

Book Reviews

PAUL JULIAN WEINDLING, *Darwinism and social Darwinism in Imperial Germany: the contribution of the cell biologist Oscar Hertwig (1849–1922)*, *Forschungen zur Neueren Medizin- und Biologiegeschichte* 3, Stuttgart and New York, Gustav Fischer, 1991, pp. 355, illus., DM 148.00 (3–437–11305–4).

This is the first major study for thirty years of the cell biologist Oscar Hertwig, whose matriculation and retirement encompass the creation and collapse of Imperial Germany. Paul Weindling's book enriches our view of the period by drawing attention to the distinctive positions on biological and social issues of a neglected figure. Hertwig began as one of Ernst Haeckel's "golden sons", but later became a leading critic of his Darwinism, and also of Wilhelm Roux's "developmental mechanics", expounding instead a co-operative, organicist model of embryos and society.

An introductory chapter is followed by five on Hertwig's scientific research and controversies, including those with Roux and August Weismann, one on his educational and institutional career, and one on "biology as social ideology". There are descriptions of Hertwig's work on sharks' teeth, fertilization (his famous work showing the fusion of egg and sperm nuclei), the germ layers, and inheritance. There is much interesting material here, and Weindling shows nicely the varied and changing uses of theories of the cell. I did, though, find some of the writing cryptic, and felt there was a little too much reliance on straight paraphrasing of Hertwig's papers.

Hertwig began his career under Haeckel and Carl Gegenbaur at Jena, rising to head a new Anatomical-Biological Institute in Berlin. Weindling details the negotiations over the establishment of the Institute, investigates the relations between professors and the state, and assesses the extent to which specialization increased within the established discipline of anatomy.

Hertwig's later years were spent nervously watching the interest rates—the family were cigar manufacturers—and worrying about the harmful effects of mechanization, war, and the spectre of communism. This "lofty and lonely" man devoted himself to a comprehensive organicist synthesis, a legacy on which he hoped, in vain, that the German nation would reflect in times of crisis. He set out to show that Malthusian natural selection was an historical curiosity from the early days of industrialization, and that in the twentieth century big firms and government social welfare could provide the basis for purposeful adaptation. He hoped that the social organism of the state, united by religion and a socialized work ethic, and run by the professors, would triumph over capitalist individualism and the socialism of the workers.

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RANICE W. CROSBY and JOHN CODY, *Max Brödel: the man who put art into medicine*, New York, Berlin and London, Springer-Verlag, 1991, pp. xii, 352, illus., DM 98.00 (3–540–97563–2).

Medical illustration in the Renaissance and early modern period has, because of its various relations to fine art, been the subject of a significant amount of scholarship. Medical illustration in the recent past has attracted little in the way of serious interest. Yet modern medical representations have clearly been powerful enabling devices, assisting medicine in its entry into the body. Equally, such representations have been significant pedagogically, replicating a very particular account of the world. Yet however "realist" or "naturalistic" modern illustrations appear, no single style defines them. The conventions used to produce them have changed in response to new technologies, artistic styles and, above all, medical perceptions. Max Brödel was one of the most significant innovators and creators of the modern conventions of medical illustration. A German, who briefly worked as an illustrator for Carl Ludwig at Leipzig, he emigrated to the United States and spent the rest of his working life at Johns Hopkins. He arrived as Hopkins began to flower under Kelly, Halsted and Mall, and he