

employed to express. . . . The lines of force of the static condition of electricity are present in all cases of induction. . . . No condition of quality or polarity has as yet been discovered in the line of static electric force, nor has any relation of time been established in respect of it." "No relation of time to the lines of magnetic force has as yet been discovered" (*Ibid.*, 3253).

Finally, on pp. 439 and 440 of "Experimental Researches" (vol. iii. edition of 1855), he gives in detail, too long for quotation here, his views of the different phenomena, which, it seems to me, fully support the position I have taken in this matter.

NELSON W. PERRY.

Cincinnati, O., Feb. 17.

Supposed Aboriginal Fish-Weirs in Naaman's Creek, near Claymont, Del.

IF the substituted letter of Mr. Hilborne T. Cresson to the *American Antiquarian*, published in your issue of Feb. 14, had ever been printed before, certainly I should not have received the impression that Mr. Cresson once fancied he had discovered the remains of pile-dwellings at Naaman's Creek, on the Delaware. The differences between the two versions are very striking to whoever takes the trouble of comparing them. I never before understood that Mr. Cresson regarded the version of his letter published in the *Antiquarian* in November, 1887, as "an atrociously garbled version" of it. I supposed he only complained of certain bad mistakes in the proof-reading, such as the substitution of "cave" for "cove," etc. Mr. Cresson's memory has played him false in regard to what he wrote to me when he kindly forwarded to me a selection of the objects discovered at the three "stations." On referring to the notes that accompanied the specimens, I find that he calls them "pile-structures." The fact is, that I supposed Mr. Cresson had changed his mind in regard to what these structures actually were; and as I had formed the opinion upon first reading what he had printed respecting them, that they were merely remains of Indian fish-weirs, I simply made that statement. I found nothing in what Professor Putnam had stated in the "Reports of the Peabody Museum" (vol. iv. p. 44) in regard to Mr. Cresson's discoveries to give me any different impression. Mr. Cresson's letter to me, to which he refers, containing the request that I should adopt his corrected views, came too late, as I wrote to him, because my manuscript was already in the printer's hands. That I should have drawn such inferences about Mr. Cresson's opinions does not seem to me so "inexplicable" as it does to him.

HENRY W. HAYNES.

Boston, Feb. 16.

MR. H. T. CRESSON, in his letter published in *Science*, Feb. 14, seems to want to get away from his own assertion, and so takes the opportunity to abuse the editor of the *American Antiquarian*. If you will allow me to quote the very words which he used in his letter, and which were published in the *Antiquarian* exactly as they were written, without any change whatever, your readers will see what his position was in the year 1887, though he seems to have changed his opinion since that time. The words are as follows:—

"The results so far seem to indicate that the ends of the piles embedded in the mud, judging from the implements and other debris scattered around them, once supported *shelters of early man that were erected a few feet above the water*—the upper portions of the piles having disappeared in the long lapse of time that must have ensued since they were placed there—(the flats are covered by four and one-half feet of water on the flood tide; on the ebb the marsh is dry and covered with slimy ooze several feet in depth, varying in different places). Three different *dwellings* have been located, all that exist in the flats referred to after a careful examination within the last four years of nearly every inch of ground carefully laid off and examined in sections.

"The implements found in *two* of 'the supposed *river dwelling sites*' are very rude in type, and generally made of dense argillite, not unlike the palæoliths found by my friend Dr. C. C. Abbott in the Trenton gravels.

"The character of the implements from the other or third supposed *river dwelling* on the Delaware marshes are better finished objects made of argillite, indicating a greater antiquity than ordinary surface found Indian relics. At this *pile dwelling* a human tooth has been found and fragments of a jaw bone, ends of scapulæ, etc. It is my intention later on to present my specimens to the Peabody Museum of Ethnology and Archæology at Cambridge, Mass."

The above is a quotation from the letter published in the *American Antiquarian* in 1887. Mr. Cresson desires the readers of *Science* to compare the two letters. In order that they may do so, I quote a part of the letter which appeared in *Science*, Feb. 14 (see p. 116, near the bottom of the page). It is as follows:—

"The results, so far (1877), seem to indicate that the ends of piles embedded in the mud, judging from the implements and other debris scattered around them, had once served as supports to structures intended for *fish-weirs*, these in all probability projecting a few feet above the water, and were no doubt interlaced with wattles, or vines, to more readily bar the passage of 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. . . . At slack water it forms a low mud-bank slanting toward the creek. Three different *stations* 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. 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."

This is a quotation from *Science*, the sentences being consecutive. The italics will show the words and clauses which in one letter convey one impression, and in the other letter convey an entirely different impression.

Mr. Cresson charges the editor with putting in the words "shelters of early man that were erected a few feet above the water," "three different dwellings," "two of the supposed river dwelling sites," "The character of the implements from the other or third supposed river dwelling on the Delaware marshes are better finished objects made of argillite, indicating a greater antiquity than ordinary surface found Indian relics. At this *pile dwelling* a human tooth has been found and fragments of a jaw bone, ends of scapulæ, etc." Now, the editor of the *American Antiquarian* does not pretend to be ingenious enough to fabricate such sentences, and interpolate them into a letter. It is beyond the skill of an ordinary man to interpolate remarks of that kind. If these words are not contained in the copy which Mr. Cresson says he kept, why did not Mr. Cresson change the wording, or request that it should be corrected, in the two years that have elapsed? Professor Haynes quoted from the *American Antiquarian*, supposing that Mr. Cresson's own words were to be relied upon. The statement went into "The Critical and Narrative History" on the strength of Mr. Cresson's own words. The editor of the *Antiquarian* at the time said nothing about the "find." If Mr. Cresson wishes to withdraw from the position taken, he is at liberty to do so, but he should not charge the editor of the *Antiquarian* with "garbling" or changing his letter, unless he can prove it.

STEPHEN D. PEET.

Mendon, Ill., Feb. 18.

The Fiske Range-Finder.

I WAS much interested in the description of the Fiske range-finder, which appeared in *Science* on Jan. 24. There is much credit due Lieut. Bradley A. Fiske for the ingenious manner in which he has applied a most beautiful electrical combination to a practical purpose, and there is no doubt that its range of usefulness will extend beyond the realms of gunnery practice.

While reading the article, an idea came into my mind, which may also have occurred to Lieut. Fiske, and been rejected as im-