Meetings

Yeast Genetics Conference

An informal conference on yeast genetics and related biochemical problems was held at the Laboratoire de Génétique Physiologique, Centre National de la Recherche Scientifique Gifsur-Yvette, from 30 to 31 August 1963.

Fifty-four investigators from 12 countries participated. There was no formal presentation of papers, but four general areas were discussed: cytoplasmic inheritance, recombination, complementation, and gene-enzyme relations. The discussions were focused on the most recent findings in each field, mostly unpublished. Individuals spoke about their research, and there was discussion from the floor.

Recent developments in the problem of cytoplasmic petites (respiration-deficient mutants) were summarized (Slonimski), and new data on induction procedures (Lacroute), data on complementation of petites (Jakob), and problems and data on electron microscopy of cells deficient in respiratory enzymes were discussed (Lindegren, Morpurgo, Yotsuyanagi); also, biochemical aspects of the petite problem were presented (Parks). Two new instances of gene-cytoplasmic interaction were discussed. In one case the contributing factors have an effect on growth rate (James); in the other, the cytoplasmic agent in yeast is a filtrable, infective, killer factor (Bevan). Developments in the problem of somatic recombination (Roman) and new procedures for studying the kinetics of this problem (Luzzati) were discussed. Evidence was presented for the association of spontaneous mutations with recombination (Magni). Complementation in adenine loci in *Schizosaccharomyces pombe* (Leupold, Gutz) and in *Saccharomyces* (Woods, Bevan) was fully treated. The session on gene-enzyme relations began with a discussion of supersuppressors and presentation of the first evidence of an operon in yeast (Hawthorne). The effect of purine analogs on adenine mutants (Clarke) and the biochemical nature of glutamic acid-dependent mutants (Ogur) were discussed. Synthesis of cytochrome *c* was analyzed from a genetic and biochemical point of view; the problem of amino acid sequence and the relation between gene dosage and enzyme production were considered (Sherman, Slonimski).

A good deal of time was devoted to the description and detailed discussion of the procedures in different laboratories (Drysdale, Fowell, Marcovich, Williamson). The list of standard mutants available in *Saccharomyces* and *Schizosaccharomyces pombe* was brought up to date with the inclusion of the latest findings on genetic metabolic blocks and the enzymes involved (Robichon-Szulmajster, Slonimski, Lacroute, Klopotowski, Drysdale, Wiame, Parks, Ogur). Other participants in the discussions were Bulder, Cox, Eddy, Emeis, Fukuhara, Galzy, Gillilland, Grenson, Haefner, Heslot, Hottinguer, Houssaye, Johnston, Laskowski, Meuris, Middelhoven, Moustacchi, Newman, Oppenoorth, Oshima, Pere, Prevost, Sels, Scheda, Yuasa, and Zelikson.

Almost the entire spectrum of yeast genetic research was surveyed in 2 days. The meeting demonstrated the great quantity of information that can be exchanged in a short time when a single organism is the focus of discussion. Moreover, it became clear that in yeast the techniques now available allow analysis at the fine-structural level of genes and make possible investigation of structure and function at the molecular level.

R. C. VON BORSTEL
Biology Division, Oak Ridge National Laboratory, Oak Ridge, Tennessee

Geodesy and Geophysics

The 13th General Assembly of the International Union of Geodesy and Geophysics (IUGG) was held from 19 to 31 August 1963 on the Berkeley campus of the University of California. The focus of interest, at least for solid-earth scientists, was the earth's upper mantle. This interest was due in part to the fact that many organizational aspects of the current International Upper Mantle Project, first proposed in 1960 by IUGG president V. V. Beloussov, fall under the auspices of the IUGG. Contributors to the 5-day symposium on the upper mantle were from many disciplines.

Bullard (England) summarized world-wide heat-flow measurements. The total number of such measurements, to date, is less than 1000. We now have more heat-flow measurements for the sea than for the land; the reverse was true in 1960. Bullard attempted to explain anomalously high heat flow beneath mid-ocean ridges as a result of narrow rising convection currents in the mantle. Lubimova (U.S.S.R.) reported, for stable shield areas, values for heat flow that were 30 percent lower than the world-wide average. The areas of lower-than-average heat flow corresponded with areas of higher-than-average shear velocity in the upper mantle.

The theory of continental drift is enjoying an upswing in popularity among some geophysicists. Evidence in support of the theory comes primarily from the fields of paleomagnetism (Runcorn, England) and geology (Wilson, Canada). The curves for polar wandering, as determined from paleomagnetic data for each of the continents, show a wide divergence, which may be explained by shifting of the continents. The absence of old rocks on oceanic islands and the configuration of certain submarine ridges is cited as additional supporting evidence.

An important new kind of evidence concerning the history of the ocean floor is now becoming available through the use of the sub-bottom depth profiler (Ewing, Talwani, United States). This instrument produces a continuous section beneath the ship's track, providing information on water depths, the thicknesses and configuration of various strata of sediments, and the surface of the first hard-rock layer. Only a few transoceanic profiles have been obtained, but the results suggest that the total accumulation of sediments is remarkably small, that portions of the ridges are virtually bare of sediments, and that the basement surface is almost uniformly rough. It appears that this new type of data might prove or disprove, in the near future, the theory of continental drift.

Some years ago it was generally assumed that lateral variations within the upper mantle were nonexistent or negligible. Now, observations of a number of types demonstrate quite conclusively