BIOLOGICAL ACTIONS OF SEX HORMONES

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BY

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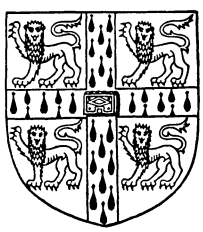

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PREFACE

In the last few years our comprehension of vital phenomena has been rapidly extending. The nature of the sex hormones, and the reactions of living tissues toward them, have been prominent in this advance, and it is now generally understood that compounds formed in the pituitary, gonads and adrenals radically affect the structure and functions of the body and the workings of the mind. To-day our knowledge of these matters is growing so fast that to keep abreast of it is not easy for those who are occupied with many other affairs. The author felt, therefore, that a co-ordinated summary of experimental inquiries in this field might be useful. In pursuing the idea attention has been confined almost entirely to biological work performed in the laboratory; the ultimate possibility of applying the experience so gained for the benefit of man has been the leading motive.

The essay can hardly be offered to the scientific world without an apology. Biological work is still largely confined to qualitative observation. Life is a changing process and in solving its problems we are often deprived of fixed and measurable data; moreover, the adaptability of living tissue to circumstance involves so many and such complex reactions that an exact prediction of the outcome of any extraneous influence cannot, as a rule, be stated in precise quantitative terms; nor can experimental results in this field be described adequately without specifying the conditions in which they were obtained. The presentation of the subject demanded by the latter drawback may, it is feared, be tedious to the reader, especially as the narrative contains many references to the literature. Sir James Paget complained of the difficulty of composing a readable scientific review, and the present writer is too modest to suppose that he has overcome the difficulty. It is hoped, however, that the matter contained in these pages may supply a trustworthy, though limited, foundation for further progress in both sex-hormone research and clinical practice.

The author would like to regard his book as a tribute to the pioneers of sex-hormone physiology, with special regard to John Hunter (1728–93), the first and greatest of them. More than a hundred years before the term hormone had been invented, Hunter showed that the accessory reproductive organs are largely dependent for their development and even for their existence on some influence derived from the gonads.

The writer regrets that much good work done in foreign lands has been given inadequate consideration, but it may be unnecessary or impossible to insert every detail into a picture; for general portrayal it is perhaps enough to draw the salient features as far as possible with fidelity of outline and correct emphasis.

My own experimental work on the sex hormones has been done, under the auspices of the British Empire Cancer Campaign, at the Chester Beatty Research Institute of the Royal Cancer Hospital (Free). To the authorities of these institutions, to Professor Kennaway the director, and to my other colleagues

I should like to express gratitude for their interest and encouragement. I have also to thank, most cordially, several donors for generous gifts of chemical material; among these donors are Dr Girard of Paris, Dr Laqueur of Amsterdam, Dr Macbeth of Organon, Limited, Mr Smart and Dr Miescher of the Ciba Company. To Dr Macbeth I am greatly indebted for extensive references to relevant literature. I should like also to acknowledge valuable advice from Dr F. H. A. Marshall. To Dr J. N. Goldsmith I am especially grateful; not only has he prepared an exceptionally helpful index but he has given great help with proof-reading and advice on various details. Lastly, I must mention the unremitting help which I have received from my wife, without whose aid this book could not have been written.

H.B.

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