He proposes that gene complexes, associated with each step in development, are activated in a relay-like manner, the determinants being of high specificity and having short ranges of intercellular movement. He believes that growth regulators operate at a less specific level than these determinants because he finds them incapable of changing the course of a developmental sequence already in progress. Regulators can, however, entirely change the path of a sequence, as in changing the development of an appropriate flower from male to female. H. Stern (University of Illinois) cautioned those who speculate on the molecular mechanisms of differentiation about the general lack of facts concerning the inter- or intracellular regulation of metabolic shifts in multicellular organisms. For instance, Stern found in growing plants a species of DNA, of low molecular weight, quite distinct from genetic DNA. It has a high rate of turnover and is particularly active at times of metabolic shifts. This DNA species may represent a mechanism by which multicellular organisms effect gross shifts in metabolism, but it is not represented in any of the current models of such mechanisms.

If, as we believe, growth regulators have highly specific roles in determining plant development, elucidation of the means by which they control development probably awaits the approach to common ground of two lines of investigation—study of the primary reactions of the regulators and study of the molecular mechanisms for regulating metabolism in the cells of higher plants.

Note

1. The proceedings of the 5th International Conference on Plant Growth Regulation will be published by the Centre National de la Recherche Scientifique, a sponsoring organization of the conference.

Forthcoming Events

December

19–20. **Radiation Emergencies** in Medicine, Research and Industry, Chicago, Ill. (R. V. Wheeler, Argonne Natl. Laboratory, 9700 S. Cass Ave., Chicago)

26–28. American **Geophysical** Union, western natl., Boulder, Colo. (W. W. Kellogg, Rand Corp., 1700 Main St., Santa Monica, Calif.)

26–30. American Assoc. for the **Advancement of Science**, Cleveland, Ohio. (R. L. Taylor, AAAS, 1515 Massachusetts Ave., NW, Washington, D.C. 20005)

27–29. American **Economic** Assoc., Boston, Mass. (H. F. Williamson, AEA, 629 Noyes St., Evanston, Ill.