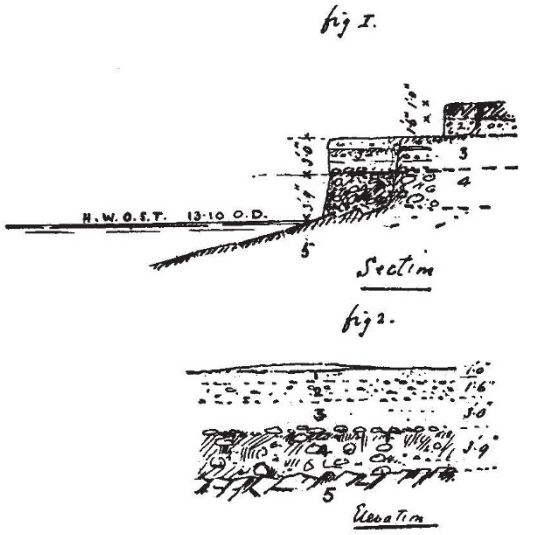
then becomes, it seems to me, not to decide between two theories of X-rays, but to find, as I have said elsewhere, one theory which possesses the capacities of both. W. H. BRAGG.

Worked Flints obtained from "the 25-foot Raised Beach" near Holywood, co. Down.

THE 25-foot raised beach is well marked all round the northern and eastern coast of Ireland, and is also recognisable on the opposite coast of England and in the Isle of Man. This post-Tertiary beach is contemporaneous with the Upper Estuarine Clays of the Belfast sections,[1] and is certainly not later than early Neolithic. At different times worked flints have been obtained from this beach, notably from Larne, co. Antrim, and have been discussed, but no clue to their date or dates has been found. I have lately had the opportunity of carefully examining the section



(Fig. 1 and 2) near Holywood, co. Down. From a 350-ft. exposure 683 worked flints were obtained.

Description.			Per cent.	Notes.
Scrapers	Concave 70 Convex 17 Straight 76	...	29·6	Chipped on non-bulbous face only. 4 Le Moustier type.
Knives	"Parrot-beaked" 39 Straight 80		21·6	All with tang. Worked on non-bulbous face only. 20 per cent. with shoulder (Les Eyzies).
Simple flakes	110		20·0	85 per cent. showing central ridge.

Punches, adzes, chisels, celts, cores, borers, microliths, about 4 per cent. each class.

No polished specimen was obtained, and all were of Palæolithic form, generally chipped on one face only. From the surface of the Boulder Clay specimens were obtained which had been subject to rolling before settlement of the land took place. Eight specimens showed re-chipping. Three prickers made from the ulna of deer were found. I submit that, considering the evidence of late Palæolithic work in Scotland in a similar horizon, the geological evidence, and the form and working of the flints found in this beach, they should be described as Mesolithic.

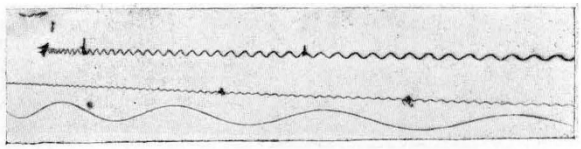
HENRY HOME.

Bellevue, Holywood, co. Down.

[1] Praeger, Proc. Roy. Irish Acad., vol. iv., 1897.

Note on the Upper Partials of a Tuning-fork.

IT is well known that a smoked dropping plate can be used to find the pitch of a fork if the value of g is known, and the method is described in most of the text-books on sound. But so far as the writer is aware no attention has been directed to the fact that the existence of some of the upper partials can also be demonstrated with it and their frequency obtained. The method is simpler and more convincing to a student than the method of using resonators.



As an example the traces of the fundamental and the first two upper partials are shown in the diagram, which is a copy of the photograph of the traces on the dropping plate. The fundamental frequency of the fork used was 29·5, and the frequency of the first two upper partials should be (see Barton, "Text-book of Sound," §211) 185 and 518, while the numbers obtained from a single observation were 184 and 512 respectively. No attempt was made to obtain other partials, but doubtless the next two could have been obtained. F. H. PARKER.

Woolwich Polytechnic, November 9.

The March of Science.

IN a school text-book, published in 1846 at Philadelphia, from which I was instructed in 1848—it was a geography, but contained five lessons in astronomy—is the following information about the sun:—

"In former times, it was supposed that the sun was a great ball of fire. Many learned men, however, are of opinion that it is a world like our own, containing continents, oceans, mountains, and plains.

"It is supposed that the rays of light which illu mine the Solar System, proceed from an atmosphere, or air, of a peculiar nature, that surrounds the sun. The rays of the sun are called solar rays.

"When mingled with the atmosphere on the surface of the globe, it is thought that these rays produce the warmth and animation which render the earth habitable.

"This appears probable, from the fact that the summits of high mountains are always covered with ice and snow, while at their base, and in the valleys. the heat is oppressive. If heat proceeded from the sun, as from a body of fire, the higher we ascend from the surface of the earth, the greater the heat would become."

As I was only seven years old at the time I studied the book, the information did me no harm.

E. S.

Brookline, Mass., U.S., November 9.