

Preface

Blood in Motion is a textbook on cardiovascular science. It sets out to introduce, entice, and explain the cardiovascular system to the reader using a classical system in teaching: anatomy, physiology, general operation, and specific systems. It is specifically designed to support the interests of students and experienced physiologists and clinicians.

This book is subdivided into three parts which comprise a total of 11 chapters. Part I, including the first two chapters, presents a historical perspective of cardiovascular knowledge and complements that with Chap. 2 which deals with current insights into the physiology of the cardiovascular system. Part II explores sections of the circulatory loop, starting with an in-depth treatment of the veins, and including the lymphatic, the microcirculation, the arterial system, and the heart. Part III incorporates approaches to the cardiovascular system as a whole, both in physiology and in science, such as modeling. This part introduces impedance-defined flow and offers the reader its application in mathematical modeling.

The design is such that each chapter can be read or studied as an independent unit.

Each chapter begins with a citation, in its original form, focusing on the topic to be addressed, a digest of the material in the chapter, and ends with a conclusion dealing with the message the reader may have found in the chapter.

The questions at the end of each chapter lean toward intellectual integration more so than factual reproduction. They are diverse in difficulty while asking the reader to apply multiple facts, suggestions, and concepts offered in the text. The answers given are in line with the text, and include motivation for the choices made.

Illustrations selected are distinctive with respect to their nature as well as in their utilization. Major points in thinking or in the discussion of a point are supported by illustrations to help the reader in visualizing. The intention is to support the rationale in the text more than to supply evidence for the purpose of conviction. The captions are self-explanatory and together with the figure will offer information independent of the text. As much as possible, cross referencing has been avoided.

While presented as a whole, *Blood in Motion* includes thinking, rethinking of countless scientists over many years. References have been used extensively, but not exhaustively, to offer the reader the opportunity to return to the original text allowing

analysis of the work and the original authors' conclusions as opposed to modern reviews of that work. While this involves more work, the understanding which returning to the original work offers may itself unravel conflicting data or findings.

The reader beware, *Blood in Motion* presents facts in evidence and supportive thinking as well as suppositions not in evidence. It is intrinsically biased as it does not attempt or purport to be a review of cardiovascular science. The philosophy underlying the book allows for choices between main-line thinking and visions perhaps still deemed to be approaching the "fringes" of accepted science. These choices are identified in the text, allowing and stimulating the reader to explore for themselves which avenue appeals.

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