Meetings

Embryology

The 6th International Embryological Conference was held in Helsinki, Finland, from 22 to 25 July, 1963. The topics and methods discussed ranged from subcellular physiology to embryonic behavior, and from electron microscopy to immunochemistry and transplantation.

Toivonen and his associates, Saxén, Vainio, and Kuusi, all of the University of Helsinki, have made outstanding contributions to embryonic induction and related problems, with emphasis on biochemical aspects. This classical topic was treated from various angles: Dodson (Cambridge) demonstrated the role of mesoderm in differentiation of skin epidermis in the chick embryo and showed that crude collagen can substitute for mesoderm, carrying differentiation all the way to cornification. The epithelium of the optic cup is a bipotential system in the sense that it can form either retina or pigment epithelium. Lopashov and Stroeva (Moscow) gave demonstrations of their extensive transplantation experiments in mammals, in which the role of the mesenchyme in directing the specification toward pigment epithelium was analyzed. The amphibian organizer is known to be located in the grey crescent region of the uncleaved egg. A. Curtis (London) has accomplished the technical feat of transplanting and extirpating parts of the cortical layer of the egg in the clawed toad (*Xenopus*). He has localized the organizer capacity to induce secondary embryos in the cortex. Vainio (Helsinki) uses virus infection as a sensitive tool for demonstrating metabolic changes in differentiating cells. He has shown a close relation between susceptibility to various viruses and cellular differentiation. For instance, polyoma virus infects only undifferentiated mesenchyme cells, not kidney tubules induced in them by the Grobstein method. The enzyme spectrum changes with such induction; alkaline phosphatase disappears at the time the incipient tubules become resistant to virus. D. Brown (Baltimore) discussed his biochemical studies of ribosomal, transfer, and messenger RNA formation in the first phases of frog development. New ribosomal RNA is not formed in quantity earlier than the tail-bud stages, but old, stored ribosomal RNA can be programmed by new messenger RNA. Magnesium plays a signal role in ribosome formation.

Immunochemical methods have been applied successfully for some time to the analysis of the development of lens proteins. A lively discussion between Langman (Montreal), Vyasov (Moscow), and others brought out a number of controversial points and the extreme complexity of the problem.

Problems relating to gametes were extensively covered. Dalcq and Pasteels (Brussels) discussed and demonstrated ultrastructural and histochemical aspects of gametogenesis and fertilization in vertebrates and invertebrates. Dettlaff and her co-workers (Moscow) showed the important role of the germinal vesicle in the maturation of frog oocytes. A controversy of long standing concerns the question of whether primordial germ cells supply all or only part of the gametes of the adult. The question has been decided for the clawed toad (*Xenopus*) by Blackler (Geneva), who made exchange transplants of the prospective germ cell area between neurulae of two subspecies, using, in addition, a nuclear marker. Adult frogs carrying transplants were mated with normal frogs. The eggs laid by some experimental females were exclusively of the graft (donor) type. Advances in the biochemical aspects of lens regeneration in amphibians were reported by Yamada (Oak Ridge). RNA synthesis in the cells of the upper iris which perform the regeneration were observed remarkably early, before any other changes could be demonstrated. Through autoradiography, RNA was first localized in nuclei; from nuclei it is transferred to the cytoplasm. Electron-microscope data confirm this finding. RNA production is probably related to synthesis of lens fiber proteins. Elizabeth Hay (Boston) showed electron-microscope pictures, obtained through autoradiography, of the sequence of steps in the synthesis of collagen in regenerating emphibian limb cartilage. The process was traced from the earliest beginning, at the site of the cisternae of the endoplasmic reticulum, to the discharge of collagen to the extracellular space.

These conferences are open to all interested scientists. The approximately 200 participants at the Helsinki conference included many from the U.S.S.R. and countries of eastern Europe, and thus the meeting provided a fine opportunity for communication between embryologists of East and West.

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Meeting Notes

The following is a list of international and non-international meetings scheduled to take place in the Soviet Union and satellite nations during 1964 and 1965. Similar lists will appear quarterly in this section. In cases where an exact source for information is not known, the address of the academy of sciences of the nation in question is given.

January 1964 (no date)

Theoretical and Applied **Mechanics**, 2nd all-union congr., Moscow, U.S.S.R. (G. K. Mikhaylov, Organizing Committee, Dept. of Technical Sciences, Inst. of Mechanics, Acad. of Sciences of the U.S.S.R., Lenin Prospekt 7, Moscow)

February 1964 (no date)

Czechoslovak Medical Soc., 12th **internal medicine** day. (J. Berman, First Internal Medicine Clinic, U Nemocnice 2, Prague 2, Czechoslovakia)

March 1964 (no date)

Applied **Psychology**, 15th intern. congr., Dubrovnik, Yugoslavia. (Z. Bujas, Marulićev trg 19, Zagreb, Yugoslavia)

April 1964

4–11. **Stomatology**, intern. congr., Leipzig, East Germany. [German Acad. of