Book Reviews


The subject of the twenty essays which make up this volume (presented at the 18th Hahnemann Symposium in Philadelphia) is one of the fundamental aspects of developmental biology, the role of interacting systems in the production of form and organization. Since the early pioneering speculations of Wilhelm Roux concerning ‘dependent differentiation’ and the spectacular experimental demonstration of tissue interaction in the case of lens formation in some amphibian eyes by Hans Spemann (followed later by his even more spectacular but somewhat misleading ‘organizer’ studies) the exploration of tissue interaction as the ‘cause’ of developmental processes has come a long way. What started out as a somewhat odd and exceptional behavior of adjacent cells of different tendencies in a developing system is today a basic explanatory principle in the analysis of development, growth and form. The essays are thus bound to be of vital interest to oncologists.

The volume is dedicated to Johannes Holtfreter (a student of Spemann) one of the most outstanding pioneers in the clarification of the role of tissue interactions in development. He is also the author of the first essay in the volume. It is a masterly review of the problems connected with interacting systems—not all of them solved—and contains also some new insights into the phenomenon of chondrogenesis. It ends with a reference to oncology and a warning to those who still hope to find a relatively simple answer to the problem of neoplastic transformations.

Among the other contributors one finds such distinguished developmental biologists as Elizabeth Hay (organization and fine structure of epithelium and mesenchyme in the developing chick embryo), M. Abercrombie (epithelial-mesenchymal interactions affecting locomotion of cells in culture; with C. A. Middleton), John W. Saunders (ectodermal-mesenchymal interactions in the origin of limb symmetry; with M. T. Gasseling), Charles E. Wilde (epithelial-mesenchymal interactions in the lower vertebrates; with R. B. Crawford), Howard Holtzer (induction of chondrogenesis: a concept in quest of mechanism); Clifford Grobstein (developmental significance of interface materials in epithelio-mesenchymal interaction), Robert Auerbach (some aspects of tissue interaction in vitro) and A. A. Moscona (reconstruction of skin from single cells and integumental differentiation in cell aggregates; with B. B. Garber). All these contributions show the high standards of excellence which we are accustomed to expect from their authors. But the other essays are equally good. The last of them, ‘Salivary gland neoplasms in the role of normal mesenchyme during salivary gland morphogenesis’, by Clyde J. Dawe, W. D. Morgan and M. S. Slatick, is directly related to oncology and shows the razor-thin demarcation line between normal and abnormal growth and differentiation.

The volume is another beautiful demonstration of the usefulness and indeed necessity of a purely biological inquiry for a better understanding of the basic aspects of neoplasia. It should be ‘required reading’ for all oncologists.

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