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## Preface

Like the history of peoples, wars, geopolitical conflicts, and all great social movements and developments, the history of cardiac surgery must be constantly questioned and reviewed as new documents come to light or new interpretations suggest themselves for old documents. Just as courageous and determined individuals have faced down the forces of nature over the centuries to make history with great explorations of land and sea or amazing discoveries of flight, so too has the indomitable human spirit shaped the history of cardiac surgery.

The origins of cardiac surgery are dramatic. It took root in suffering and has developed and evolved through an incalculable number of deaths. It is the product of the effort and abnegation of visionaries who were often criticized and at times dismissed as mad, as well as the despair of patients willing to subject themselves to new and untried procedures in the hope of cheating death.

While often disregarded, the history of scientific inquiry has much to teach us. It can establish important links between past and present, providing a better understanding of current practice and charting a more realistic and imaginative path to the future. Old ideas and experiments, released from the technological constraints of their time, can also be very useful in current research with its modern tools and enhanced knowledge. Ingenious theories that have fallen by the wayside can be brought back and explored again. What is more, when we learn and know about history, we pay tribute to those whose forward-thinking ideas formed the embryo of our daily practice.

This book's potential usefulness to research was its main inspiration. From the outset I conceived the book not as a mere history text but as a history text for researchers. Each author of each chapter was asked to gather original writings from libraries and the Internet and look at them anew, to offer current and future cardiovascular researchers a detailed overview of previous investigative efforts and an understanding of the thinking and mentality of our predecessors.

With interventional cardiology and cardiac surgery on a course of convergence likely to culminate in hybrid management of coronary revascularization and transcatheter aortic valve replacement, this book also includes the history of percutaneous cardiac procedures. Increasingly, therapeutic heart procedures are considered as a whole, with some observers maintaining that these disciplines will some day join together in a single residency program. One of this text's objectives

is to offer future residents a complete overview of the field and thus deepen their personal understanding of the issues at play. Pages on mini-invasive and sutureless valve surgery have also been included, to further assist the reader in transitioning from past to present and future.

From the Internet and high-speed transportation to genetics and robotic surgery, we are living in an era of frenetic scientific progress. Although no one can predict the future frontiers of medicine, it is worthwhile remembering what Theodore Billroth had to say: “A surgeon who tries to suture a heart wound deserves to lose the esteem of his colleagues” (1883). And the words of Stephan Paget: “Surgery of the heart has probably reached the limits set by Nature to all surgery. No method, no new discovery, can overcome the natural difficulties that attend a wound of the heart” (1897). After millions of open heart operations since 1953—the date of the first successful cardiopulmonary bypass operation—such statements give pause.

To help speed the dawn of progress for the heart’s “two sister disciplines,” I have brought together an international team of cardiac surgeons, interventional cardiologists, anesthesiologists, biomedical engineers, and perfusionists, for a grand total of 60 authors from 22 centers and six countries: Canada, Australia, France, Switzerland, Belgium, and Italy. Allow me to express my gratitude to each of them for their enthusiastic support of the project and the very high quality of their writings.

As it is my pleasure to personally know almost all of them, I have attempted to fit each chapter to the profile and interests of each author, so as to offer the reader the best in quality and knowledge. I feel particularly honored as some have been surgery mentors of mine, making their contributions particularly meaningful to me.

Besides the above-mentioned objectives, I also wish to salute the many investigators who, despite the value and innovativeness of their work, are still unjustly ignored by a great part of the scientific community. It is my hope that this book will finally earn them their rightful place in the annals of the history of science.

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