"CLINICAL ATLAS. VARIATIONS OF THE BONES OF THE HAND AND FOOT," by Thomas Dwight, text 35 pages. Thirty-six full-page plates, accompanied by legends. J. B. Lippincott & Co., 1907.

Professor Dwight states in the preface to this Atlas that it is intended primarily for medical practitioners, especially for those who make use of X-ray apparatus in diagnosing fractures of the extremities. As such it should prove of great value, since its beautiful photographic illustrations serve to make easily intelligible important variations in skeletal structure which might confuse a radiographer unacquainted with them. The literature on skeletal variations of the hand and foot, while extensive, is complex and confusing. Professor Dwight's book will, therefore, prove of interest and value to scientific anatomists as well as to medical practitioners.

The variations with which the Atlas chiefly deals are those of supernumerary bones of the carpus and tarsus. In the introduction special reference is made to the extensive studies of Pfitzner on the variations of the bones of the extremities in man and to the work of Thilenius on the embryological development of the carpus. The theories of Pfitzner concerning the primary elements of the carpus and tarsus are adopted in the main by Dwight. The nomenclature used by Pfitzner is also closely followed, although instead of the terms of the BNA the older English terms are used to designate the usual bones of the carpus and tarsus.

While Dwight recognizes the speculative character of the theories advanced by Pfitzner, his text might lead one to think that the embryonic, much more nearly than the adult, carpus and tarsus resemble the hypothetical carpus and tarsus with many elements formulated by Pfitzner. As a matter of fact, the ontogeny of the carpus and the tarsus in man is fairly direct. There is evidence that an *os centrale* is a nearly constant though transitory element in the carpus of the human embryo,¹ and that the *os naviculare* and *os hamatum* each arise from two fairly distinct centers, but most of the primary elements postulated by Pfitzner to account for supernumerary bones in the human carpus are visible only as uncommon variations in the human embryo. Extensive statistical studies of embryonic conditions are necessary before we can know

¹According to Rosenberg (1876) and to Graefenberg (1906) the embryonic *os centrale* normally disappears. According to Graefenberg it does not constitute one of the two parts of the navicular. Dwight accepts the contrary view.

whether these variations are more common in the embryo than in the adult.

Although certain elements which become mere parts of the tarsal bones have been described as normally independent in the tarsus of the human embryo, studies of the development of the tarsus have failed to reveal these elements as regularly present. The tarsus, therefore, appears to develop in an even more direct way than the carpus.

We therefore think that Dwight has taken a wise course in the descriptive part of his text in discarding speculative hypotheses and describing the supernumerary bones in connection with those normal constituents of the tarsus and carpus with which they are most closely associated. He is here on solid ground, where he can readily be followed.

We trust that this valuable Atlas of Dwight will have a wide circulation and that it will help the medical profession and teachers of anatomy in this country to appreciate the value of giving more attention to the variability of human structure. The present cut-and-dried anatomy of most of our text-books must some day give way to a human anatomy based on statistical studies showing the type of structure most frequently found and the common and uncommon variations from this type as well as the factors associated with these variations. Our students have been led to memorize too many details of structure, often inaccurately described, and have not been enough encouraged to master the broader and more essential aspects of the subject. On the other hand, as books of reference, the anatomies most commonly in use are far too lacking in details, especially just such details as are revealed in this Atlas.

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STUDIEN UND FORSCHUNGEN ZUR MENSCHEN- UND VÖLKERKUNDE, unter wissenschaftlicher Leitung von Georg Buschan. II.

DIE MORPHOLOGISCHE ABSTAMMUNG DES MENSCHEN. Kritische Studie über die neueren Hypothesen; von Dr. J. H. F. Kohlbrugge. Stuttgart, 1908. Verlag von Strecker & Schröder.

Dr. Kohlbrugge, apart from his merits as a student of anthropology and comparative anatomy, is a strong writer and an independent thinker. He published in 1897 a small pamphlet, "Der Atavismus," discussing the subject both in relation to the theory of descent and to human