'ice chimney,' at 6.50. (Twenty minutes were devoted to the first gendarme on the arête.) Leaving again at 7.20, the highest summit of the Grépon (11,447 ft.) was reached at 11.30 (of which time 1¼ hr. were comfortably spent at the foot of 'the Crack,' waiting for another large party to ascend). Restarting at 12.10 the Col de Nantillons was gained at 1.20. Here axes and coats were deposited, and, leaving the snow at 1.30, the central, highest peak of the Blaitière (11,549 ft.) was surmounted at 2.15. From this, after ¼ hr.'s halt, the northern summit (11,497 ft.) was gained at 3.10, left again at 3.20; the Col regained about 3.45, and the Montanvert gently at 6.10—in all 16½ hrs. The conditions were, of course, ideal.

REVIEWS AND NOTICES.

Rock-climbing in North Wales. By G. and A. Abraham. Keswick, 1906.

EXPLORATION of the rocky recesses of North Wales has been carried on with vastly increased energy since the publication of the Welsh volume of 'Climbing in the British Isles.' During the last ten years the work of Haskett-Smith and O. G. Jones has been tested; old climbs have been improved or varied, and new ones have been discovered.

Among all these explorers none have shown greater vigour and skill than our fellow member J. M. A. Thomson, and those who were in a position to know what vast stores of knowledge he was heaping together have for several years been eagerly expecting the day when he should give to the world the result of his labours and studies. Those hopes may yet come to be gratified, but meanwhile we welcome a very substantial addition to our knowledge of the subject coming to us from a different source. It is well known that at the date of his untimely death O. G. Jones was preparing or at least making plans for a Welsh companion volume to that which he had already published on the climbs of the English Lake District, and now the Messrs. Abraham, who worked so efficiently in illustrating and re-editing the first book, have carried out their friend's plan by producing a similar work on the climbs of Wales.

We may say at once that the book is a great success. The writers have for several years given close attention to the district, and they enjoy the very great advantage of combining in an unusual degree physical prowess as climbers with practical mastery of all the resources of the camera. The result is a beautiful and very instructive volume.

The joint authors have divided their subject between them, the deep depression of the Llanberis Pass forming a very natural boundary. The southern portion is the larger and on the whole the finer and better known subject, and is very well handled by Mr. A. Abraham, while his brother with less material to draw upon

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deals with much fresher ground, such as the N. face of the Glyders and the recent discoveries on the E. side of the Carnedd range.

The book does not profess to be severely systematic, and is probably not the less interesting on that account, but the reader must be on his guard against assuming that because, for instance, accidents are rather pointedly mentioned in the case of Twll Du they have not occurred elsewhere when nothing is said of them, or that because he finds the originators of one climb rather carefully detailed he will find similar information in all the other cases. It is the opinion of not a few that nowadays we hear quite enough about 'first ascents,' and that the pursuit of climbing would not greatly suffer if the maker of a first ascent got somewhat less of the 'bold advertisement' which modern newspapers are so ready to bestow upon him. For this reason we by no means complain of a certain irregularity in the book with regard to this point, especially as the authors, in dealing with more than one of the best known climbs, would have been under the painful necessity of giving great prominence to their own names. Nearly all the climbs are handled in the light of the direct personal experience of the authors, and it is wonderful how well they have succeeded in describing nearly a hundred ascents without monotony. Readers who do not make full allowance for the difficulty of imparting variety to such narratives may possibly object that now and again the 'chaff' of the climbers is represented as having been somewhat rough and their high spirits as having expressed themselves in something very like horse play. One must not be over-critical in these matters, as we all know the exhilarating influence of the rocks, but at the same time it is always well to bear in mind that jokes, practical and other, which are delightful among friends on the hillside are apt to look less attractive when set down in cold print for the perusal of a less intimate public.

It is to be feared that there are one or two passages in the book which will not exactly be relished by the persons therein described.

Towards earlier authorities the attitude of the writers is in excellent taste and leaves nothing to be desired. Where fuller knowledge has enabled them to detect errors of statement in the work of Haskett-Smith or Jones the correction is made in the most unassuming manner and with such adroit delicacy that to the earlier writer it is more of a compliment than of a rebuke.

There is a vast deal in this book which to many will be quite new and to all much more accessible than it has been before. Many, perhaps most, of the new climbs have been described in the pages of the 'Climbers' Club Journal,' but here we find them well digested, treated from one uniform point of view, and well illustrated, often by diagrams in addition to excellent photographs. Among these the views of Llyn Idwal and of Cyrn Las are especially fine, and that of the central buttress of Tryfaen is a splendid study of rock-graining. The average climber—a prosaic being—caring more for honesty than art, has been apt in the past to regard the photo-

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graphs of Messrs. Abraham with some suspicion, but in this book will find little to object to. If he does not like a climbing scene on Cyfrwy or another on Lliwedd, what can be simpler than to hold the book some 20° to 30° out of the perpendicular?

CORRESPONDENCE.

THE WATKIN ANEROID IN MOUNTAIN MEASUREMENTS: A REPLY AND A REJOINDER.

To the Editor of the ALPINE JOURNAL.

DEAR SIR,—In a letter appended to the paper of Dr. Longstaff in the 'Alpine Journal' for August (p. 227) Mr. Douglas Freshfield takes occasion to criticise certain passages by myself which appeared in the February number of the 'Journal.'

Will you allow me to say in reply that I made no 'comments, as Mr. Freshfield asserts, on Mr. Graham's statements. I have nowhere in print expressed any opinion as to Mr. Graham's statements, nor discussed them other than to mention, what all the world knows, that they have been disputed. One of the comments criticised by Mr. Freshfield refers to the statement of Professor Collie that Mr. Graham had climbed 20,000 ft. on A. 22 and reached 22,700 ft. on Dunagiri, objection being made to the use of these altitudes, which I understand to have been not measured but estimated, as the basis of his argument that Mr. Graham might have reached 24,000 ft. Estimates of altitudes reached, especially by those who have not had long experience in the Himalaya, are exceedingly unreliable.

It might have been further added that, even admitting the correctness of these estimates, the contention of Professor Collie that because a climber reaches 20,000 ft. or 22,700 ft. he can reach 24,000 ft. is not borne out by facts. There is always the chance of the climber succumbing, and that sometimes suddenly, to exhaustion or mountain sickness, and, if he does, this occurs at a certain altitude which varies with the individual. This altitude cannot be determined beforehand and may not be greatly above a point where he feels well. Time and again I have seen coolies perfectly fit at a given altitude entirely incapacitated by mountain sickness 300 ft. to 500 ft. higher. Last summer a European porter with us, who was apparently in excellent condition at 20,500 ft., gave out completely at 21,000 ft. In view of such facts this contention is not tenable.

Mr. Freshfield is also treading on dangerous ground when he reasons that because a man is 'exceptionally active' he can necessarily reach a greater altitude than persons of average strength. In asserting this he overlooks the two questions of endurance and mountain sickness. It is not always the most active men who have the most endurance, which counts for much in climbing at great altitudes; neither does the possession of 'exceptional strength and

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