

species of *Alestes*, *Synodontis afro-fischeri* and *Marcusenius grahami* eat mostly insects, whereas *Barbus altianalis* and *Synodontis victoriae* get most of their sustenance from snails. Other appendixes contain shorter notes on a variety of topics, including the growth of *Tilapia zillii* in a dam and some preliminary observations on the control by fish of snails and mosquitoes in dams.

The director, Mr. R. S. A. Beauchamp, who has recently relinquished the post he has held with distinction since he opened the Laboratory in 1948, can

look back on a considerable achievement. Not only have he and his colleagues laid a firm foundation of knowledge of the hydrography, chemistry and biology of at least the parts of Lake Victoria within the reach of the Laboratory, but they have also made significant contributions, briefly described in the reports of which this is the latest, to our understanding of the factors which control the productivity of tropical waters. Moreover, the Laboratory itself now has a world-wide reputation and attracts visitors from many countries.

H. C. GILSON

U.S. MATERIALS RESEARCH AND DEVELOPMENT FOR NATIONAL SECURITY

A SPECIAL Committee on Scope and Conduct of Materials Research was appointed by Dr. D. W. Bronk, president of the National Academy of Sciences, to review the materials research needs of the United States with regard to national defence and the public welfare generally; to appraise the adequacy of the present research programmes to meet those needs; to consider the resources available; and to make recommendations. A report now issued under the title "More Effective Organization and Administration of Materials Research and Development for National Security" deals with the scope of materials research from the point of view of the overall adequacy of the present effort, but leaves for continuing review by the Materials Advisory Board of the National Academy of Sciences-National Research Council the question of scope in regard to the technical content of the programme*. The question of scope in regard to the scientific content will be dealt with in a forthcoming report of the Academy-Research Council's Committee on Perspectives in Materials Research.

The Committee found that important national security programmes, particularly in defence, nuclear energy and space-research are impeded by the inadequacy of the properties of most of the materials now available to withstand the severe temperature,

* National Academy of Sciences-National Research Council. Publication No. 718: More Effective Organization and Administration of Materials Research and Development for National Security. (A Report to D. W. Bronk, President, National Academy of Sciences, by the Committee on Scope and Conduct of Materials Research.) Pp. ix+30. (Washington, D.C.: National Academy of Sciences-National Research Council, 1960.) 1 dollar.

pressure, radiation, corrosion and stress conditions involved and give high performance. The Committee recommends accordingly that the Government accord high priority in national security plans and programmes to the development of new and improved materials and that the relevant programmes of the agencies and departments be strengthened. The Committee recognizes that there is no simple solution, but that every level of activity needs significant strengthening. To this end it recommends greater centralization of responsibility, more support for, and more effective co-ordination of Government-sponsored materials research and development programmes; Government incentives to encourage research and development on new and improved materials; and steps to assure adequate supplies in the United States of every chemical element or material to support full production and use of new and improved materials. It also recommends improvement in the dissemination of research information and strengthening the universities in their dual role of training scientists and engineers and pursuing research. In regard to the last, the Committee endorses a recently announced programme of Government-sponsored interdisciplinary materials laboratories at several institutions of higher learning, while as regards the dissemination of information it envisages the encouragement and acceleration of publication and removal of secrecy restrictions as well as the greater support of research designed to encourage rapid exchange of technical and scientific information, including expansion and acceleration of the Critical Tables project.

EDUCATION AND INDUSTRY

BRITISH industry has traditionally been badly served by the universities and by the majority of schools. Until quite recently, they have encouraged very few of the ablest young people to think in terms of an industrial career.

The prejudice was not all on one side. The typical industrialist of not so long ago, while he was ready enough to concede the importance of craft training, and even of technical education, conceived rather narrowly, held that industry had certainly no responsibility for any but quite specialized courses, and that no useful purpose would be served by recruiting men on a basis of intellectual quality rather than skill.

Prof. D. G. Christopherson, in a recent issue of the *Esso Magazine* (Spring, 1960), suggests that, although these attitudes are changing, it is the attitude of industry which has changed most quickly and most completely in our time. Before the War, most professors of engineering spent their time resisting pressure from industry in the direction of making courses more specifically technical, so that the graduate would be better able to do a particular job immediately on joining the firm. To-day, the influence of industry is in the opposite direction. Professors of engineering are urged to keep courses general, to resist undue specialization, at least until