ing cells, like the chyle cells of the intestinal tube, taking up for the fœtus the matter secreted by the external cells.

3. That the placenta not only performs the function of a lung, but also that of a gastro-intestinal mucous membrane.

2. On the Mode in which Sound is produced and diffused, and on the Vibrations caused in the quality of Sound by substance and form. By Sir George S. Mackenzie, Bart.

The following Donations of Books to the Society's Library were announced.

Voyage dans la Russie Méridionale et la Crimée, par M. Anatole de Demidoff. Tome 4, avec un Atlas des Planches.—*By the Author.*

Bulletin de la Société Géologique de France, from 15th March to 9th September 1841.—*By the Society.*

Proceedings of the Glasgow Philosophical Society, 1841-42.—*By the Society.*

The following Gentlemen were duly elected Ordinary Fellows of the Society:—Joseph Mitchell, Esq., civil engineer; Duncan Davidson, Esq. of Tulloch.

Monday, 27th February 1843.

Dr ABERCROMBIE, Vice-President, in the Chair.

The following communication was read.

Papers on Glaciers. No. 2, describing the Rate of Motion of the Ice of the Mer de Glace, deduced from observation. By Professor Forbes.

The author detailed in this paper the methods of observation by which he was enabled to ascertain the *daily* and even *hourly* motion of different parts of the glacier.

The following are some of the principal results:—

I. In the particular case of the Mer de Glace, the motion of the higher parts of the glacier are on the whole slower than those of its lower portion, but the motion of the middle region is slower than either.

The following table, the result of observations at a series of ascend ing stations, will authorize this conclusion.

	Velocity.
Lower part,	1.000
	0.770
Middle do.,	0.479
Higher do.,	0.674

II. The Glacier du Géant moves faster that the Glacier de Lechaud in the proportion of 7 to 6.

III. The centre of the glacier moves faster than the sides. When two glaciers unite, they act as a single one in this respect, just as two united rivers would do.

The author measured the velocities at different places in the breadth of the glacier, and it was found to increase towards the centre. The following are the numerical results, assuming the motion of the ice near the edge as the standard or the unit of reference.

Side.			Centre.
1.000	1.332	1.356	1.367

IV. The difference of motion of the centre and sides of the glacier varies (1) with the season of the year, and (2) at different parts of the length of the glacier.

1. From the observations made, the author concludes, that "the variation of velocity diminished as the season advanced; and that it was proportional to the absolute velocity of the glacier at the same time."

2. The variation of the velocity with the breadth of the glacier is least considerable in the higher parts of the glacier, or near its origin.

V. The motion of the glacier generally varies with the season of the year and the state of the thermometer.

Perhaps the most critical consideration of any for the various theories of glacier motion is the influence of external temperature upon the velocity. It is shewn in this paper, by a direct numerical comparison, and by projected curves, that in nearly every instance the velocity of the glacier, during any period of days, has a reference to the temperature of the same period. If the thermometer fell, the glacier advanced slower, and *vice versa*. It is not, however, to be inferred that at the same external temperature the velocity will always be the same; only at any season, the change will always be in the same *direction*, and governed by the thermometer, though not always the same in amount.

The author also deduced from various indirect considerations, that it is very improbable that the glacier *stands still* in winter. On the

contrary, he supposes that though its velocity is less than in summer, it still bears a considerable proportion to it.

Monday, 6th March, 1843.

The Right Honourable Lord GREENOCK, Vice-President, in the Chair.

The following communications were read :—

1. On the Nature, Locality, and Optical Phenomena of Muscæ Volitantes. By Sir D. Brewster, K.H.
2. On the Structure of the Lymphatic Glands. By John Goodsir, Esq., Conservator of the Museum of the Royal College of Surgeons of Edinburgh.

The author stated that the different lymphatics, as they enter the gland, become deprived of their external tunic, which passes on to the surface of the organ, to assist in forming its capsule. The middle tunic also becomes weaker, and presents the appearance of fibres arranged in the form of arches, which enclose rounded or oval spaces, particularly towards the surface of the gland, and at the angles formed by the anastomosis of one lymphatic with another. Mr Goodsir then observed that it was to the changes which the internal tunic of the lymphatics undergoes in the interior of the gland, that these organs owe their peculiar structure. This tunic, when traced from the afferent or efferent vessels into the gland, is found to become thicker and more opaque, till at length it no longer transmits light. It consists of two parts—a fine external membrane, and a granular substance attached to the inner surface of that membrane. The membrane belongs, according to the author, to the class of germinal membranes, with the germinal spots placed at regular distances. This germinal or primitive membrane of the internal tunic of the intra-glandular lymphatics is extremely delicate, and has germinal spots of an oval form, with compound nuclei. These spots are the sources of the nucleated particles which come from the granular substance. These particles are about the 4000th to the 5000th of an inch in diameter, and form a considerable proportion of the corpuscles, which have been long recognised in the fluid which may be squeezed out of lymphatic glands. The layer which these nucleated particles forms on the internal surface of the germinal membrane is so thick as almost to fill the cavity of the lymphatic. The canal of the vessel is irregularly pierced through the granular substance, the surface and particles of which are freely