THE AWARD OF THE BOYLE MEDAL

The presentation of the Boyle Medal to H. H. Dixon on January 23, 1917, by Lord Rathdonnell is now a matter of somewhat ancient history to his colleagues of the Royal Dublin Society. Due to delay in transmission of periodicals, however, the account of the presentation and the bibliography of Dr. Dixon's more than three score contributions to science have only just reached America in printed form.[1] Because of the widespread interest in Dixon's work on the rise of water in trees, the writer is hastening at this late hour to do honor to a brilliant career and a gentleman of scientific vision.

The tension theory of the ascent of sap in trees was published in 1894 in collaboration with Dr. John Joly. The latter, also, is favorably known in America as a physical geologist and mineralogist and a graceful writer of essays on scientific topics, ranging all the way from the "Birth-Time of the World" to "Skating" and "Pleochroic Halos." He also visited the United States as a member of the British Education Commission two years ago. Many of Dr. Dixon's earlier researches were undertaken with Dr. Joly. Dr. Dixon's principal scientific labors may be classed under three main heads: Cytology and genetics, the path of the transpiration current, and cryoscopy and thermo-electric methods.

Contributions to cytology include fertilization of *Pinus sylvestris* and some significant work on reduction division and mitosis which aided about a decade later in the rediscovery of Mendel's law. However, transpiration soon began to be Dixon's chief topic of experiment and research and his results will doubtless remain one of the great contributions to botanical science. During the interval between 1894 and 1914 investigations concerning the resistance experienced by the transpiration stream and theories to account rationally for the upward movement of water were developed. Most of the methods employed in these researches were devised by Dr. Dixon and only a few were in collaboration with students. It is, then almost entirely due to his genius and patient effort that the epochal discoveries come into being. His records of this work are contained in the monograph "Transpiration and the Ascent of Sap," published about 1914. Previously he had been invited to contribute to *Progressus Rei Botanicæ* on the same subject. The third line of investigation has been largely in collaboration with Dr. W. R. G. Atkins. Osmotic pressure changes and cryoscopic and conductivity measurements on saps have been particularly dealt with. These researches are still continuing and have been amplified recently by new attacks on the many problems of photosynthesis, especially the increase of sucrose rather than the hexoses following insolation. There is no doubt but that much valuable information will result from this field of investigation.

The closing sentences of the biographical note (*loc. cit.*) seem to indicate that Professor Dixon has been accomplishing this magnificent amount of experimental work at the same time that he was teaching "large classes" of medical students. The more honor to him. One can not help feeling, however, the stupidity of university organization which permitted his time to be occupied during the best years of his life in work which was relatively unproductive for the science of botany. If such an inspired worker can not impress the governing board of the school with the importance of fundamental research, the outlook for most of us is indeed dark.

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[1] Award of the Boyle Medal to Professor Henry Horatio Dixon, Sc.D., F.R.S., *Sci. Proc. Roy. Dublin Soc.*, 15: 179–184. Anon.

IN HONOR OF WILLIAM H. WELCH

On April 8 Dr. Welch reaches his seventieth birthday. Such an occasion ought not to pass without some new expression of affection and admiration on the part of the medical profession of America to one who has long stood as its leader. To many of his friends it has seemed that an expression worthy the master would be the preservation in suitable form of the chief contributions from his pen.