unequally so as to conduce to the same end is difficult to decide. I may add that I have found the required muscles at the waist considerably developed.

F. W. HEADLEY.

Haileybury, Hertford, July 6.

Remarkable Hailstones.

ON Saturday afternoon, July 9, a very violent storm burst over Harrogate and its neighbourhood, accompanied by remarkably loud thunder and most brilliant and almost continuous lightning.

At first a little rain fell, but it was soon mixed with small hailstones about the size of peas of the usual form. These were quickly followed by hemispheres of the size and character indicated in Fig. C. After a few minutes they rapidly grew to the size of those shown in Figs. A and B, which are drawn very carefully to actual scale. Most were flattened oval discs, as shown in the two drawings, which exhibit top and side view of one hailstone. I went out myself and measured a good

number while they were falling by putting them on a sheet of paper and marking their maximum and minimum diameters. These large stones usually had an opaque spherulitic-like nucleus, followed by two, three, and even a trace of a fourth clear ice shell intervening with opaque ice. Then followed a broad band of clear ice with a few radiating air cavities, finally enclosed in a mass of white granular feathery ice. The number of alternating laminae seemed to be irregular, and must have varied with that of the different vapour strata traversed by each nucleus. The origin of the type (Fig. A from Fig. C) is very obvious. The quantity that fell was enormous, so that a lawn badly kept was entirely white, with the exception of the longer blades of grass that projected. The damage done in the neighbourhood must amount to some thousands of pounds, and very few are the houses in this town that escaped without windows being broken. I did not time the duration of the fall, but I think it was about an hour.

5, Princes Square, Harrogate. H. J. JOHNSTON-LAVIS.
July 12.

NO. 1239, VOL. 43]

A Substitute for Ampère's Swimmer.

I HAVE long been dissatisfied with the rules commonly given in order to enable the relation between the direction of a current and that assumed by a magnet in its neighbourhood to be readily brought to mind. It is a small matter, but it causes a great deal of worry to many a student. The vagaries of Ampère's swimmer are "past the wit of man." Prof. Jameson's rule is not bad, but is not really easy to remember; the corkscrew is good, provided that you have a little time to think about it; but I have felt all along that it ought to be possible to devise something simpler than any of these. May I suggest that the following may perhaps be found useful?

If a pen be held in the right hand in the usual way, the penholder may be taken to represent the wire, and the direction of the flow of ink (that is, towards the point of the pen) the direction of the current; if, then, the thumb be stretched a little across the penholder it will represent the magnet, and the thumb-nail its marked or north-seeking pole. The hand may, of course, be twisted round into any position to represent any actual case. The same relation may be still more simply borne in mind by dispensing with the penholder, and merely laying the thumb across the forefinger of the right hand; either of these will then represent the current (flowing towards the finger, or the thumb-nail, as the case may be), the other the magnet.

Whether this is novel I do not know; it is so as far as I am concerned; but I think it is useful.

ALFRED DANIELL.

Advocates' Library, Edinburgh, July 13.

The Jelly-fish of Lake Urumiah.

IN Mr. Curzon's recently-published work "Persia and the Persian Question" (vol. i. p. 533), he writes as follows:—"When the wind blows on Lake Urumiah, sheets of saline foam are seen scudding along the surface, and the salt is left upon the shore in a solid efflorescence, sometimes several inches thick. No fish or molluscs live in the waters, whose sole living contents are a species of *small jelly-fish*, which sustain the swans and wild fowl that are occasionally seen."

When Captain F. R. Maunsell read his interesting paper on Kurdistan to the Royal Geographical Society in June last, I asked him whether he could give me any further information respecting this so-called "jelly-fish," to which he was kind enough to reply as follows:—"In reply to your inquiries regarding the existence of a jelly-fish in Lake Urmia, I have been going through my notes, and find that I visited the lake on July 20 at its west shore, not far from the town of Urmia. I bathed in the lake and found the jelly-fish in great numbers along the shores where the water was shallow. It was only about half an inch in diameter, of a greenish-white, almost colourless, with a small black centre. There are said to be no fish or other living creatures in the water, and I did not see any. As you probably know, the lake is extremely salt, more so than the Dead Sea. The specific gravity is given as 1.155, with 21.4 per cent. of salt. The lake is 4,100 feet above the sea level, and has no outlet. There is a British Consul in Tabriz, which is not far from the east shore of the lake, who might obtain a specimen, and would be able to ensure its getting home safely better than any one else. The lake is very shallow compared with its great size, nowhere being more than from thirty to forty feet in depth."

The only instance of a "jelly-fish" or Medusa as yet known to inhabit an inland sea is that of the *Limnocnida tangajica*, recently described by Mr. R. T. Günther (Ann. and Mag. N. H. ser. 6, xi. p. 274 (1893)). It would be therefore of great interest to obtain specimens of the "jelly-fish" of Lake Urumiah and ascertain what it really is.

3, Hanover-square, W., July 17.

P. L. SCLATER.

Racial Dwarfs in the Pyrenees.

BEING on the Riviera when I received NATURE of January 26 with Mr. Haliburton's letter on the above subject, I proposed to act on his suggestion, and, on my way back to England, to explore the region indicated. To ensure, however, that the proposed exploration should not be a wild-goose chase, I first entered into communication with all the British consuls and French savants likely to have special knowledge of the subject, and more particularly with M. Cartailhac, director of *l'Anthropologie*, and who resides at Toulouse, "within little more than a

half-day's journey" from the valleys named by Mr. Haliburton. I was favoured with interesting replies from all those to whom I had written with the single exception, very curiously, of our consul at Barcelona, a letter from whom you published, and who appears to have been Mr. Haliburton's chief authority. As to the replies I received, I need only say that they so strongly negated the assertion of there being "racial dwarfs," though admitting that there are "certains goitreux de petite taille," in the Pyrenean valleys, that I did not think it worth while to make the proposed journey. And as Mr. Haliburton repeats, in the current *Asiatic Quarterly*, the assertions made in NATURE, I feel bound to state these facts, though I may say that I quite agree with him as to the probability of a former wide distribution of dwarf races, and should have found Pyrenean dwarfs, had they been discoverable, in most interesting relations to the Ligurian giants, whose caves I had been exploring at Baoussé Rousé—the "Red Rocks" of Grimaldi.

