deepening the creek's bed, so that sloops might approach the brick-yard standing on its bank, uprooted the various stations, A, B, and C, completely obliterating them. A few specimens of interest were, however, secured by some of the workmen in the brick-manufactory and myself. Some of these specimens have been presented to the Peabody Museum, with letters from the donors in regard to them.

¹ These had the alluvium excavated from around them, and were photographed in place, before removal.

² The term "station" was adopted at Professor Putnam's suggestion, because certain spots in the creek's bed, several feet apart, were found to yield implements.

³ It may be well to remark, that, since this letter has been published in the *American Antiquarian*, implements of like kind have been found in the boulder clay at the brick-yard alongside of Naaman's Creek mouth. The implements that were brought up by the hand-dredge at station A may therefore have been washed out of the brick and boulder clay deposits, and scattered among the alluvial deposits in which the wooden stakes were found.

I hope this letter, giving a brief *résumé* of the finds at Naaman's Creek mouth, will cause all absurd romance in regard to pile-dwellers on the Delaware to cease. If they ever did exist, I have certainly failed to find any traces of such a people, and never upheld any such nonsensical theories. HILBORNE T. CRESSON.

Philadelphia, Feb. 6.

Oscillations of Lakes (Seiches).

THE ten-minute wave that Mr. Ledyard reports on Cazenovia Lake, N.Y., in *Science* of Feb. 7, is apparently an oscillation of the same kind as those known in Switzerland by the name of *seiches*. They have been minutely studied for Lake Geneva by Professor Forel of Morges, Switzerland, who has written many reports on his observations for the *Archives des Sciences*, about 1877-80. He regards them as wave-like oscillations, commonly uninodal, of the whole body of water in the lake, produced by external disturbance, such as an earthquake, or a change of atmospheric pressure like that occurring in thunder-storms or wind gusts. He finds that the full period of oscillation for the uninodal wave is $2l \div \sqrt{gh}$, in which l is the length of the lake, and h the depth; that is, the velocity of the wave is proportional to the square root of the depth. Sometimes the *seiche* is transverse, or from side to side, instead of longitudinal or from end to end. In Lake Geneva the longitudinal *seiche* has a full period of 73 minutes, which, for the length of 73.2 kilometres, indicates a mean depth of 114 metres. The transverse *seiche* oscillates in 10 minutes and 17 seconds, where the breadth of the lake is 13.8 kilometres, indicating a mean depth of 205 metres. These depths agree well with the results of soundings. Similar phenomena have been described for other Swiss lakes.

Very little has been said about *seiches* in this country. Professor John LeConte has called attention to the probability of their occurrence in Lake Tahoe, and predicted their periods by Forel's formula as 18 and 13 minutes (*Overland Monthly*, 1883). *Science* (May 7, 1886, p. 412) has a note on the *seiches* of Lake Ontario, as observed by Rhodes at Oswego, N.Y., indicating a period of about an hour. The lakes of central New York, near Mr. Ledyard, afford the best possible opportunity for examination in this regard. A simple self-recording apparatus to determine the oscillations of water-level could be driven by an ordinary clock; and a month's record from the end and the middle side of a lake would probably suffice to determine its *seiches* with fair accuracy.

W. M. DAVIS.

Harvard College, Feb. 10.

**I took Cold,
I took Sick,
I TOOK**

**SCOTT'S
EMULSION**

RESULT:
**I take My Meals,
I take My Rest,**
AND I AM VIGOROUS ENOUGH TO TAKE
ANYTHING I CAN LAY MY HANDS ON;
getting fat too, FOR Scott's
Emulsion of Pure Cod Liver Oil
and Hypophosphites of Lime and
Soda NOT ONLY CURED MY Incip-
ient Consumption BUT BUILT
ME UP, AND IS NOW PUTTING

FLESH ON MY BONES
AT THE RATE OF A POUND A DAY. I
TAKE IT JUST AS EASILY AS I DO MILK."
SUCH TESTIMONY IS NOTHING NEW.
SCOTT'S EMULSION IS DOING WONDERS
DAILY. TAKE NO OTHER.

A New Method of Treating Disease.
HOSPITAL REMEDIES.

What are they? There is a new departure in the treatment of disease. It consists in the collection of the specifics used by noted specialists of Europe and America, and bringing them within the reach of all. For instance, the treatment pursued by special physicians who treat indigestion, stomach and liver troubles only, was obtained and prepared. The treatment of other physicians celebrated for curing catarrh was procured, and so on till these incomparable cures now include disease of the lungs, kidneys, female weakness, rheumatism and nervous debility.

This new method of "one remedy for one disease" must appeal to the common sense of all sufferers, many of whom have experienced the ill effects, and thoroughly realize the absurdity of the claims of Patent Medicines which are guaranteed to cure every ill out of a single bottle, and the use of which, as statistics prove, *has ruined more stomachs than alcohol*. A circular describing these new remedies is sent free on receipt of stamp to pay postage by Hospital Remedy Company, Toronto, Canada, sole proprietors.

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