

FOREWORD

JEEM is owned by the Company of Biologists Ltd. This organization, the members of which are practising biologists, is registered as a charity and its aim is to promote knowledge and understanding of biology. One of the main activities of the Company of Biologists is the publication of three journals: this one, the *Journal of Experimental Biology* and the *Journal of Cell Science*.

This volume is the outcome of a decision by the Company of Biologists to support a discussion meeting on a topic to be chosen by the editors of *JEEM*. The meeting was held at the White House, Chelwood Gate, Sussex, from 25 to 30 May 1981. 'Growth and the Development of Pattern' comprises papers presented in relation to this discussion meeting. We hope that further such meetings may be arranged in due course.

R. M. G.

INTRODUCTION

Developmental biology is dominated by the reductionist approach. The idea that everything can ultimately be explained in terms of physics and chemistry, while valid in relation to the simpler manifestations of life, has been the cause of an unhelpful tendency to look for simplicity where it may not exist. This is particularly troublesome in relation to studies of the nervous system and of development; and it is relevant that in both cases the level of complexity is such that we are still arguing about the proper terminology to use to describe events. Embryological studies have now identified many of the main components of development, but we are in danger of losing something if we consider these in isolation. There has been a tendency to consider three-dimensional embryos as sets of independent axes, to make artificial dichotomies such as that between epimorphic and morphallactic regeneration, to use definitions as if they indicated understanding and to consider closely coupled phenomena as separate fields of study. The main theme of this meeting was specifically to examine the connexions between two aspects of development that have become somewhat dissociated over the years: growth and the development of pattern.

The discussions covered territory ranging from insects to man; from mitogens to abstract sets of rules; from anatomy to 19th century philosophy. Two general themes recurred. The first was that development is complicated and, while one can dissect it enough to identify some of the components, one should be wary of studying them in isolation. Growth and pattern are often inextricably linked and one can destroy all hope of understanding one by ignoring the other. The second point was that each of the different model systems investigated appeared to have a lot in common with most of the others. The same language (or at least, languages easily translatable one into the other) seems to be used in development throughout the animal kingdom.

V. F. M. S. D. S.