tance action, possibly of the same kind as that observed in the experiment just described, plays a controlling part in the determination of rhythm: *i.e.*, the latter depends on a coordinating influence, in the general nature of a removal of restraint, transmitted at a finite velocity from the pace-making region. Correspondingly, we find that when transmission is locally impaired in the heart, fibrillation often occurs, at a rhythm typically faster than the main rhythm. In such cases local pace-making regions are to be assumed, each controlling the rhythm over a relatively small area.

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UNIVERSITY OF CHICAGO

JOSEPH NELSON ROSE

1862–1928

ON the afternoon of May fourth an assembly-room in the United States National Museum was filled to overflowing in response to a call issued that morning by the secretary of the Smithsonian Institution. The gathering was called as a means of showing and recording his late associates' appreciation of Dr. Rose, who had left his desk in order late the preceding afternoon—never to return to it.

The meeting was impressive. To those of us who listened, as speakers rose here and there in the room, the kindly personality of a friend and the talented devotion of an able man to earnest work unfolded. To those of us who spoke, the sadness of the occasion was blended with a consolation born of the knowledge that a well-rounded-out life had come to ripe fruition.

I recalled that last winter Dr. Rose had reminded me of the fact that over forty years ago he had asked to do the work for his doctorate with me, but had been prevented by circumstances from doing so; and I thought of the original and thorough-going study of a difficult group of plants—the Umbelliferae—that came out of his candidacy under Professor Coulter. I remembered that when a preliminary dip into the Crassulaceae, which are ill-preserved in herbaria, had convinced me that they were beyond my own understanding, he disentangled them with masterly skill. There came to my memory a long day's tramp with him down a lava-covered mountainside bordering the valley in which the City of Mexico lies, and the keen, detailed and comprehensive way in which he examined the many agaves that we found—in which at that time he was more interested than I. Even a few days before his death he had shown me a collection of specimens and full-sized photographs of what passes for *Acacia Farnesiana*, and which for years he has known to comprise more than one species.

Interwoven with these memories were many others, like them indicative of a close observer, an energetic worker, a deliberate thinker and a friendly man even when critical.

Except for two years before attaining the doctorate, Rose was not a teacher—unquestionably to the loss of young men in whom his deliberate weighing of questions and facts would have conduced to the early formation of a judicial habit.

For forty years his connection has been with the government botanical service—first in the Department of Agriculture and later, when the present national herbarium was established under the National Museum, in this institution. To his efficiency in building up and using this great collection his associates all bear witness, and the collection itself and the long series of published "Contributions" are in evidence to the same effect; but of recent years the brunt of this responsibility has been borne by his coadjutor, Mr. Maxon.

Custodianship of a large herbarium, with an impulse to investigation, not only offers great possibilities to one who knows how to use them, but almost of necessity drives one afield. With familiarity with the contents of the larger European collections Dr. Rose also came to know many of the objects of his study in their haunts—Central and South America; and his work, especially on succulent plants, never could have acquired its lasting value in any other way. The necessary routine handling of the accessions in such an establishment as the National Herbarium affords in itself the basis of a liberal education to one keen on floristic and taxonomic studies. New material comes in from unfamiliar regions and the specimens must be named.

Among Dr. Rose's earlier tasks was naming several west-Mexican collections made by Edward Palmer, a pioneer in that field, and enumerations of such collections are among his earlier publications. It probably was in doing this work that he formed a habit of which he once spoke to me—that of synoptically bringing under his eye the characters of all the known species of a group, preliminary to naming adequately those before him; and this was a most valuable habit in his later and more difficult studies.

Though his most monumental work was on the Cactaceae, Crassulaceae, Umbelliferae and Amaryllidaceae, his interests were broadly distributed over the flowering plants. This is not the place for an enumeration of his publications, but they covered the North American representatives of Burseraceae, a considerable series of "Studies of Mexican and Central American plants," often from an economic standpoint, and a carefully executed study of the anatomical characters of certain pines applicable to their

classification—for which Engelmann had marked the way. Occasionally, as of Canby in 1904 and Greene in 1916, he wrote appreciative sketches of botanists whom he had known.

