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Glandular Mechanisms of Salivary Secretion

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57 figures and 7 tables, 1998
Dedicated to the memory of Nils Emmelin 1914–1997
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Preface

Many of us who have immersed ourselves in the field of salivary glandular research have gleaned a great deal of understanding about development of knowledge in the field during the last 150 years from three main publications, written by: (1) J.N. Langley (1898); (2) B.P. Babkin (1945), and (3) A.S.V. Burgen and N. Emmelin (1962).

No attempt to bring together an understanding of the basic mechanisms within the glands has been made since the last of these publications. The editors, therefore, feel that such a need now exists. The genesis for this book arose during a Physiological Society Meeting in Cambridge a few years back. We soon came to a unanimous decision about the core subjects for the book and the names of the authors we would like to invite to write the chapters. The internationalism created arose as a natural event without any special selection for commercial reasons.

Investigation of the glandular mechanisms of salivary secretion took off nearly 150 years ago with Ludwig’s discovery in 1850 that stimulation of the chorda-lingual nerve evokes a copious secretion of saliva from the submandibular gland. This generated a considerable amount of work and for the next 125 years nearly all investigations on the subject involved the use of whole glands in whole animal experiments. In recent years the tendency has veered away from this approach to a reductionist one and although very valuable contributions have been and are being made about mechanisms within the cells, a more holistic approach is being neglected. Therefore it is important to place current understanding, based on a more comprehensive approach by experts in the field, in a single book to give a clear idea of knowledge as it stands at the end of the century and to lay foundations for further research. Otherwise the information will remain as widely dispersed individual publications, without an integrated assessment, or worse – such studies may simply be overlooked or forgotten.
The authors have been encouraged to give personal assessments of present knowledge on the subject matter of their chapters, in readable English and to avoid making catalogues of references, a tendency that is all too rife today.

An attempt has been made to standardize terminology, so the more correct adrenoceptor responses has been used throughout rather than adrenergic responses. Pressure from common usage has forced J.R.G. to abandon the more correct intercalary (connecting) duct for the less satisfactory intercalated (connected) duct. And so on ...

We hope this book will fulfil our aims and serve to assist or even create new research.

J.R. Garrett
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L.C. Anderson