

Western Australia mention must be made of the excellent arrangements for those visitors who were desirous of seeing as much as possible of the State but were not taking the official botanical, geological, and zoological excursions. Mr. Catton Grasby piloted Mr. Golding round the agricultural districts. Mr. Kingsmill and Mr. Battye arranged a week's programme of short local excursions. The Government very kindly arranged a particularly interesting excursion to the timber district at Big Brook and ran a special train, the Premier himself making one of the party. Prof. Ross guided a number of visitors over the wireless telegraphic station, and Prof. Whitfeld conducted a small party to Kalgoorlie.

Special arrangements were made for the overseas party travelling by the *Orvieto* and only having a few hours in Western Australia. The Mayor of Perth entertained the party to luncheon, after motor drives had been taken round Perth. This completed the official visit to Western Australia. Whilst this is being written upon the *Orvieto en route* for Adelaide the party is anxiously waiting for news of the trouble at home, a few tragic rumours having just reached us as we left Perth for the steamer. W. J. DARIN.

DR. W. H. GASKELL, F.R.S.

DR. GASKELL'S unexpected death comes as a shock to his many friends. A few weeks ago he was in full enjoyment of life. His sixty-seven years were lightly borne, and the ailments inseparable from his years had little effect on his buoyant nature. He was actively engaged in putting in book form his views on the sympathetic system, and no one doubted that he had years of barely abated vigour before him. He died on September 7 after a short illness.

Gaskell entered Trinity College, Cambridge. In 1869 he was placed among the Wranglers in the Mathematical Tripos, and in 1872 he took honours in the Natural Science Tripos. He proceeded to a medical degree, and under the influence of Michael Foster began research in physiology. Carl Ludwig's laboratory in Leipzig was the principal centre of physiological research, and Gaskell went to Leipzig. Under Ludwig's direction he investigated the vaso-dilator fibres of muscle. The resultant paper is one of the classical works on the subject.

On returning to Cambridge Gaskell took up the study of the mechanism by which the several parts of the heart are coordinated in the sequence of contractions which make up the heart-beat. At this time the dominant—though not unquestioned—theory referred the sequence of contractions to the activity of separate groups of motor and inhibitory nerve-cells placed in the heart itself. Gaskell at first supported this hypothesis with certain modifications, but as the result of later investigations chiefly on the heart of the tortoise, he substituted for it the theory, now almost universally adopted, that the conduction of impulses from one part of the heart to the next

is by means of a specialised muscular tissue. At approximately the same time Engelmann contested the theory of nervous control, and the modern views of the mechanism of the heart-beat are inseparably connected with the names of Gaskell and Engelmann. Gaskell's work was full of new and important observations. Thus he described how, by lowering the conductivity of the tissue between the auricle and the ventricle, the ventricle only responded to every second and third contraction of the auricle. On the invention of the string galvanometer by Einthoven, the "heart-block," described by Gaskell, explained certain irregularities observed in the cardiac tracings of man, and became of fundamental clinical importance.

In connection with the foregoing work, Gaskell investigated the extrinsic nervous supply of the heart, *i.e.* its innervation by the vagus and sympathetic nerves. He was thus led to his next great line of work, that on the sympathetic nervous system. On this question there were a vast number of observations, but for the most part they were disconnected, and few generalised statements had any currency. A distinction of white and grey rami connecting in the mammal the spinal nerves with the sympathetic had long been known, and Onodi and others had described the absence of white rami in the cervical, lower lumbar, and sacral regions. The white rami were known to be composed chiefly of myelinated nerves and the grey rami of non-myelinated nerves. Gaskell's observations were chiefly microscopical. He noted that the roots of the spinal nerves at their origin from the spinal cord had no non-myelinated nerve fibres, and from this and other facts he deduced as a broad general statement that the outflow of nerve fibres from the spinal cord to the sympathetic chain took place solely, or almost solely, in the regions in which white rami were present, *i.e.* in the thoracic and upper lumbar regions. In Gaskell's paper there are other generalisations with regard to the sympathetic and allied nervous systems, but it would take too much space to discuss them here. It must suffice to say that Gaskell was the first to attempt to treat the innervation of the blood-vessels and the viscera in a comprehensive manner.

Gaskell's study of the relation of the central nervous system to the sympathetic nervous system in vertebrates led him to consider the relation of both to the nervous system of invertebrates, and he passed from the more special domain of physiology to that of morphology. He arrived at conclusions differing essentially from that held by morphologists, and the remaining years of his life were mainly occupied in advocating his views and working them out in detail.

Taking Gaskell's work as a whole, it appears that the main bent of his mind was for generalisation. It was scarcely possible for him to make an experiment without extending the conclusions to be derived from it to a number of other phenomena. It was both his virtue and his defect. His influence on physiological conceptions has



been widespread, and it will be long before he ceases to be a living force and passes to the position—honourable as it is—of an historical figure in physiological science.

