Preface: A New Chapter

As we launch the ninth edition of *Pathologic Basis of Disease* we look to the future of pathology as a discipline and how this textbook can remain most useful to readers in the twenty-first century. It is obvious that an understanding of disease mechanisms is based more than ever on a strong foundation of basic science. We have always woven the relevant basic cell and molecular biology into the sections on pathophysiology in various chapters. *In this edition we go one step further and introduce a new chapter at the very beginning of the book titled "The Cell as a Unit of Health and Disease."* In this chapter we have attempted to encapsulate aspects of cell and molecular biology that we believe are helpful in preparing readers for the more detailed discussions of specific diseases. We would like to remind readers that the last time a new chapter was added to this book was in 1967 when Stanley Robbins, at that time the sole author, decided to add a chapter on genetic diseases, one of many farsighted decisions by Dr. Robbins. We hope that the new chapter will be in keeping with his legacy.

In the preface of the very first edition (1957), Stanley Robbins wrote:

"The pathologist is interested not only in the recognition of structural alterations, but also in their significance, i.e., *the effects of these changes on cellular and tissue function* and ultimately the effect of these changes on the patient. It is not a discipline isolated from the living patient, but rather *a basic approach to a better understanding of disease and therefore a foundation of sound clinical medicine.*"

We hope we continue to illustrate the principles of pathology that Dr. Robbins enunciated with such elegance and clarity over half a century ago.

This edition, like all previous ones, has been extensively revised, and some areas have been completely rewritten. A few examples of significant changes are as follows:

- A feature new to this edition is the introduction of Key Concepts boxes, scattered in each chapter to summarize "take home" messages relating to major topics covered in each disease or disease group.
- Chapter 2 has been updated to include novel pathways of cell death beyond the long-established pathways of necrosis and apoptosis. Indeed, the distinction between these two is being blurred. Autophagy, which has begun to take center stage in diseases ranging from aging to cancer and neurodegeneration, has been revised, as have the possible molecular mechanisms of aging.
- Chapter 3 now combines the discussion of inflammation with repair, since these two processes run concurrently and share common mediators.
- Chapter 5 includes a completely rewritten section on molecular diagnosis that reflects rapid advances in DNA sequencing technology.
- Chapter 7 has been extensively revised to incorporate knowledge and concepts of tumor biology gleaned from deep sequencing of cancers.
- The ongoing revolution in "genomic medicine" has provided the impetus for extensive updates of many disease entities associated with newly described germline or somatic genetic alterations. Throughout, we have taken pains to try to only emphasize the lesions that are most common and most informative in terms of disease pathogenesis.
- Chapter 18, covering diseases of the liver, has been reorganized and extensively revised to include discussion of the molecular basis of hepatic fibrosis and its regression.
- Chapter 27, covering diseases of nerves and muscles, also has a fresh look. The diseases are now organized anatomically, starting from neurons and going to muscles, with diseases of neuromuscular junction bridging the two.
- In addition to the revision and reorganization of the text, many new photographs and schematics have been added and a large number of the older "gems" have been enhanced by digital technology.

Despite the changes highlighted above, our goals remain the same as those articulated by Robbins and Cotran over the past many years.

- To integrate into the discussion of pathologic processes and disorders the newest established information available—morphologic as well as molecular.
- To organize information into logical and uniform presentations, facilitating readability, comprehension, and learning.
- To maintain the book at a reasonable size and yet provide adequate discussion of the significant lesions, processes, and disorders. Indeed, despite the addition of a new 30-page chapter and Key Concepts, we have kept the overall length of the book unchanged. One of our most challenging tasks is to decide what to eliminate to make room for new findings.
- To place great emphasis on clarity of writing and proper use of language in the recognition that struggling to comprehend is time-consuming and wearisome and gets in the way of the learning process.
- To make this first and foremost a student text—used by students throughout all years of medical school and into their residencies—but, at the same time, to provide sufficient detail and depth to meet the needs of more advanced readers.