

Hygienic and Educative: 19th Century Biology and the Rise of 'Modern' Physical Education

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The terms “educational,” “hygienic,” “medical,” “aesthetic,” and “recreational” were all applied to gymnastics and physical education at the turn of the century. The first two were, by far, the most influential among those interested in the emerging field, and were derived, with a number of modifications, from the theories such as those set forth by the Swedish “gymnastriarch” Per Henrik Ling. One of their first American appearances was in Mathais Roth’s *Prevention and Cure of Many Chronic Diseases by Movements* (1851). Like many of his contemporaries, Roth asserted that the system of exercises which he propounded was based upon “scientific laws.” At the mid-19th century, such “laws” were usually a mixture of older ideas of how the body functioned and newer insights distilled from developments in biological science. By the 1870s and 1880s, advances in biology (in physiology, physiological psychology, embryology, and the like) offered optimistic hope that physical education might become a professional field grounded in modern science. By the 1870s, many men and women who would subsequently affiliate with the Association for the Advancement of Physical Education (1885), were attending and giving papers at meetings of the American Social Science Association. In the late 1800s, “physical education” was conceived of in a far more comprehensive manner than was often the case by the mid-1900s. Edward M. Hartwell, M.D. degree from Miami Medical College and Ph.D. in biology from The John Hopkins - one of the most scientifically prepared of the early leaders of the AAPE - informed his contemporaries that the field would need to be built upon the findings of modern science. In this, Hartwell was joined by eminent physicians like Henry Pickering Bowditch (who was Director of Harvard’s Physiology Laboratory), by psychologists like G. Stanley Hall, and by some professional physical educators. The primary ends of exercise were held to be: the hygienic and the educational. The hygienic involved the promotion of health. Invoking the findings of the late 19th century physiology, Hartwell and his contemporaries then sought to show how organic health was intimately connected with psychological and moral health. The educational involved the formation of “proper habits” and the social and psychological, as well as physical, development of the organism. Drawing upon recent work on the circulatory system, and especially experiments involving the brain and central nervous system which had been done by researchers like Bain and Ferrier, physical activity in the form of gymnastics - and increasingly in the form of play, games, and athletics - was sanctioned on the grounds that it contributed to the hygienic and educational (i.e. “developmental”) ends of education. From this it followed that physical education had an importance of the highest order because its ultimate purpose was the optimal health and development of individual: And by extension through inheritance. of the human race.