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# Transplantation

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*Front cover artwork: The Healing of Justinian by Saint Cosmas and Saint Damian* as depicted by the artist Fra Giovanni Angelico (1395–1455). According to Christian beliefs, Saints Cosmas and Damian were twin brothers, born in Arabia, who were well known for their skill as physicians. Their most famous miraculous deed, depicted in this painting, was the grafting of a leg from a recently deceased Ethiopian to replace Deacon Justinian's gangrenous leg. (This work is in the public domain and its use is free of known restrictions under copyright law, including all related and neighboring rights.)

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## Preface

THE TITLE OF THIS VOLUME, *Transplantation*, reflects a long-held dream of physicians and their patients. Mythological references to xenogeneic transplantation have occurred in Hindu legends that are likely at least 5 millennia old, although it is not likely that these were performed for health-related reasons. Chinese references to therapeutic heart transplantation date back almost 2500 years. These were clearly therapeutic in nature (being performed reciprocally between two individuals to balance their spirits and energies) and are documented both in a collection of oral legends and as a work of art.

Perhaps the most famous representation of transplantation in art is the iconic painting reproduced on the cover of this volume: Fra Angelico's depiction of the legendary transplantation, by Saints Cosmas and Damian, of a leg from a "Moor" to replace the gangrenous limb of the church deacon Justinian. One of the most notable aspects of the painting is the pair of shoes in the lower left corner. Clearly, the surgeons were planning for success!

We will not recapitulate the history of transplantation here—it is a fascinating one that deserves more lengthy treatment, and indeed the chapter in this volume by Barker and Markmann is an outstanding review. Suffice it to say that conception to reality required roughly 5000 years, but since then, progress has been brisk. In our own lifetimes we have witnessed the birth of clinical transplantation across histocompatibility barriers, and its development from an experimental procedure to a routine treatment performed worldwide.

In accepting the invitation to edit this volume, our goal was to provide a comprehensive view of the field as it exists in 2013. We selected a series of highly relevant basic and clinical topics—at least highly relevant today. We recognize that many will feel that an important area was omitted, and for this we plead a combination of ignorance and slavish attention to the space dictates of the publisher. We also fully appreciate that many new, unimagined areas will emerge in the coming years, and some, which seem timely today, will become anachronisms. *C'est la vie*.

Many leading authorities in the field have contributed to this volume. We are well aware of the numerous demands on their time and are grateful that they managed to set some of it aside for this effort. In providing instructions to authors, we deliberately provided little more than chapter titles and a rough guideline of how to treat the topic. What follows then is what we desired—that is, a highly individual treatment of each area. Some authors are more clinically oriented, and others more research focused; some provide very practical information, and others chose to give a "tree-tops" view. We feel this is a strength of the volume, given the interrelatedness of the topics, and trust that the interested reader will peruse many of the chapters, which taken together, provide a rather complete view of the field.

In addition to thanking the authors, we would like to acknowledge many helpful staff at Cold Spring Harbor Laboratory Press—in particular, Barbara Acosta, who managed the project from inception (only slightly easier than herding cats). She did a superb job, and our own jobs would have been impossible without her. Special thanks as well go to Richard Sever, who initiated the project by inviting us as editors. Last, we would like to thank the many individuals (including our mentors, colleagues, and trainees) who, over the years, have helped teach us and shape our view of the field. In many ways, our ability to edit this volume is a tribute to all of them.

LAURENCE A. TURKA  
KATHRYN J. WOOD