AN
INTRODUCTION
TO
EXPERIMENTAL
SURGICAL
STUDIES

DEMPSTER

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AN INTRODUCTION TO EXPERIMENTAL SURGICAL STUDIES

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BLACKWELL
SCIENTIFIC PUBLICATIONS
OXFORD

Published simultaneously in the United States of America by Charles C Thomas, Publisher, 301-327 East Lawrence Avenue, Springfield, Illinois.

Published simultaneously in Canada by The Ryerson Press, Queen Street West, Toronto 2

First printed in 1957

Printed in Holland for BLACKWELL SCIENTIFIC PUBLICATIONS, LTD.
by THE YSEL PRESS, Deventer
and bound at THE KEMP HALL BINDERY

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PREFACE

This book is intended for the postgraduate surgical student engaging in experimental surgery. The aim is to provide a wide range of references and a critical commentary which together should form a sort of spring board from which the young experimentalist can take off into his own researches. It is hoped that this book will alleviate some of the frustration so frequently experienced in the early stages of a research project.

I have, for the most part, taken the clinical problem as my starting point and have proceeded to outline some of the significant laboratory work which has been performed. It is assumed, therefore, that the reader has had a surgical training and stands in no need of a recapitulation of the essentials of surgery. Since this book is intended mainly as a guide to the experimental literature, there is no attempt to describe in detail any given experimental operative technique; principles, only, are referred to because the protocols of any experimental paper are so important that they deserve the very closest scrutiny possible. Failure to study protocols can lead to a wrong assessment of another writer's work.

In addition to being a guide to the relevant literature, it is hoped that the critical comments on several subjects will enable the young experimentalist to begin his own investigations with some critical insight into the nature of his particular problem. Nothing, however, in these critical comments should be interpreted in a dogmatic way; dogma, particularly in science, is peculiarly opposed to the very spirit of inquiry. The character of knowledge is transcendental; truth itself is transitory and evolving; theories come and go and it is as well that we remember that. Only the less thoughtful can afford to be cocksure today.

The animal experimental approach has its limitations but so has the purely clinical. Unless clinicians and animal experimentalists recognise this as a modern reality, they will continue to oppose one another in a rather vague, cold war. Were it not for marked differences in financial reward most reasonable people would agree that all aspects of medical endeavour are equally necessary and important. Scientific truth is too subtle and too elusive to be sought entirely by this or that discipline alone. Recognising this, many schools feel, however, that the clinician and the animal experimentalist should be one and the same person. The tempo of work in the modern world is such that this ideal usually can only be achieved

by great sacrifices on the cultural side of life. Is it worth while to lose one's soul in a search for a scientific fact?

The need for a division of labour is still with us. At some stage or other in clinical research the need for animal experimentation arises. It is perhaps only then that one realises that the transition from the clinic to the laboratory is seldom easy. At the same time, the transition need not be very difficult. Animal management is usually the main difficulty. With a short general training in animal management one can quite easily solve the problems involved in specialised experiments. But where is one to get this general training? Certainly not in a book of this kind. One should contact one's colleagues in veterinary clinical surgery and in physiology laboratories with a view to a practical training. But it is becoming increasingly apparent that the transition from the clinic to the animal laboratory should be bridged by full-time experimental surgeons. A book of this nature should help in many theoretical aspects of the transition, and in time, will require expansion.

There is a need, then, for full-time experimental surgeons who are au fait with animal conditions in general. Too frequently in the past, experimental surgery has been considered worthy only of those in a junior position. Until experimental surgery is recognised as a separate discipline this situation is likely to continue.

In dedicating this book to the memory of Sir Arthur Keith, I wish to pay tribute to a basic medical scientist who, a quarter of a century ago, saw further than most clinicians in England. It was on his initiative that the Buckston Browne Research Farm was endowed and constructed for the express purpose of promoting experimental surgery. It was intended to be a new Earl's Court Farm — a living memorial to John Hunter who, in Sir Arthur's heirarchy, ranked second only to Charles Darwin. It was my privilege to have worked at this institute for some years under the gentle care of Sir Arthur Keith. Since his tragic death in January 1955, those few, who were closest to him in his latter years, continue to mourn the loss of one who was a wise counsellor and friend. It is to be hoped that, in time, surgical institutes will honour his name with a memorial lectureship in experimental surgery.

I am deeply indebted to Professor Ian Aird who has constantly encouraged a climate of research for me. I am grateful to those many colleagues who gave me critical advice in the preparation of this book. I am grateful to Dr. Grace M. Eggleton for help in compiling the index. For help, in countless ways, from my wife I

shall remain eternally grateful. Finally, I am grateful to Mr. Per Saugman and Mrs. J. M. Green of Blackwell Scientific Publications Ltd. for their keen cooperation in the production of this book.

For permission to reproduce photographs from previous publications, I extend my thanks to the editors of the following journals — Acta Medica Scandinavica, Journal of Pathology and Bacteriology, British Journal of Surgery, British Journal of Urology, Medicine Illustrated and Archives Internationales de Pharmacodynamie et de Therapie.

Wavertree,
St. Margaret's-on-Thames.
October 1956.

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