DICTIONARY OF MEDICAL BIOGRAPHY

Volume 3, H–L

Edited by

W. F. Bynum *and* Helen Bynum

GREENWOOD PRESS
Westport, Connecticut • London

HIS, WILHELM (THE ELDER) (b. Basel, Switzerland, 9 July 1831; d. Leipzig, Germany, 1 May 1904), *anatomy, histology, embryology.*

His, descended from the old patrician family 'Ochs', was the son of a silk industrialist. In 1818 the family had changed its name to 'His'. He studied medicine at the universities of Basel, Bern, Würzburg, and Berlin, where Rudolf Virchow, Johannes Müller, and Robert Remak were his teachers. In 1854 he graduated MD at Basel with his dissertation *Zur Histologie der Cornea* (1854). After an elective period at the Paris Medical School, where he worked with Charles Edouard Brown-Séquard and Claude Bernard, he commenced his internship under the ophthalmologist Albrecht von Graefe at the latter's private clinic in Berlin. After receiving the 'Venia legendi' from the Friedrich-Wilhelm University in 1857, His was called to the chair of anatomy and physiology at the University of Basel. In 1872 he was made 'Ordinarius' at the Institute of Anatomy at Leipzig, where he stayed until his death. This newly constructed institute, which had been created after His's own plans, reopened in 1875. It was one of the most modern institutes of its time and was the site of the Leipzig school of microscopical anatomy.

His worked extensively on the histology of the cornea, on the lymphatic system, on the mucous membranes, on the cavities of the human body, and in the area of embryology. He used ingenious micro-techniques, such as the Oschatz-microtome, for successive slicing of different morphological growth stages. For His, embryology was essentially based on histological methods and an epistemology of close comparison. He objected fervently to the evolutionary theories of Charles Darwin and Ernst Haeckel, defending the view that the germ disc was already morphologically determined and subject to an inborn formative program. This view is also visually reflected in the excellent His-Steger models, which were to represent the ontogenetic forms of the embryo in pronounced naturalistic magnification. After the introduction of microphotography in Germany by Joseph von Gerlach, His began to experiment with histological photography and the production of serial images of embryonic development.

In 1884 he discovered the 'neuroblasts'—progenitor cells of the central and peripheral nervous system. This discovery was a landmark contribution to the general 'neuron' theory of brain morphology and function. For His, neuroblasts behaved as independent elements and built up various kinds of neuroanatomical centers. Nevertheless, he was a careful scientist, stating that the brain was more than just an assembly of optimally distributed contact points and that in the makeup of neuronal cable structures the nerve cell also served other purposes than as a mere relay (1893).

Together with Joseph Hyrtl of Vienna and Wilhelm von Waldeyer-Hartz of Berlin, His was one of the key figures in the commission of the newly funded Anatomical Society for *Nomina anatomica.* His engagement with medical terminology and anatomical nomenclature cannot be overemphasized, as he contributed extensively to the scientific ideal of a research-based type of medical teaching. In 1895 His published a rather curious book entitled *Johann Sebastian Bach, Forschungen über dessen Grabstätte, Gebeine und Antlitz,* in which he described the identification of the skeleton and the representation of the face of the German baroque composer Johann Sebastian Bach. This piece of work stands within the broader tradition of anthropological, anatomical, and forensic research into the nature of human genius.

The overall scientific and social influence of His is highlighted by his membership in many eminent societies of the time, including the Internationale Anatomische Gesellschaft, where he was founding governor in 1886, and the Internationale Assoziation der Akademien. His served on the editorial boards of *Archiv für Anthropologie* and *Zeitschrift für Anatomie und Entwicklungsgeschichte,* which was later called *Anatomische Abteilung des Archivs für Anatomie und Physiologie* (from 1878).

Bibliography

Primary: 1880–85. *Anatomie menschlicher Embryonen* 3 vols. (Leipzig); 1893. 'Ueber den Aufbau unseres Nervensystems.' *Verhandlungen der Gesellschaft der deutschen Naturforscher und Aerzte* 1: 39–67; 1895. *Johann Sebastian Bach, Forschungen über dessen Grabstätte, Gebeine und Antlitz* (Leipzig).

Secondary: Rasmussen, A. T., 1953. 'Wilhelm His' in Haymaker, Webb, ed., *Founders of Neurology* (Springfield, IL) pp. 49–51; His, W. d. J., 1931. *Wilhelm His der Anatom. Ein Lebensbild* (Berlin and Vienna); Rabl, Carl, 1909. *Geschichte der Anatomie an der Universität Leipzig* (Leipzig); *DSB.*

Frank W. Stahnisch