Association of British Zoologists

THE annual meeting of the Association of British Zoologists was held on January 5, in the rooms of the Zoological Society in Regent's Park, under the presidency of Prof. F. Balfour Browne. The morning session was given to a discussion of the general trends of zoological science at the present time. In opening the discussion, Prof. D. M. S. Watson defined zoology as the science of animal life in all its aspects. He emphasised the recent tendency of zoology to return from the strictly taxonomic and morphological outlook of the latter part of the last century to the more biological outlook of pre-Darwinian zoologists. He concluded that the reason for this tendency, in spite of the undeniable importance of a knowledge of comparative morphology for all branches of zoology, is that the time is now past when important alterations in our conceptions of morphology are likely to occur. He thinks that the greatest need to-day is a wider knowledge of the animal as a living thing, and of those branches of zoology, such as comparative physiology, embryology and genetics, on which knowledge of animal life must rest. In recent years this need has been brought even more clearly to the front by the great extension of the economic applications of zoology.

IN the discussion which followed, there was almost complete agreement with Prof. Watson both in his definition of zoology, and in the emphasis which he laid on the development of zoology as the study of the living animal. Dr. J. Gray dwelt on the need for teachers to treat the animal as a living thing. In the past, and still to a large extent to-day, zoological teaching has, he thinks, failed to give a broad picture of animal life: to repair this failure is its most pressing need. In comparative physiology, which provides a large proportion of the essential knowledge for the science of animal life, the aims of the zoologist are similar to those of the medical physiologist, and he must follow similar methods. Dr. E. S. Russell agreed with earlier speakers in regarding zoology as the science of animal life, and stressed the necessity in such a science of returning to the earlier conception of the animal as an organism and discarding the analytical outlook which originated with the development of the cell theory. Prof. E. W. MacBride also accepted the study of animal life as a definition of the aim of zoology. He emphasised the importance of habit in the life and evolution of animals and therefore in zoological science. In the afternoon, several members of the association demonstrated applications of photographic methods to biological research. Mr. F. S. J. Hollick described an apparatus for recording the movements of insect wings in flight and the air currents set up by their movements, while Mr. A. G. Lowndes gave an account of his most recent methods of photographing the movements of small animals by means of an instrument in which the stroboscope and cinematograph are combined.

Cancer Research

AT the quarterly meeting of the Grand Council of the British Empire Cancer Campaign held on January 14, the following additional grants for 1935 were approved:—£200 to Dr. Ralston Paterson for the part-time services of a radiologist at the Holt Radium Institute, Manchester; £250 to the Strangeways Research Laboratory, Cambridge, for the services of Dr. A. Glucksmann; £200 to Dr. Edith Paterson, at Manchester and £1,000 to the Radium Beam Therapy Research for the salary of qualified research workers. The Scientific Advisory Committee has been allotted a sum of £500 for the year 1935 for the salary and expenses of a research worker to carry out, under its supervision, an investigation of the action of radiation on colloids. The National Cancer Association of South Africa, which is representative of the research organisations of the Cape, Transvaal, Natal and Orange Free State, has been approved as a body affiliated to the British Empire Cancer Campaign. The Ottawa correspondent of *The Times* states that Canada will commemorate the twenty-fifth anniversary of the accession of King George to the throne by establishing a national fund for a campaign against cancer in Canada.

Decreasing the Number of Motor Accidents due to Skidding

CONCLUSIONS on this topic arrived at by Prof. R. A. Moyer, of Iowa State College, as set out in a paper read to the Highway Research Board, have been reported by Science Service, Washington, D.C. An exhaustive study of the skidding characteristics of motor-car tyres on various types of road surface indicates that the most important anti-skidding factor on the highway is to cover its surface with gritty particles so that it acts like sandpaper. The marked increase in the speed of vehicles on highways has led to a serious problem. The coefficients of friction between road surfaces and rubber tyres become smaller as the speed increases, and so skidding becomes easier. All stopping distances and centrifugal forces on curves increase as the square of the speed; that is, if the speed is doubled the shortest possible distance for stopping is increased four times and the necessary road friction is also increased four times. Highway engineers have been considering the possibility of building curves in spiral transmission fashion when the speed exceeds fifty miles an hour. In fast driving, in order to negotiate curves, the driver finds it easier to move from one side of the road to the other, but on blind curves this is a danger to approaching cars. Engineers are considering the possibility of building curved roads of such a shape that this tendency of drivers of fast cars may cease to be a menace to cars coming in the opposite direction. Prof. Moyer also points out that the application of the brakes when the car is going round a curve increases the tendency to skidding sideways but that the application of power decreases this tendency. For uniform braking the distribution of the load should be such that more weight falls on the back wheels than on the front wheels.

