in origin. The variation between herds is more difficult to assess, but, from cases where the same bulls have been used in herds at greatly different levels of yield, it seems likely that the greater part of the differences have been due to management.

In reports by Dr. E. C. R. Reeve and Dr. F. W. Robertson on different aspects of their work on the inheritance of body size in *Drosophila*, the former dealt with the study of a strain selected for large size, and the latter with the estimation of differences between chromosomes from different selected strains. One strain which had long failed to respond to selection, in spite of retaining a very high heritability, has been subjected to a detailed biometrical analysis. Different genetic models were discussed to explain the results of selection on size and on the genetic correlation between wing and thorax length. Apparent lethals in the third chromosome were very sensitive to genetic background. A chromosome assay technique was used for comparing the effects on size of individual chromosomes from a number of selected lines against different genetic backgrounds. Use of such independent estimates to forecast the size of various genotypes revealed some striking non-additive interactions between chromosomes, particularly when more than one chromosome set was heterozygous.

Dr. Cavalli gave a description of experiments designed to estimate components of variation attributable to linkage in crosses between strains of *Drosophila* selected for high and low bristle number. These demonstrated the comparative inefficiency of second-degree statistics based on F_2 and F_3 data. He presented a theoretical treatment of the contribution of linkage of varying degree.

The effects of selecting mice on an unrestricted and a restricted diet for large size at six weeks were then described by Dr. D. Falconer. Size increased in both lines. When both lines were tested on the same diet, the low-plane mice grew almost as big as the high-plane mice on the good diet, and bigger than high-plane mice on the poor diet. It was suggested that different physiological characters had been selected in the two lines.

In summing up, Prof. Haldane expressed the thanks of the guests for such a stimulating meeting. He commented that a number of workers in the Institute of Animal Genetics are engaged on both fundamental studies and practical animal-breeding research—an excellent way of linking theory and practice. He directed attention to the urgent need for more detailed experimental work and touched on the gap between biochemical research in genetics and studies of quantitative inheritance. He concluded that new statistical methods may have to be fashioned as experimental work grows.

SCIENTIFIC DEVELOPMENT AND INDUSTRY

A SERIES of articles by the scientific correspondent of the *Financial Times*, published in June 1948, entitled "The Neglect of Science", are worth recalling in connexion with the current debate on technological education. The first of these, dealing with science and industry, reviews the causes of the technological backwardness of much of British industry, due to the belief of industry that there was no urgent need of new developments, and the consequent exclusion of the scientific workers from executive or administrative responsibility and the neglect of research. The functions of an industrial research laboratory are discussed in the second article, where the importance of scientific representation at the highest level is stressed. The shortage of scientific workers makes it difficult to expand research; and it is stated that a contributing factor is the loss to other countries such as the United States of first-class technologists to take up, for example, high industrial positions. On the whole, the kind of education offered to potential scientific workers by the universities is regarded as satisfactory. The real shortcomings are in the field of technical education, and, discussing this question, the third article urges the building of at least two institutions like the institutes of technology at Zurich and Massachusetts, of full university status and demanding high standards. This is suggested as a very worthy object for Marshall Aid; but it is recognized that in some subjects it would be necessary to obtain teachers from abroad. The view is taken that attempts to patch the present system of technological education in Britain would be fatal.

In a subsequent series of articles entitled "A Scientist Looks at America", published in the *Financial Times* last January, reference is made to the concern of scientific men in the United States about the secrecy regulations imposed in connexion with atomic energy work, and about the high proportion of the money spent on research which is drawn from military sources. The article quotes from a statement issued by the American Chemical Society urging a revised approach not only towards secrecy but also towards other questions of policy, and maintains that the false notion that secrecy means security may lead to possible destruction. Scientific opinion is against the view that government funds for science in general should be distributed by the military, even if at present the distribution is very fair. A second article, dealing with the relations between science and industry, comments on the growing strength of American industry and the advantage the United States has reaped, particularly in theoretical physics, from the absorption of large numbers of the scientific men and engineers expelled from Central Europe, and especially Germany, since 1933. The main weakness in the scientific side of American life is in fundamental science, and it is suggested that conditions of life in the United States may conduce in future, as in the past, to American dependence on European workers for fundamental ideas; it is thus a serious matter for Europe as well as for the United States that European scientific workers seem increasingly to desire to settle in America. Americans themselves, like Dr. K. T. Compton, are anxious to see European science restored to its pre-war vigour; but apart from the much smaller economic units in Europe there are other factors to be considered. In spite of brilliant individualists, the French, for example, have fallen back in most technical fields where a scientific background and team-work are essential; and reviewing the significant lessons for Britain in the light of American experience, the concluding article reiterates the plea put forward in 1948 that the most important step required to make British industry competitive is reform of technological education. For this the full support of industry is essential. An improvement in the position of scientific workers is also required if full efficiency is to be achieved and migration to America checked.