use of invariance under stereographic projection in the derivation of trigonometric formulas, his synthetic construction of conics and their tangents, and some criticisms of Descartes both for (small) errors and for his use of nonrigorous algebraic methods in geometry!

The two longest papers, constituting most of the last third of the book, are "Geometria Curvilinea" and "Matheseos Universalis Specimina." The former, in axiom, postulate, and theorem format, defines and develops formulas for fluxions and applies them to geometry including maxima, minima, tangents, and center of curvature. The latter, dealing with series expansions and their use in solving equations and computing, was probably stimulated by the receipt of a letter from young David Gregory telling of his forthcoming book extending the work of his uncle James Gregory. Newton apparently overestimated James Gregory's debt to his correspondence. Newton was also concerned to document his correspondence and relationship with Leibniz. It is probably the Leibnizian material included in this part which led the editor to dedicate the volume "To Joseph Ehrenfreid Hofmann, our master in all things Leibnizian."

The period ends just prior to Newton's embarking on the preparation of the *Principia.* The editor attributes to Newton's decision to undertake this work the fragmentary and incomplete nature of some of the manuscripts published here.

This volume is a fascinating mine of sidelights on Newton, his interests and methods, despite the fact that it contains only minor results and papers.

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Adrenergic Mechanisms

New Aspects of Storage and Release Mechanisms of Catecholamines. Bayer-Symposium 2, Grosse Leder, Germany, Oct. 1969. H. J. SCHÜMANN and G. KRONEBERG, Eds. Springer-Verlag, New York, 1970. viii, 302 pp., illus. $13.20.

This symposium brought together experts from all over the world, including recent Nobel prize winners J. Axelrod and U. S. von Euler. The proceedings contain a considerable quantity of new experimental results on norepinephrine metabolism, the origin and fate of synaptic vesicles, and the effects of drugs on these processes. Speculations and conclusions based on preliminary results that are summarized in the papers abound in the volume. In particular, there is much discussion of the origin and turnover of synaptic vesicles, the number of vesicles released per impulse, and the possibility that partial evacuation of vesicles occurs on nerve stimulation. Such discussions will be of considerable interest to the sophisticated expert, but the novice or uncritical reader must be frequently reminded that, like the Queen of Hearts in *Alice in Wonderland,* the authors draw conclusions from quite inconclusive evidence. The experimental results are subject to multiple interpretations, and it is usually the unproven assumptions, rather than the results, that determine the conclusion reached.

Reports of important recent findings are presented by several investigators. The storage and release of chromogranins have been studied by Geffen and co-workers using elegant immunohistochemical techniques. These workers have shown that chromogranins are released from the spleen after stimulation of sympathetic nerves. However, the observation that only a small amount of protein is released, relative to the norepinephrine released, throws some doubt on the view that release of neurotransmitter from nerve endings is entirely analogous to the exocytotic process by which the release of catecholamines from chromaffin granules of the adrenal medulla apparently occurs. The latter process is well summarized in this volume in a communication by Kirshner.

Thoenen *et al.* describe their excellent studies on the effect of 6-hydroxydopamine on adrenergic nerve terminals. Muscholl gives a résumé of experiments concerning the role of acetylcholine in the release of norepinephrine at sympathetic nerve endings. He presents evidence to suggest that nicotinic agents can release norepinephrine from nerve endings, but the process appears to be different from that by which nerve stimulation releases norepinephrine, since agents that block the action of the nicotinic agents do not block the release that follows nerve stimulation. Furthermore, muscarinic agents appear to inhibit norepinephrine release due to nerve stimulation, a finding that raises the interesting possibility that acetylcholine released from parasympathetic nerve endings may inhibit norepinephrine release from adjacent adrenergic nerve terminals.

Axelrod presents an excellent review of the effects of hormones and nervous stimulation on the concentrations of enzymes involved in catecholamine synthesis, notably tyrosine hydroxylase and phenylethanolamine-*N*-methyl transferase. Interesting papers on the effects of drugs on uptake and release of catecholamines are contributed by von Euler, Trendelenburg, Carlsson, and Glowinski.

All in all, this volume is a valuable addition to the abundant literature on adrenergic mechanisms. The spontaneity and liveliness of the exchanges among the participants are very well revealed in the published discussions following each paper and in the general discussion at the end of the volume. The considerable number of typographical errors, the inappropriate use of some English words, and the poor structure of some sentences may tend to confuse the reader at times, but perhaps this reinforces the impression that the discussions were both lively and spontaneous.

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Stages of Development

Embryology of the Baboon. ANDREW G. HENDRICKX. With contributions by Marshall L. Houston, Duane C. Kraemer, Raymond F. Gasser, and Joe A. Bollert. Illustrations by Gerald T. Rote, Jr. University of Chicago Press, Chicago, 1971. x, 206 pp. $15.

To establish the precise sequence of events in development and their timing, it is necessary to employ a system of staging. Despite the introduction of such systems for various species during the past three-quarters of a century, even such a commonly studied embryo as that of the domestic chick still lacks a monograph based specifically on staging. The appearance of such a work on the baboon (*Papio* sp.) therefore is to be welcomed.

The first seven weeks of prenatal development have been arranged by the author in 23 stages patterned after Streeter's developmental horizons in human embryos. Although the term "horizon" has with benefit been replaced by "stage," Roman numerals have unfortunately been retained even