be 1063 and of spotted dogfish 1068; the latter sink quite fast when they stop swimming for a moment. Presumably a basking shark would have a similar specific gravity, yet it floats. To catch one and solve the problem is not easy, but a friend kindly harpooned a sunfish for me. It was 3 ft. long and weighed 115 lb. The body was completely enclosed in a rigid case of some tough tissue resembling cartilage to the naked eye, but extraordinarily light. This shell varied from 0·75 to 1·25 in. in thickness except about the head, where it was very massive. It could be dissected off in slabs, and the thicker of these floated when thrown overboard. With the absence of bone, an immense fatty liver, and this queer, buoyant cuirass, I think we have the solution in the case of the sunfish.

G. C. C. DAMANT.

H.M. Salvage Ship *Racer*, Portsmouth.

Old Irish Maps.

THE fact that I have been able to refer your reviewer to an important map with which he was previously unacquainted is some compensation for the necessity for his last sentence (NATURE, October 7, p. 180).

A few years ago I spent some weeks among the maps in the library of the Geological Society of London, and tried to settle the question of the dates and editions of Griffith's maps. Since your issue of October 7 I have re-examined the evidence, with the additional help of a volume of Dublin addresses, once the property of Prof. Phillips, which I have recently obtained. The only conclusion I have been able to arrive at is that the Irish and English literature on the subject is vague and contradictory.

The writer of Sir Richard Griffith's obituary in the *Geological Magazine*, 1878, p. 525, states: "So long ago as the year 1812 the first outlines were attempted of . . . a geological map of Ireland. No labour seemed to Griffith too great in order to carry out this great work satisfactorily. *Four editions* of it were published, the latest of which was issued in 1854." Judd (*loc. cit.*, 1898, p. 149) tells us the large map of Ireland was exhibited in 1838 and published in March, 1839, and a *second edition* was published in 1855.

On June 13, 1839, Griffith read a paper (Journ. Geol. Soc. Dublin, 1839, p. 78) on "Presenting to the Society the Geological Map of Ireland in the Large Scale, the Result of my Labours for Upwards of Thirty Years." Later (*loc. cit.*, 1857, p. 294) he read a similar paper on "Preparing the *Last* Edition of my Geological Map of Ireland dated April, 1855." Close (Journ. Royal Geol. Soc. Ireland, 1879, p. 141) stated: "Very shortly after that [April, 1838], in the same year, the large map . . . was brought out, though for some reason which does not appear it was not regularly published so as to be accessible to all until March 28, 1839, the date which is inscribed upon it"; and (p. 142): "In June, 1840, only fifteen months after the last-mentioned edition, a new issue appeared. . . . In the short time mentioned changes had been made in the map in no less than forty places." We also learn (pp. 144-45) that a small edition of the map was published, and in 1855 a revised and the last edition was issued.

Apjohn (*loc. cit.*, 1841, pp. 158–59) states that as early as February, 1841, "in point of fact, *three maps* have been published by Mr. Griffith, first, a map on a comparatively small scale . . . and subsequently a *first* and *second* edition of his large map. We have already seen how great are the discrepancies between the two larger maps"—this, be it noted, being *before* the publication of the 1853 and 1855 editions.

The Geological Society possesses a large map "revised in 1853," and a smaller map (*circa* 1860) by Griffith is "copied from the large map of 1853."

So among these conflicting contemporary statements as to dates and editions I may be pardoned, after this lapse of time, for requiring to be "corrected."

Museum, Hull. T. SHEPPARD.

A Visual Illusion.

MR. TURNER should have consulted some standard work on experimental psychology before claiming a visual illusion as "new" (NATURE, October 7, p. 180) and advancing an explanation which experiment has shown to be wholly inadequate to account for the retinal after-sensations of movement. The effects are quite independent of movements of the eyes, and as truly "sensory" in character as the after-effects of colour and brightness.

C. S. MYERS.

Gonville and Caius College, Cambridge, October 17.

THE phenomenon referred to by Mr. Turner and by Prof. Boycott in NATURE of October 7 and 14, pp. 180 and 213, was described by Aristotle in his treatise on dreams ("Parva Naturalia") thus: "Also, the senses are affected in this way when we turn quickly from objects in motion, *e.g.* from looking at a river, and especially from looking at swiftly flowing streams. For objects at rest then seem to be in motion."

The phenomenon has since been rediscovered times out of number, *e.g.* by Purkinje in 1825, R. Adams in 1834, Johannes Müller in 1840, Sir David Brewster in 1845, etc. I reinvestigated it experimentally, and published the results of this research, together with a historical survey, as a monograph, "On the After-Effect of Seen Movement," in the *British Journal of Psychology* (Monograph Supplements, No. 1, Cambridge University Press).

A. WOHLGEMUTH.

70 West End Lane, London, N.W.6, October 18.

THE visual illusion described by Mr. Turner and by Prof. Boycott in NATURE of October 7 and 14 was described by me in NATURE of October 18, 1917 (vol. c., p. 126), and commented on by Dr. F. J. Allen and others on pp. 146, 165, 225, and 325 of the same volume. It had also been described in NATURE, vol. lxx., p. 107, and vol. lxxviii., pp. 225, 277, and 305. It was also pointed out by me in vol. c., p. 284, that the phenomenon had been fully described by Dr. John Aitken in the *Journal of Anatomy and Physiology*, vol. xiii., p. 322. The illusion may, perhaps, be best seen by looking through a microscope and slowly rotating the stage; as soon as the rotation is stopped the field appears to be revolving in the opposite direction, and so strong is the illusion that the stage may again be rotated very slowly in the original direction for 10° or 15° and will appear to the eye to be perfectly still. The same phenomenon may be seen when a pianola roll is stopped, the roll appearing to be slowly moving backwards. In some forms of pianola there is, in front of the record, a glass panel on which is a small knob for opening and shutting the panel; if the finger is placed lightly on this knob while the roll appears to be running back, I have the very curious tactual illusion that the knob is also moving upwards, and that it presses more and more against the finger. One or two others, however, with whom I have tried the experiment do not perceive the tactual illusion.

C. J. P. CAVE.

Ditcham Park, Petersfield, October 17.