Athenæum Club, July 10.

J. S. STUART-GLENNIE.

THE NOTTINGHAM MEETING OF THE BRITISH ASSOCIATION.

THE forthcoming meeting of the British Association in Nottingham recalls the year 1866, when the present Mr. Justice Grove presided over the meeting in the town, and delivered his epoch-making address. Although this was the only meeting held in Nottingham, national conferences and associations of all kinds are constantly gathering in this very convenient, healthy, and picturesque centre; the inhabitants are therefore accustomed to the entertainment of guests. The public buildings will also be found to offer special facilities for the usual work of the British Association.

The University College, a large building almost central in position, has naturally been allotted to the meeting of the various sections. The lecture-theatres and classrooms of the College provide accommodation for all the sections with the exception of two, and these will gather in commodious rooms in the immediate vicinity.

The various laboratories of the College are to be devoted to the exhibition of scientific apparatus and diagrams, some of which will be used during the meeting for the illustration of papers in the sections; and since these laboratories are very convenient for the purpose and are in direct communication with the sectional meeting-rooms, it is hoped that authors of papers will be induced to bestow special attention to the illustration of their papers, as the illustrative matter will be permanently on view throughout the meeting.

The Corporation of Nottingham not only grants the use of the University College, but also gives permission for the Castle Museum to be used for the conversaziones, and throws open the Exchange as a luncheon hall, with smoking-room and ladies' room as adjuncts. The large luncheon room thus provided will be supplemented by another large and convenient room in the University College.

The large hall at the Mechanics' Institution will be fitted as the reception-room with all the usual conveniences, the Albert Hall being reserved for the popular lectures, the president's address, and for a special concert to be given on Saturday evening by the Sacred Harmonic Society of the town.

It will be found on reference to a local map that not only are these various buildings easy to find, but that they lie most conveniently within range of one another, the extreme distance not exceeding a walk of five minutes.

The inhabitants of Nottingham are quite alive to the duties of hospitality, and not only will the officials and working members of the Association receive entertainment in private houses, but the clubs of the town are also throwing open their doors with one consent. A list of hotel and lodging accommodation is nearly ready for issue.

The local excursions include visits to the Dukeries, Charnwood Forest, Lincoln, Belvoir Castle, and Derbyshire; and, in connection with these visits, hospitality has been offered by the Duke of Portland, the Duke of Newcastle, the Duke of Rutland, and the Bishop of Southwell. Many other offers of hospitality are expected. Important works in the town and neighbourhood will also be open for inspection.

The local programme and excursion handbooks are in an advanced stage of preparation. These will serve as guides to the public buildings used for the meetings and indicate the hotels and lodgings, and the routes followed in the various excursions; they will also give information concerning the natural history of the district.

The work of the local committee would be greatly facilitated if all those who intend to be present or to take part in the meeting would communicate with the local secretaries, Guildhall, Nottingham, as soon as possible.

Without unduly anticipating the information which will be found in the local programme and publications, enough has been said to indicate that the local committee are actively preparing for the reception and entertainment of the members of the Association; and it is proposed next week to give some statement of the more serious work which will engage the attention of the general meeting and of the sections.

FRANK CLOWES.

THE GREAT DROUGHT OF 1893.

THE draught of 1893 will unquestionably take its place among the recorded events of history, if regard be had to its intensity, the length of time during which it has lasted, and the wide extent of the earth's surface it has overspread. Treating the British Islands as a whole, the drought may be considered as embracing by much the greater part of the country for the fifteen weeks beginning with March 5. But while copious rains have fallen during the past few weeks in many places, it may be regarded as continued to near the present time in many of the more important agricultural districts in the south.

The drought was most severely felt in the southern division of England, and least in the north of Scotland. Over Scotland, England, and Ireland it increased in intensity, with pretty uniform regularity, from north to south. Thus the deficiency in percentages from the average rainfall of that portion of the year was 30 at Laing and 59 in Berwickshire; 59 at Penrith, and 90 at Dungeness and Falmouth, and 38 at Londonderry and 67 at Waterford. The least deficiency at any of the stations of the *Weekly Weather Report* was 1 at Glencarron, in Ross-shire, and the greatest at Dungeness and Falmouth, as stated above. At Glencarron the amount of the rainfall was 16.91 inches, whereas it was only 0.60 inch at Dungeness, 0.77 inch in London, 0.92 inch in Scilly, and 0.94 inch at Falmouth. At places south of a line drawn from Cambridge to Scilly less than a fourth part of the average rainfall of these fifteen weeks was collected, and consequently over this large district the effects of the drought have been most disastrous to agriculture and horticulture, the hay crop, for example, being in many places a complete failure. It was altogether a unique experience, in travelling in June from London to Scotland, to mark the great and steady improvement in the condition of the crops in the northward journey.

During the period the type of weather prevailing was eminently anticyclonic, with the appearance, ever and anon, in localities more or less restricted, of small satellite cyclones with their attendant thunderstorms and rains. Hence the remarkably sporadic character of much of the rainfall, of which the most remarkable in-