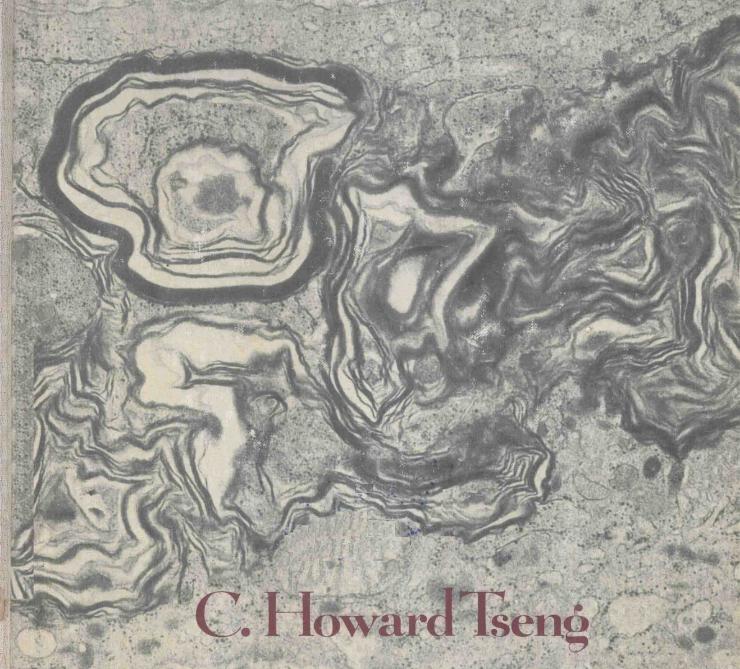


Ultrastructural Features in Pathology



# ATLAS OF ULTRASTRUCTURE

## Ultrastructural Features In Pathology

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APPLETON-CENTURY-CROFTS/New York

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80 81 82 83 84 / 10 9 8 7 6 5 4 3 2 1

Prentice-Hall International, Inc., London Prentice-Hall of Australia, Pty. Ltd., Sydney Prentice-Hall of India Private Limited, New Delhi Prentice-Hall of Japan, Inc., Tokyo Prentice-Hall of Southeast Asia (Pte.) Ltd., Singapore Whitehall Books Ltd., Wellington, New Zealand

Library of Congress Cataloging in Publication Data Main entry under title:

Atlas of ultrastructure.

1. Diagnosis, Electron microscopic—Atlases. 2. Ultrastructure (Biology)—Atlases. I. Tseng, C. Howard, 1938-RB43.5.A86 616.07′5 79-20106 ISBN 0-8385-0462-0

Text design: Holly Reid Cover design: Susan Rich

PRINTED IN THE UNITED STATES OF AMERICA

Atlas of Ultrastructure Ultrastructural Features In Pathology

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### **PREFACE**

This concise atlas contains precise illustrations of diagnostic features of particular diseases as well as the manifestations of common or specific pathologic processes.

Many electron microscopy atlases illustrate either normal human and animal ultrastructure or give extensive treatises on specific pathology subjects. Our atlas, however, is designed to be a comprehensive, easily read and assimilated atlas of routine electron micrographs that will provide a general introduction and review so needed by novices and by others interested in the field.

This atlas includes 200 illustrations from biopsy and surgical specimens from several large medical centers having routine electron microscopy services for the last decade. In addition, most of the electron microscopic diagnostic features of the diseases are included in this atlas.

The atlas is intended to serve as a desk reference for electron microscopists and as a comprehensive review for physicians preparing for various speciality board examinations. The atlas will also provide medical students and pathology residents with a basic understanding and the most current knowledge of human organ ultrastructure in abnormal conditions.

We acknowledge the insight and enterprise of Dr. Marjorie J. Williams who as Director of the Pathology Service of the Veterans Administration initiated and has continuously promoted diagnostic electron microscopy in the Veterans Administration. We express our gratitude to Dr. Roy J. Korn and to Dr. Samuel T. Nerenberg who have encouraged and supported this endeavor. We thank Drs. Charles F. Wooley, Donald J. Unverferth, and John R. Svirbely for their contributions. We are indebted to Jeffrey L. Harrison, Jerome M. Johnson, Nearl R. Mailman, and Fred Uchwat for their technical contributions.

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# 1 Heart and Blood Vessel

#### Cardiomyopathy

**FIGURE 1.** This electron micrograph shows clumping of chromatin and marked invagination of nuclear membrane.  $(13,000\times)$