Gaskell cared little for public ceremonies, and rarely attended the congresses which beset the path of prominent scientific men. He loved to work quietly, to cultivate his garden, to see his friends, and to take a hand at whist or bridge. His house at Great Shelford was a recognised meeting-place for physiologists, and his frank and genial welcome will be an abiding recollection to all who knew him.

J. N. LANGLEY.

#### NOTES.

WE learn from a paragraph in the *Times* of September 19 that the question of abandoning honorary degrees received from English universities, and distinctions from learned societies, is being discussed by some German professors. Prof. W. Förster, professor of astronomy in the University of Berlin, who holds a doctor's degree at Oxford, takes objection to the movement in a letter to the *Berliner Tageblatt*, on the ground that it is unwise to proclaim a divorce from the "learned world" of England because of England's "wicked policy." It would be better for the German professors to make a strong appeal to their English friends for "a more effective loyalty to the intellectual community." Protests against Prof. Förster's views promptly came from Profs. Eucken and J. Kohler, who hold chairs of philosophy and law respectively. In connection with this question we are glad to print elsewhere in this issue a letter from Dr. J. P. Latsy asking scientific men who have received honours from universities, or other learned institutions of nations with which their own countries are at war, not to commit the act of renunciation advocated by certain representatives of German learning.

WE are glad to see in Tuesday's *Times* a letter from Prof. J. A. Fleming dissociating scientific work from the spirit of Prussian militarism. In the course of his letter, Prof. Fleming says:—"No one familiar with the achievements of scientific thought would refuse to admit the indebtedness of the world to such thinkers and workers as Jacobi, Gauss, Bessel, Riemann, H. F. Weber, von Helmholtz, Kirchhoff, Hertz, and Röntgen, but the fact is quite as astonishing as it is painful that a nation which has made such contributions to the upbuilding of natural philosophy should have permitted itself also to be dominated by an immoral militarism by whose votaries sheer brute force is worshipped as the highest virtue and the only source of national advancement. Side by side with immense ability in creating and applying scientific knowledge we have an almost complete failure to recognise truth, honour, faith-keeping, and justice as the foundations of national greatness. Germany has no greater need at the present moment than some inspired prophet to enforce on her the truths of which Thomas Carlyle was so eloquent an exponent—namely, that physical force is in the long run impotent unless backed by those spiritual forces which spring only

from loyalty to the everlasting difference between right and wrong."

WE learn with regret that Dr. H. J. Johnston-Lavis, professor of vulcanology in the Royal University of Naples, was killed in a motor accident at Bourges early this month.

WE regret to announce the death of Sir Henry G. Howse, at one time senior surgeon to Guy's Hospital, and president of the Royal College of Surgeons, England. He was eminently a practical surgeon, making numerous contributions to the medical literature of his time. Some years ago he retired from active practice, and settled near Sevenoaks, Kent, where he enjoyed a well-earned leisure. He was in his seventy-third year.

THE death is announced at Louth, Lincs., of Mr. George Gresswell, formerly lecturer in physical science, under the Government of the Cape of Good Hope, at the Diocesan College, Rondebosch, and demonstrator of practical physiology and histology at Westminster Hospital. Mr. Gresswell was the author of a number of books and papers, including several on the theory of evolution.

FROM telegraphic messages issued through Reuter's Agency we learn that the United States Revenue cutter *Bear* on September 8 rescued eight members of Mr. Stefánsson's Canadian Arctic Expedition, who were marooned on Wrangel Island. It is reported that Mr. Mallock, the geologist, and Mr. Mamen, the topographer to the expedition, died on Wrangel Island. The absence of news leads to the fear that M. H. Blanchet, of Paris, Dr. A. Mackay, and Mr. James Murray, other members of the expedition, may have been lost. Mr. Stefánsson himself and three others are said to be safe and to be drifting towards King William Land.

SIR ERNEST SHACKLETON and the members of the Trans-Antarctic Expedition left London on September 18. Those members of the expedition proceeding to the Ross Sea travelled *via* Tilbury for Tasmania; the others, the Weddell Sea section, included Sir Ernest Shackleton, and embarked for South America. The Ross Sea party expects to sail from Hobart in the *Aurora*. The Weddell Sea contingent hopes to leave Buenos Aires on October 18 by the *Endurance*. After landing its party the *Endurance* will return to the Falkland Islands, whence news of the explorers may be expected next January. If Sir Ernest Shackleton's land party does not cross the Antarctic Continent during the first season it has been arranged that the *Aurora* shall winter in the Ross Sea. Sir Ernest Shackleton hopes to meet the Ross Sea party either in April of next year, or, failing that, in March, 1916.

UNIVERSITY COLLEGE, Galway, has, during the summer vacation, suffered a great loss by the death of Prof. R. J. Anderson, professor of natural history in the college. Dr. Anderson was greatly beloved by his colleagues and his students. He was a genuine scholar, with few interests outside the world of science. With his wife (a sister of Prof. John Perry, of South Kensington) he was a constant attendant at the meet-