# Book Reviews

***The Effect of ACTH and Cortisone upon Infection and Resistance.*** Gregory Shwartzman, Ed. Columbia Univ. Press, New York, 1953. 204 pp. Illus. $5.50.

This monograph comprises 14 papers given by different authorities at a symposium sponsored by the New York Academy of Medicine, Mar. 27–28, 1952. Since this time many excellent reports of studies covering the same subjects by these and other authors have appeared. They contain, however, little new basic information beyond what is recorded in this volume. The emphasis is on factual detail and not on generalities. The authors, although admitting an incomplete discussion of their respective subjects, have adequately documented their presentations through detailed reference to their own studies as well as those of others, as indicated by the appended bibliographies.

Dr. Shwartzman gives a brief introductory review of shifting interests "in the sciences dealing with infection and resistance." Beginning with the "era of specificity" when host resistance was explained more or less entirely on the basis of development of specific antibody to a given agent, he calls attention to an increasing body of evidence which indicates that resistance includes many factors "unrelated to specific immunity." He comments particularly on the investigations that have led to the recognition of the role of hormones "in the predisposition and resistance to disease," especially in reference to adrenocortical function, the theme of this book.

In Chapters 2, 3, and 4, general considerations of the effect of hormones (particularly the corticosteroids) upon metabolic functions (enzymatic reactions) and structural elements (lymphoid tissue) of the host are presented as a means of more fully understanding the effect of these substances on infection and resistance. In the remaining chapters, data are presented which show the profound and usually depressing effect of ACTH and cortisone on hypersensitivity and allergic states, inherited and acquired resistance to tumor grafting, and antibody formation and wound healing. Also, data are presented that show the marked deleterious effect of these compounds on the host as a result of alteration in the inflammatory process in experimental tuberculosis, syphilis, malaria, trypanosomiasis, and bacterial (streptococcal and pneumococcal) and viral (influenza and poliomyelitis) infections. Among other effects, it is amply demonstrated that these compounds inhibit the inflammatory process and antibody formation but exert no effect on the invading organisms. Just how ACTH and cortisone do this of course still remains to be elucidated.

It is repeatedly pointed out, or implied, in this volume that although ACTH and cortisone provide new tools for the study of the host-parasite relationship in infectious processes, the "clinical use" of these hormones with patients suffering from infectious diseases, whatever the etiology, should be undertaken with caution. The data should be of special interest to the biochemists, microbiologists, immunologists, clinicians, and others who are interested in the role of ACTH, cortisone, and other hormones on the basic immune mechanisms in man and animals.

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***A History of the Theories of Aether and Electricity: The Modern Theories, 1900–1926.*** Sir Edmund Whittaker. Philosophical Library, New York; Thomas Nelson, Edinburgh–London, 1954. 319 pp. $8.75.

The present volume is not, as the title would suggest, merely a 26-year extension of the work originally written by Sir Edmund Whittaker under the same title in 1910 (*1*). It is, rather, a thorough and authoritative chronicle of the development of theoretical physics in the period 1900–26, including atomic structure, special relativity, quantum theory, general relativity, matrix mechanics, and wave mechanics. In contrast to the original volume, it contains only one 15-page chapter on electromagnetic theory. In the words of the preface, the purpose is "to describe the revolution in physics which took place in the first quarter of the twentieth century." The author promises a third volume which will bring the account up through 1950.

For those who, like this reviewer, have paid scant attention to the sequence and authorship of the rapid advances made in the early part of this century, the book will contain several surprises. For example, because of his monumental development of general relativity, Einstein is often credited with originating special relativity as well. Actually, special relativity was due primarily to Poincaré (and, of course, Lorentz). It was Poincaré who, in a lecture at St. Louis, Mo., in 1904, first enunciated the "principle of relativity" and said that according to this principle, "the laws of physical phenomena must be the same for a fixed observer as for an observer who has a uniform motion of translation relative to him," and that as a consequence "there must arise an entirely new kind of dynamics, which will be characterized above all by the rule that no velocity can exceed the velocity of light." Ironically, it seems that in the development of special relativity, the theoretical physics was supplied by Poincaré, while the mathematics was contributed by the physicist Lorentz. Actually, among Einstein's early contributions, the most significant were probably to the quantum theory, a fact which was recognized by the Nobel prize committee in 1921. Again ironically, it was the father of the quantum