

available shipping and an intensified demand. The edition includes information on a number of timbers not in general use, if not entirely unutilizable in peace-time, which can, it is stated, be satisfactorily employed for various useful purposes under war-time conditions. A notable addition, which the wholesale destruction caused by the German bomber has rendered advisable, is information on the fire-resisting properties of most of the species. These valuable data are the result of extensive experimental work carried out at the Laboratory. British grown timbers, we are told, as can be readily imagined, are now being employed in greater quantities and for very exacting purposes, and users are frequently at a loss to know how a particular species may best be utilized for some specified object for which imported timbers have been used in the past. It would be valuable and interesting if a list could be made of the actual purposes throughout the country for which home-grown timbers are now being employed.

Genes, Viruses and Proteins

VOL. 9 of the Symposia on Quantitative Biology, published by the Biological Laboratory, Cold Spring Harbor, Long Island, has just appeared. It covers in about 300,000 words the immediate field of "Genes and Chromosomes" indicated by its title, and also a wider range of recent research which can be related to the study of chromosome structure either technically or theoretically. There are thirty-four papers and discussions dealing with optical observations, including the use of the ultra-violet and electron microscopes, X-ray experiments on cell-activity and chromosome breakage, the theory of protein and nucleic acid structure and behaviour, the chemistry and mutations of viruses and genes, and finally the use of the heavy nitrogen isotope in the study of amino-acid exchanges. The series ends by a summary and review by H. J. Muller. This volume is remarkable not only for almost every contribution being new in detail of technique and observation, but also for the whole point of view having arisen from the converging development of genetics, cytology and chemistry during the last ten years.

Electric Cables

Mr. S. W. MELSOM, of the Cable Makers' Association, devoted the greater part of his chairman's address to the Transmission Section of the Institution of Electrical Engineers (*J. Inst. Elect. Eng.*, 89, Pt. 1, No. 13; 1942) to the subject of cable engineering, first making brief reference to the development of solid plastic materials and proceeding to the question of their application to the manufacture of cables. The fierce light thrown on the older dielectrics by competition from the synthetics has revealed the extraordinarily high qualities of rubber and paper, and in the face of this experience new materials cannot be accepted without the fullest assurance of at least as good service with economic advantage. Although chemists have worked hard on the subject, their products have yet to be proved superior or even equal to vulcanized rubber, but doubtless the apparently parallel paths of the rubber and plastics chemists will ultimately be found to converge, with great benefit to both. The address then dealt briefly with very high voltage cables, research and the much discussed question of standardization, and it was closed with an outline of the standing and responsibilities of the engineer in relation to society, sug-

gesting that it is time the engineer took his fair share in responsibility for the control of affairs, for otherwise the most lucrative profession would be that of reaper and not cultivator, a process which, if carried too far, will choke the life out of any industry or nation permitting it.

Heat Requirements of Buildings

A VALUABLE compendium of information has been issued by the Institution of Heating and Ventilating Engineers in a publication entitled "Recommendations for the Computation of Heat Requirements for Buildings" (Pp. iii+41. 1s. 9d.) This comprises a section of the guide to current practice which was recently compiled for the use of members, and it places at the disposal of all interested in the subject a most comprehensive collection of data strictly in accordance with present-day practice. The information is conveniently grouped in three parts. That on temperature-rise and rates of change gives the recommended values applicable to buildings ranging alphabetically from aircraft sheds to warehouses. The design of heating and ventilating installations has been, in recent years, greatly influenced by legislation affecting factories, and a special section has been devoted to this class of building. Heat transmittance co-efficients for walls, floors and roofs in a variety of materials constitute the second part, which also includes data as to the allowances to be made for height and for conditions of intermittent heating. The third part deals with conductivity data and the calculation of overall coefficients for composite walls, floors and roofs. Included in it is a table of thermal conductivity and resistivity of practically all the proprietary materials used in building construction. Much of the information given has been obtained from such independent sources as the National Physical Laboratory and the U.S. Bureau of Standards, and for the benefit of those unfamiliar with heat-loss calculations as applied to buildings a typical example is included.

Long-Distance Telephony

VOICE-FREQUENCY signalling and dialling in long-distance telephony forms the subject of a paper read before the Institution of Electrical Engineers by W. G. Radley and E. P. G. Wright. The paper first sets forth the reasons for modern methods of signalling and dialling over long-distance telephone circuits and for preferring the use of voice-frequency methods for these purposes. An outline is given of the technical problems involved in the design of voice-frequency signalling systems and the author deals with operating requirements as well as with receiver and system design. Reference is also made to the recommendations of the International Consultative Committee on Long-Distance Telephony regarding means of avoiding interference between different signalling systems on international connexions and a forecast is given of the future development of signalling and dialling over long-distance telephone circuits. An interesting table is included which compares the various long-distance signalling systems in great detail.

The Yellow Fever Situation

ACCORDING to the *Journal of the American Medical Association* of January 10, owing to perfection of control methods initiated by Gorgas and Oswaldo