It is chiefly through his comprehensive handling of the difficult succulents, tuberose-like Amaryllids and Umbelliferae that his memory will be kept fresh in science; but those who knew him well will remember him also as a devoted public servant and a sympathetic and helpful friend, whom the last call found still active at the end of a long and successful professional career.

WM. TRELEASE

SCIENTIFIC EVENTS

THE GLASGOW MEETING OF THE BRITISH ASSOCIATION

THE British Association for the Advancement of Science has issued the preliminary program of its meeting to be held in Glasgow from September 5 to 12, under the presidency of Sir William Bragg, who in his address will deal with modern developments of the physical sciences and their relation to national problems. The subjects of the presidential addresses and discussions in the various sections include the reflection of electrons by matter, the photography and measurement of radiation, ancient geography in modern education (by Professor J. L. Myres), the nature of skill (by Professor T. H. Pear), the influence of engineering on civilization (by Sir William Ellis), the archeology of Scotland (by Sir George Macdonald) and increasing returns and economic progress (by Professor Allyn Young). Dr. Cyril Norwood will give the presidential address in the education section, which also will hold a discussion on broadcasting in the service of education, opened by Sir John Reith.

One of the customary evening discourses will be given by Professor E. A. Westermarck, on the study of popular sayings; this will be the Frazer lecture in social anthropology, which is due for delivery in Glasgow, and to which members of the association will, by the courtesy of the university authorities, be admitted. The other evening discourse will be given by Professor F. G. Donnan under the title of "The Mystery of Life," the subject being considered from the viewpoint of physical chemistry. The delegates of corresponding societies, under the presidency of Dr. Vaughan Cornish, will discuss the preservation of scenic beauty in town and country. All the meetings, except those in the evening, will be held in the university, an unusually convenient arrangement. The Lord Provost and Corporation of Glasgow will give a reception and dance in the city chambers, and the local committee a reception in Kelvingrove Art Galleries.

Ample opportunity will be provided for visits to places of scientific interest in the country around Glasgow, and for studying the manifold economic interests of the city and the Clyde area, with their many outstanding examples of the value of applied science in industry and social conditions. Saturday, September 8, is, as usual, devoted entirely to excursions, but in addition there will be numerous half-day and afternoon excursions during the week. Many of these will be of special sectional interest, or will be devoted to visits to particular works and industrial centers. The Port of Glasgow, with its quays and docks and shipyards, will be of special interest to many visitors, and to facilitate its inspection the Clyde trustees are proposing to place their steamer *Comet* at the service of members of the association.

CENTENARY OF THE LONDON ZOOLOGICAL SOCIETY

THE Zoological Society of London will celebrate the completion of its hundredth year of work next year, as it received its royal charter in 1829. The London *Times* gives the following details of the early history of the society:

As is often the case with an institution which came into existence by stages, there are several dates on which a centenary celebration might have been justified, but, as the council has announced in its annual reports for some years, 1929 was selected as the most appropriate.

The first possible date was 1822, for in November of that year some fellows of the Linnean Society, meeting at the house of William Kirby, the entomologist, gratified their discontent with the disproportionately small attention given to zoology by the Linnean Society by deciding to form a Zoological Club. They were still tied by loyalty to their parent society, and when they drafted the rules of the new body they limited membership to fellows of the Linnean Society, and arranged that their scientific work should be published by that society. The work they contemplated and for some time carried out did not include the maintenance of a living collection. There is still uncertainty over the transition from the Zoological Club of the Linnean Society to a Zoological Society with the chief object of establishing a zoological garden, and there is reason to believe that the latter had an independent origin, largely at the instigation of Sir Stamford Raffles, who, although a fellow of the Linnean Society, does not appear to have been a member of the Zoological Club.

The first known prospectus of the Zoological Society was issued in 1825 and announced as its object the formation of a society that should have the same relations to zoology and animal life that the Horticultural Society bore to botany and the vegetable kingdom. There were 77 original subscribers, among whom may be mentioned Sir Stamford Raffles, Sir Humphry Davy, president of the Royal Society, the Duke of Bedford, the Marquis of Lansdowne, Robert Peel and Alexander Baring, M.P. In this prospectus there was no suggestion of the existence