

This tour was followed by a meeting of the study group in London during May 8–12, at which the various aspects of television standardization were discussed with the view of facilitating the interchange of programmes between countries and of reducing to a minimum the possibility of interference between television transmissions in adjacent countries. It was concluded at this meeting that, while it would have been most desirable to achieve standardization on a world-wide basis on all the various characteristics which define a television system, this appears to be impossible because of the existence of public television services using different standards in several countries in which large numbers of receivers are already in the hands of the public. There was, however, unanimous agreement on the following points, which were recommended for approval by the next plenary assembly of the International Consultative Committee on Radiocommunication: (1) television systems should be capable of operating independently of the frequency of the power supply; (2) the aspect ratio of the picture should be 4:3; (3) line interlacing should be used in the ratio 2:1; (4) asymmetric side-band transmission should be adopted for the vision signal; and (5) there is no necessity to standardize the polarization of the radio transmission.

In addition to the above, the characteristics of the 405-, 525-, 625- and 819-line systems were examined in some detail; and, for the reasons already stated, the representatives of France, the United Kingdom and the United States confirmed the continued use of their present standards. The French and United Kingdom delegates maintained their previous proposal, made at Zurich, to consider the unification of the standards of the London and Paris television transmitters. At the same time, the representatives of Austria, Belgium, Denmark, Italy, the Netherlands, Sweden and Switzerland declared themselves in favour of the 625-line system, and addressed an appeal to their colleagues to reconsider the position. The meeting concluded by directing attention to a number of technical problems that need further study in connexion with the general subject of television standardization.

ZOOLOGY IN RELATION TO AGRICULTURE*

By DR. D. STEWART MacLAGAN

West of Scotland Agricultural College, Glasgow

ZOÖLOGY *in sensu stricto* is the science of animal life; agricultural zoology deals with the application of zoological knowledge to the practice of farming. The prospective adviser or research worker in agricultural zoology must, therefore, have a comprehensive knowledge of the vast terrestrial fauna, and must also be sufficiently informed about agriculture to assess the potentialities of zoological discoveries in relation to farming practice. Reasoned conjecture is part of the stock-in-trade of the academic biologist (and is usually harmless); but the agricultural biologist must be more circumspect. As with other applied sciences, agricultural zoology is based on a tripod of supporting struts—education,

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research, and its application—and, from the teaching point of view, one should steer a course between pure academics and sheer utilitarianism.

Few people cannot be aroused to enthusiasm over some aspect of animal life, and the countryside abounds in a wealth of teaching material. In the past, there has been a tendency to lay undue emphasis on structural details, at the expense of the ecological approach to zoology; although for all but the specialist student the ecology of animals has usually a greater appeal, and is certainly of great value in linking up with other subjects. This implies greater attention to the study of animals as a product of their environment—the effects of climatic and edaphic factors, the significance of natural enemies and other natural factors of population control, the causes of animal plagues, and so on. Apart from the educational value of zoology there is an urgent need of obtaining a deeper insight into the role of animals in the economy of Nature, because of sheer economic necessity.

In Britain to-day, there are six million more people and three million fewer acres of good farmland than there were in 1914; which means that there is only about half an acre of productive land per person. Now, every piece of land has a series of practical ceilings of productivity which can be raised by reducing the effectiveness of limiting factors, such as herbage-eating rodents, beasts and birds of prey, plant-feeding insects, disease-carrying ticks, and parasitic worms of stock and crop. Since there are no large areas of land awaiting easy exploitation, an alternative means of alleviating the food situation is the intensification of production; but all forms of intensive culture favour the multiplication of pests and insect-borne diseases, as seen in the abundance of orchard, vegetable and glasshouse pests: eel-worms of potato, beet and oats, and virus diseases of plants.

Through the operation of numerous 'checks and balances', plants, plant-feeders, and their natural enemies exist in a state of fluctuating equilibrium—the balance of Nature—until man starts to cultivate the soil or heavily stocks the ground. Thereafter, the complex relationships which contribute to the balance are ruptured in varying degrees, with resultant increase of some species and reduction of others. Heavy stocking favours the spread of disease-causing parasites. Bare fallowing reduces the soil population, whereas continuous monoculture favours a dense and specialized fauna. Between these extremes, different rotations favour different pests; but, in general, the farmer has a powerful weapon for pest-control in the judicious choice of rotations.

In view of the causal relationships between pest-densities (population) and environmental conditions, the agricultural zoologist has a splendid opportunity of linking science with practice, and of simultaneously expounding many highly relevant biological themes, for example, the struggle for existence and the survival of the fittest, the reproductive potential of animals and the toll of the environment, predator-prey relationships, adaptive modifications of structure and function, hazards of the parasitic mode of life, etc. Surviving species have adjusted themselves, in the course of time, to their environment (including competition among themselves) and have become the warp and woof of an intricate pattern. Hence, to assess the true role of a species in the economy of Nature is an exacting task, requiring a fundamental knowledge of ecology in general.