

Preface

The life of a scientist is an odyssey that may begin with an individual's exposure to historically significant scientific discoveries. These, in turn, may stimulate an eager imagination, challenge the creative genius of the child within. They are the guideposts planted along the way by earlier adventurers that both indicate milestones achieved in clearing the wilderness of the unknown and illuminate pathways – that is to say, the process by which one arrives at scientific discovery. It seems to me that scientists, in the company of their colleagues in the history and philosophy of science, ought to reexamine with reasonable frequency the map of scientific progress in their chosen fields. In addition to refreshing or updating their own perspectives, another aim is to provide the apprentice with a useful tool for viewing the historical depth, breadth, and richness of the issues upon which the field was established. The product of that reflection and reevaluation, such as the proceedings of a symposium, should speed the interested explorer to the frontiers of the discipline. But it should do so by engendering an enthusiasm for developing a more profound understanding and appreciation of the foundations on which the discipline is built.

This book has several objectives. First, my desire to have access to a scholarly history of regeneration research is shared by many investigators, as I have discovered through conversations with colleagues over the years. Second, too often, although students of science are not introduced early to scholarly histories of science, they receive an abundance of anecdotal information – often erroneous (e.g., T. H. Morgan's reference, in his 1901 book *Regeneration*, to Abraham Trembley as an abbé) – that continues to be transmitted from teachers to students over the years. Therefore, the principal objective of this book is to create and provide a reference resource for scholars active in the field, as well as for present and future students of regeneration and its history.

As a result of increasing specialization and the successes of scientific reductionism, researchers have been deciphering the language of the cells and dialogues of the tissues. Now, more than ever, it is important to step back and reflect upon the edifice of regeneration research to recapture the global, organismic significance of the molecular detail being added today at an accelerating pace. This is not just an academic exercise but, rather, a means by which we can better determine whether we have been faithful to the challenge of our predecessors. Have we answered legitimate questions about the fundamental nature of regeneration and its significance among the properties of living things? And in so doing, have we provided new insights and directions for future research? In what light will historians reflect upon our efforts? I hope this volume will stimulate the reader to think more deeply about the significance of regeneration research in the modern history of biology.

This book is derived largely from essays presented in a symposium on The History of Regeneration Research, held at the annual meeting of the American Society of Zoologists on December 30, 1988, in San Francisco. Its planning was inspired many years ago, as I began my own studies of amphibian limb regeneration, by my futile efforts to find a scholarly overview of the history of regeneration research. I am greatly in the debt of those friends and colleagues who, along the way, encouraged and supported my efforts to organize this project. My appreciation goes particularly to those who endured my editorial demands and whose research is represented in the following pages. If we have been successful in achieving our aims, it is to their great credit.

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