

of the inhabitants of Berlin. This anomaly is inherited as a dominant, lethal in the homozygote but not affecting the expectation of life of the heterozygote. The same anomaly occurs in rabbits: here a few homozygotes survive and they show no segmentation at all, and extreme chondrodystrophy with an array of secondary morphogenetic and functional disturbances.

The demonstration of work in progress in most genetic laboratories in Great Britain, with visits to the Cambridge laboratories, included forty-three different lines of research. They ranged from the mapping of mammalian chromosomes to the biochemical genetics of bacteria and other micro-organisms; from the developmental genetics of the mouse to the inheritance of human blood groups; and from experimental studies on the properties of nuclear membranes to the genetics of heterostyly in plants. It is quite impossible, of course, to go into details of this very impressive and comprehensive demonstration.

The meeting has certainly left in those attending it a vivid picture of genetics in its fiftieth year. Started as the somewhat detached, though extremely successful, study of what Muller calls the "dance of the genes", genetics now occupies a key position in biology. The genetical approach, that is, the study of sub-cellular 'self-reproducing' units, is now as essential to the understanding of heredity, variation and evolution as it is in bridging the gap between biochemistry and biology. At the level of these units, biological structure and biochemical activity tend to become one.

G. PONTECORVO

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DEFENCE RESEARCH LABORATORIES, AUSTRALIA

ANNUAL REPORT

9/29/49

THE Munitions Supply Laboratories of the Commonwealth of Australia Department of Supply and Development have now been re-named as the Defence Research Laboratories; and the first annual report under that title*, covering the year ended June 30, 1948, shows that the establishment is becoming recognized as the main Australian centre for the application of science and technology to the day-to-day problems of industry, whether for defence or civil production, as well as being the main standardizing centre for the southern part of the Commonwealth. Long-term investigations represented about 21 per cent of the work of the Laboratories, while 40 per cent was for the Department of Supply and Development and Defence Departments, 23 per cent for other Government Departments or public bodies and 16 per cent for private industry. A new section for electricity and a crystal physics group were formed during the year.

In the General Chemistry Section study has continued on the use of organic titanium compounds in paint; methods of accelerated outdoor-expanse testing; the influence of seasonal variations of weather; and the formulation of roof paints to suit Australian conditions. Studies are being made of the oil obtained from the Makita nut, available in

* Commonwealth of Australia: Department of Supply and Development. Annual Report of the Defence Research Laboratories for the Year ended June 30, 1948. Pp. 46. (Marburyring, Vic.: Defence Research Laboratories, 1949.)

large quantities in Fiji and New Guinea; as well as of methods of assessing the damage to wool caused by shrink-resistant treatments and of detecting and estimating damage to cotton fibres on exposure. A method has been worked out for the preparation of amylene, and advances have been made in the techniques of fractional distillation.

In the Chemical Defence Section a considerable amount of work has been carried out on the determination of airborne water droplets in a saturated atmosphere, on the factors governing the flow of gases through small orifices and capillaries, and on a critical survey of chemical methods used for the determination of atmospheric contaminants, as well as a study of the protection afforded by the service respirator against a wide range of industrial contaminants. The Metallurgy "A" Section was largely concerned with investigations on metal processing and the behaviour of metals in service, while in the Metallurgy "B" Section radiographic examination of welded pressure vessels and the training of workers in industrial radiography have been important features. Long-term investigations in the Engineering Section have been concerned with the effects of surface treatments on fatigue characteristics of an alloy steel. The Physics Section surveyed formulae expressing the refractive index of optical glasses as a function of wave-length and investigated mass spectrometric and ionization-gauge methods of detecting leaks in vacuum systems.

Inquiries received by the Technical Information Section markedly increased from 749 in the previous year to 1,288, of which almost half were from private industry. Some 36 per cent of the inquiries related to chemistry and chemical technology, 22 per cent to physics and engineering, and 20 per cent to metallurgy. Lists of published articles and lectures and of committees on which the staff of the Laboratories have served are appended, but the report does not deal with confidential work for the Armed Services.

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SUGAR RESEARCH FOUNDATION

ANNUAL REPORT

10/10/49

THE Sugar Research Foundation, which is an organisation supported by the great majority of both cane- and beet-sugar producers and refiners of United States territories, has recently issued its sixth annual report*. This document, prepared by the scientific director, Dr. Robert C. Hockett, enumerates the research projects, both those completed and in progress, which have been sponsored by the Foundation, and briefly describes the results so far obtained. The numerous investigations are concerned with sugar (sucrose) in relation to dentistry, physiology, nutrition, botany, biology and pharmacy, as well as the organic and physical chemistry of the substance.

The Sugar Research Foundation was organised to sponsor and to stimulate research on sugar and to disseminate information about it. The way in which the Foundation has organised research on sugar is strikingly demonstrated in its latest report, which describes no fewer than fifty-nine projects that either have been, or are still being, undertaken in

* Research in Review. Sixth Report, 1949. Pp. 44. (New York: Sugar Research Foundation, Inc., 1949.)