

by Albrecht von Haller (1708-1777) in his *Elementa Physiologiae Corporis Humani*. Educated under Boerhave of Leyden, he became professor at Göttingen in 1736, and for seventeen years taught anatomy, botany, medicine, and surgery.

Prof. W. Rutherford characterizes Haller's position in a sentence: "Possessed of a strictly logical mind, strongly inclined towards physics and mathematics, he insisted on eliminating from physiology all statements that could not be verified by observation and experiment; he added considerably to the store of physiological facts, arranged them in the logical order of science, and thus gave to physiology its present aspect".

We may regard the publication of Haller's great work as marking the date when physiology came of age as a specialism. Haller is also of historical interest for his early researches on respiratory movements, the contractility of muscle, the irritability of nerves, and many other problems, and for the authority which he lent to two doctrines—the Preformation-theory of Development, and the theory of a Special Vital Force, which, in their cruder forms at least, were erroneous and disastrous.

Among the many noteworthy advances which mark Haller's period, we may select two. The study of irritability, which Francis Glisson (1597-1677) had begun almost a hundred years before, was continued by Haller, by John Brown (1735-1788), by Galvani (1737-1798), who discovered animal electricity, and so one gradually passes to Sir Charles Bell (1774-1842), who distinguished the sensory and motor (or afferent and efferent) functions of the dorsal and ventral roots of the spinal nerves, and to Marshall Hall's elucidation of nervous reflex action, which brings us close to the work of to-day.

On another line, however, there were no less momentous steps of progress. The discovery of oxygen by Priestley (1733-1804) and Lavoisier (1743-1794) led Girtannier (1760-1800), Black, and Mayow to sound views on the chemical nature of respiration, and thus one of the *πνεύματα* (spirits) of the old physiologists became at length objective and measurable.