

manufactured by Imperial Chemical Industries, Ltd., organic esters and sulphur compounds are reduced to less than one part per million, and any oil which may be carried over from the compressors is carefully removed in order to obtain a sufficiently pure product. The solid is also finding increasing use as a source of carbon dioxide for the production of salicylic acid and other chemicals.

Passing reference only has been made to some of the principal uses of solid carbon dioxide. Certain other applications are still in the development stage, while others are constantly being discovered. The development of the industry has been very rapid and constitutes one of the most remarkable modern examples of the application of scientific methods to industrial requirements.

### Obituary

#### PROF. ARTHUR THOMSON

ON his retirement in 1933, Prof. Arthur Thomson, whose death on February 7 will be widely regretted, had completed a somewhat unusual record of academic service. He was born on March 21, 1858, and for forty-eight years he represented human anatomy at the University of Oxford, first as University lecturer in human anatomy and afterwards as Dr. Lee's professor of anatomy. After serving an apprenticeship in the famous school of anatomy at Edinburgh under Sir William Turner, Thomson went to Oxford in 1885. Unlike many of his later contemporaries, he did not enjoy the advantage of stepping into a department already equipped for teaching and research. On the contrary, the task fell to him of building up a new department from its very foundations. It will readily be appreciated that Thomson's energies were fully employed for a number of years in developing the teaching side of his department to a level appropriate to the medical faculty of the University of Oxford, a task which was rendered very laborious at first by the criticism and opposition of some members of the University who were less ready to appreciate the importance of catering for an extensive and detailed medical curriculum.

Arthur Thomson's own contributions to scientific literature can be divided quite sharply into separate categories. Of these, his papers dealing with the racial variations of the skeleton are the most noteworthy. In this work he was clearly influenced by his late teacher, Sir William Turner, who had stimulated considerable interest in racial anatomy by his studies of the human skeleton in the *Challenger Reports*. Thomson's work on this subject was characterised by the fact that he constantly sought to explain by reference to habits of life and environmental influences the osteological variations which were being at that time recorded by anatomists. He was not content simply with measurements and with the construction of indices, and he was evidently reluctant to accept metrical variations of the skeleton as necessarily of real morphological significance in the assessment of racial affinities. In 1889 he showed the importance of considering posture as a factor in the determination of the proportions and contour of the lower limb skeleton and directed attention to the 'squatting facets' on the tibia and talus. In the same year he published an anthropometrical study of the Veddahs of Ceylon. His interest in craniology led him to investigate the significance

of cranial indices which were then assuming such importance in the eyes of the anthropologist. By ingenious models he sought to show that the proportions of the calvarium must be directly influenced by brain volume and by the action of the temporal muscles. These observations were published in the *Journal of the Anthropological Institute* in 1903, and his conclusions, which were admittedly tentative, have in some part been substantiated by statistical study on a larger scale.

In 1913, Thomson made a valuable communication on the correlation of isotherms with variations in the nasal index. Ten years later, this observation was submitted to statistical analysis by him in collaboration with Dr. Buxton, with the noteworthy conclusion that a platyrrhine nasal index is associated with a hot moist climate and a leptorrhine index with a cold dry climate. Other studies by Thomson in this line include a comprehensive study with D. Randall-MacIver of Egyptian crania, published in 1905 by the Clarendon Press under the title of "The Ancient Races of the Thebaid", and a paper on the genial tubercles of the mandible in 1915. At Oxford, Thomson will be particularly remembered with gratitude for the part he played in instituting and organising the regular course of study for the University diploma in anthropology, a course which has met with increasing success since its initiation in 1907.

Thomson was a close personal friend of the late R. W. Doyne, who founded the Oxford Ophthalmological Congress, and undoubtedly it was this friendship which led him to make special studies of the anatomy of the eye. This resulted in the publication of two papers on the filtration angle of the eye in 1910 and 1911, and in a brochure on the anatomy of the human eye together with an atlas of stereoscopic photographs of dissections of the eye.

Thomson's last work was concerned with the microscopic structure of the human Graafian follicle and the maturation of the human ovum. These provided the subjects for two papers in the *Journal of Anatomy* in 1919.

Apart from his work at the University of Oxford, Thomson occupied the position of professor of anatomy at the Royal Academy, to which he was elected in 1900. In this sphere he was able to give full expression to his own artistic propensities, and he left an appropriate memorial of his contribution to art in his book "Anatomy for Art Students" which has passed through a number of editions.