Gustav Schwalbe (1844-1916)

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Gustav Albert Schwalbe was born on 1 August 1844 in Quedlinburg, Germany. His father, Gustav Ferdinand Schwalbe, was a physician who died when his son was only two years old. Schwalbe studied medicine at the Friedrich-Wilhelms University in Berlin during the winter of 1862-3 then spent the summer of 1863 at the University of Zurich. He then studied from late 1863 to 1865 at the Rheinischen Friedrich-Wilhelms University in Bonn before returning to Berlin during the summer of 1865 where he obtained his MD degree in 1866 with a thesis titled *Observationes nonnullae de infusiorum ciliatorum structura.*
Schwalbe completed his military service between May 1867 and March 1868 at the Königshusaren (King's Hussars) in Bonn and from 1868 to 1869 he worked as an assistant at the Physiological Institute in Amsterdam. In 1870 he completed his habilitation for anatomy at the University of Halle with a thesis titled *De canali Petiti et de zonula ciliari*. Schwalbe then obtained a position as post-doctoral assistant physician in the military hospital in Reichenberg in Bohemia. During the Franco-Prussian war Schwalbe served as a medical assistant in the 7th Kürassier-Regiment. From 1870-71 he was also a Privatdozent (lecturer) in anatomy at the University of Halle and in 1871 he additionally taught at the University of Freiburg. He was an assistant professor of histology in the Medical Faculty at the University of Leipzig from 1871 to 1873 and then professor of anatomy and director of the Anatomical Institute at the University of Jena from 1873 to 1881. While at Jena Schwalbe met Ernst Haeckel and was influenced by his views about evolution. Schwalbe left Jena and served as professor of anatomy and director of the Anatomical Institute at the University of Königsberg from 1881 to 1883 before finally becoming professor of anatomy and director of the Anatomical Institute at the Kaiser-Wilhelms University of Strasburg from 1883-1914.

During the early portion of his career Schwalbe was involved in research in anatomy, histology, and physiology. He made important discoveries relating to the lymphatic system, the nervous system, and the sense organs. He published several important works on anatomy including an influential textbook on neurology, *Lehrbuch der Neurologie* (1881). Beginning in the 1880s Schwalbe’s research increasingly focused on physical anthropology and human evolution. Unlike some contemporary anthropologists, he stressed the importance of using comparative morphology and developmental studies to understand human evolution. He developed a methodology that he called *Formanalyse* (analysis of form) that employed precise measurement and analysis of hominid fossils within the context of comparative anatomy and morphology. Biologists at this time were exploring the subject of human evolution and the relationship of humans with the apes and monkeys, while paleontologists and prehistoric archaeologists were unearthing human fossils from Pleistocene deposits that offered insights about prehistoric peoples.

In France the anthropologists Armand de Quatrefages and Ernest-Théodore Hamy identified two distinct dolichocephalic races, Neanderthals and Cro-Magnons, as well as several brachycephalic races after examining human fossil specimens found throughout Europe. However, like many anthropologists at the time, they did not consider any of these specimens to represent an extinct species of human. When the Dutch anatomist Eugène Dubois announced the discovery of a fossilized cranium and femur from the island of Java in the Dutch East Indies (now Indonesia) in 1895 and claimed that it belonged to an extinct hominid species he called *Pithecanthropus erectus* the debate over human evolution took a new turn. Schwalbe obtained casts of the *Pithecanthropus* cranium and in 1897 he visited Dubois in the Netherlands in order to examine the
*Pithecanthropus* fossils directly. This resulted in Schwalbe publishing a detailed description on the cranium where he compared it with monkey and ape skulls as well as human skulls from various races. While conducting this research Schwalbe developed a variety of new craniometric methods. He also recognized the necessity of comparing Dubois’ *Pithecanthropus* cranium with the original Feldhofer Neanderthal cranium discovered in Germany in 1856. Schwalbe concluded that the *Pithecanthropus* cranium differed significantly from ape crania and that it possessed features that were intermediate between apes and the Neanderthal cranium (Schwalbe 1899).

The analysis of the *Pithecanthropus* erectus specimen generated a new interest in the Feldhofer Neanderthal specimen and Schwalbe began to examine this fossil and other Pleistocene human specimens. Quâtrefages and Hamy attributed the Feldhofer Neanderthal and several other human fossils found throughout Europe to what they called the Canstatt race. But after subjecting some of these specimens to new craniometric analysis Schwalbe argued that Quâtrefages and Hamy had wrongly grouped together what were in fact two distinct populations: one representing early Pleistocene Neanderthals and the other representing late Pleistocene humans. Furthermore, after employing his new craniometric methods to examine the Feldhofer Neanderthal cranium Schwalbe concluded that it did not merely represent a prehistoric human race but instead belonged to a distinct species of extinct human that he called *Homo primigenius*. As a consequence he not only rejected Quâtrefages and Hamy’s Canstatt race but also German anthropologist Rudolf Virchow’s influential assertions that the peculiar anatomical features observed in the Feldhofer Neanderthal fossils were the result of pathology in a modern human and not evidence for a distinct type of human (Schwalbe 1901a; 1901b).

Schwalbe was also an advocate of evolution and he supported the argument promoted by Charles Darwin, Thomas, Huxley, Ernst Haeckel and others that humans had evolved from an anthropoid ape ancestor. Schwalbe proposed a conception of human evolution where *Pithecanthropus erectus* evolved into *Homo primigenius* (Neanderthals) and they in turn evolved into modern humans. Schwalbe was careful to say that while the actual *Pithecanthropus* and Neanderthal fossils known at that time might not be the direct ancestors themselves of modern humans, they at least accurately reflected those stages of human evolution. As a consequence, Schwalbe rejected the pre-sapiens notion of human evolution, which argued that human fossils found in early Pleistocene deposits (such as the skeleton found in England at Galley Hill in 1888 and at Ipswich in 1911) indicated the existence of anatomically modern humans from the beginning of the Pleistocene, which meant they coexisted with the Neanderthals and thus could not be descended from them. Toward the end of his career Schwalbe presented his general views about human evolution and human prehistory in two books: *Die Vorgeschichte des Menschen* [The Prehistory of Mankind] (1904) and *Studien zur Vorgeschichte des Menschen* [Studies on the Prehistory of Mankind] (1906). Schwalbe also adopted many of
the anthropological opinions about human races and their origins that prevailed in Germany at this time. He accepted the theory that asserted the existence of a Nordic race of blond dolichocephalic people who inhabited northern Europe that could be distinguished from other European races.

In addition to his many academic appointments, Schwalbe held a number of professional positions and was active in professional societies. He held the position of Hofrat (councilor) and Geheimer Medizinalrat and served as chairman of the medizinischen Prüfungskommission [Medical Examiners Commission]. He was an active member of the Deutschen Gesellschaft für Anthropologie, Ethnologie und Urgeschichte [German Society for Anthropology, Ethnology, and Prehistory] and was a foreign member or honorary member of many anthropological societies throughout Europe. He was also a member of the Société de Médecine de Gand [Medical Society of Ghent]. Schwalbe served as the editor of several journals: Morphologischen Arbeiten (from 1891-98), Jahresberichte über die Fortschritte der Anatomie und Entwicklungsgeschichte (from 1892-1916), and Beiträge zur Anthropologie Elsaß-Lothringens (from 1898-1902). He founded the journal Zeitschrift für Morphologie und Anthropologie in 1899 and served as its editor with the goal of improving anthropological methodology and theory. In recognition of his many accomplishments he was elected a member of the Leopoldina. Schwalbe died in Strasburg on 23 April 1916.

Selected Bibliography:


Secondary Sources:


