ORDINARY MEETING, JANUARY 3RD, 1873.

The REV. THOMAS WILTSHIRE, M.A., F.G.S., &c., President, in the Chair.

The following Donations were announced :—

“The Agricultural Geology of the Weald,” by W. Topley, F.G.S., from the Author.

“Geology of the Straits of Dover,” by W. Topley, F.G.S., from the Author.

“The comparative Agriculture of England and Wales,” by W. Topley, F.G.S., from the Author.

“The Nomenclature of the Foraminifera,” by W. K. Parker, F.R.S., and Prof. T. Rupert Jones, F.R.S., from the Authors.

“Abstract of the Proceedings of the Geological Society,” from that Society.

Weather Maps issued by the War Department, United States, from the United States Meteorological Department.

The following were elected Members of the Association :—

The Rev. Ebenezer Davies; Henry Hicks, Esq., M.R.C.S., F.G.S.; C. F. Hancock, Esq., B.A., M.R.I.; and Walter E. Koch, Esq., F.G.S.

The following Paper was read :—

ON THE CAMBRIAN AND SILURIAN ROCKS OF RAMSEY ISLAND,
ST. DAVID'S.

By HENRY HICKS, Esq., F.G.S.

Ramsey Island is situated on the West Coast of Pembrokeshire, and at the nearest spot is about three quarters of a mile distant from the main land. It is about two miles long, and from half to three quarters of a mile wide. It extends along the coast in a line almost due north and south. The southern half consists of several masses of intrusive greenstone, or quartz porphyry, metamorphic rocks, and some bands of black shale. The northern half consists of almost vertical strata of sandstones and slates, with one hill of greenstone on the west side, and a few intrusive veins. A section across the north end, beginning on the east side or that facing the main land, shows the following rocks in succession :—

(1.) LINGULA FLAGS.—A series of hard siliceous sandstones with grey flaky slate, about 600 feet in thickness, and containing *Lingulella Davisii* in great abundance, but no other fossils save

worm tracks and burrows, and some plant-like markings. The series usually attains a much greater thickness than is shown at this spot, and probably is only hidden here in the channel which separates the Island from the main land, where the lower rocks occur. These beds are frequently ripple marked, and show other indications of having been deposited in shallow water. Towards their junction with the next succeeding group, however, they become somewhat finer in character and more slaty, but yet not sufficiently so to yield the fossils common in this portion of the Lingula Flags in North Wales, and in the neighbourhood of Malvern. Evidently these beds at Ramsey Island were deposited in shallower water than the beds in those districts, and the fauna accordingly is more scanty.

Resting conformably on the last-mentioned beds, we have the (2.) TREMADOC GROUP, or rather a thick series of beds holding in the succession relatively the same position as the Tremadoc Rocks do in North Wales. These graduate by almost insensible degrees from the Lingula Flags, first as bluish grey flag, and then earthy grey thick bedded rock of a peculiar tough texture.

Towards the upper end, however, they become darker in colour and more slaty. They have a thickness of about 1,000 feet, and fossils are very abundant throughout the whole series. These rocks are also exposed at several other places in the neighbourhood of St. David's, but their junction with the Lingula Flags is nowhere so well seen as in this section. Wherever exposed the beds are invariably rich in fossils, but the cleavage which has affected the beds considerably renders it difficult to obtain very perfect specimens. The species discovered are nearly all new, as also several of the genera. Most of these were described by me recently in a paper read before the Geological Society,* and the fauna is important in showing the earliest lamellibranchs, encrinites, and starfish which have hitherto been discovered in Britain.

In succession to, and resting conformably upon the Tremadoc Rocks, are series of dark slates of about 1,000 feet in thickness. These we have proposed to call by the name (3) LOWER ARENIG, as they are shown to underlie the true Arenig Series, and to form an intermediate group of strata between the latter and the Tremadoc Rocks, as recognised here. In these rocks, during some recent researches carried on by Messrs. Homfray, Lightbody, Hopkinson,

* Quart. Journ. Geol. Soc., vol. xxix., p. 39.

Kirshaw, and myself, a very rich fauna of graptolites was discovered; and Mr. Hopkinson's thorough knowledge of these forms of ancient life has enabled him to recognise amongst them about 22 species, and, moreover, to correlate the beds through these with the Quebec Group of Canada. The other fossils discovered in these beds comprise species of *Æglina*, *Ogygia*, *Asaphus*, *Trinucleus*, *Conularia*, &c. Some of these species were described by the late Mr. Salter, but the majority are as yet undescribed. This section is of considerable importance in a stratigraphical point of view, as it exhibits the connection of Silurian with Cambrian strata, and shows that no considerable break can exist between the two formations. It is this section also which makes the geology of Ramsey Island deserving of special consideration, for nowhere perhaps in Britain is the succession of these rocks so clearly shown as they are in this coast section. A fault in the line of bedding has removed the remainder of the series, and the Lingula Flags are brought against the Arenigs unconformably at the west side of the Island.

ANNUAL GENERAL MEETING, FEBRUARY 7TH, 1873.

The Rev. THOMAS WILTSHIRE, M.A., F.G.S., President, in the Chair.

The following Report was read by the Honorary Secretary:—

REPORT OF THE GENERAL COMMITTEE FOR 1872.

The General Committee have again the satisfaction of presenting to the Members of the Geologists' Association a Report recording great prosperity and progress.

The elections of new Members during the past year have been very numerous, and have added to your body several gentlemen well known as good and careful workers in Geological investigation.

Notwithstanding the greatly enlarged expenditure consequent upon extended operations, it will be observed from the Treasurer's Account that the income of the Association has more than correspondingly increased. Your Committee notice with great pleasure that a considerable sum has been received by the sale of publications, since it attests increased attention to the operations of the Association and interest in Geological science. The balance at the close of the year being very considerable, your Committee