Position of the American Negro

RACIAL unity, racial pride and racial traditions have been of late subjects of discussions in which

passion and prejudice have been more conspicuous than exact knowledge. From Vanderbilt University, Nashville, Tennessee, one of the smaller privately controlled universities of the United States, we have received a volume of abstracts of theses presented during 1933–34 by candidates for advanced degrees and, among them, a study by a candidate for the doctorate of philosophy of a movement for fostering these elements of culture among a 'non-Aryan' group, namely, the American Negro. It seems that since towards the close of the nineteenth century a sustained effort to develop race-conscious feeling so as to achieve "the internal unity and sentimental solidarity necessary to give the race a life more or less separate from other groups" has accompanied a vigorous struggle for recognition and status. Especially in the five years 1910–15, the aims and purposes of the movement became definitely established, a recognised leader emerged and formal machinery for its further promotion was created. At the present time, extensive provision is made by Negro colleges and universities for courses of instruction in Negro life and history, and numerous activities have developed outside the class-room designed to make students better acquainted with Negro tradition: pageants depicting Negro progress and achievement, essay competitions, the celebration of Negro History Week, exhibitions of Negro art and literature and music festivals featuring Negro folk music. By making his history and tradition extensively known outside the community, it is assumed that the Negro will gain a larger measure of recognition and respect from the world at large for his worth and capacity.

History and Uses of Paraffin Wax

IN his paper read before the Institution of Petroleum Technologists on December 11, 1934, on the "Utilization of Paraffin Wax and Petroleum Ceresin", Mr. P. G. Higgs outlined the history of petroleum wax from its discovery in 1830 to its production on a commercial scale. Its use for a long time was restricted, since combustibility alone of all its useful properties was universally acknowledged as of market value. Time has shown, however, that paraffin wax can be used in cases where its characteristics of resistance to water, inertness, good electrical properties, etc., are invaluable. Thus to-day, apart from its chief function as an illuminant, it is employed, for example, as a proofing agent for porous materials, in the manufacture of waxed paper and paper boards, as an external coating to wooden receptacles for the preservation of foodstuffs, as an ingredient of polishes and in the electrical industry for insulating purposes. In addition, it is used in the form of an aqueous emulsion in the sizing of paper, as a size in the weaving of cotton, and as a glossing agent in the laundry trade.

PETROLEUM ceresins, the most recent addition to the range of paraffin waxes, are characterised by a relatively high setting point and micro-crystalline structure. Experiments have shown that the addition of 0·3 per cent or less to commercial paraffin wax alters the structure of the whole practically to micro-crystallinity. Moreover, in the case of candles made from paraffin wax to which a similar small percentage of ceresin has been added, resistance to bending is substantially increased. Initially, the strong colour of petroleum ceresin was a disadvantage in this connexion, but this is overcome by incorporation of the ceresin during the manufacture of the paraffin wax and refining the two together. The resultant product, while having a pleasing colour, also lacks, or has in a much lesser degree, the defects usually consequent on marked crystallinity of the paraffin wax. It is reasonable to suppose, therefore, that the usefulness of paraffin wax could be still further extended by the addition of small quantities of petroleum ceresin. Whether it is better to manufacture 'doped' waxes or leave the 'doping' process to the user is, however, still an open question.

Water Purification by Ozone

IN *Engineering* of January 4, Mr. T. Rich gives an account of the development of the treatment of water by ozone which has resulted from the researches made by P. Otto in 1898 in connexion with his thesis for a doctor's degree at the Sorbonne. When Dr. Otto was carrying out his experiments, the question of potable water supplies in France was becoming a matter of concern, and, encouraged by Pasteur, he took up the design of ozone water-sterilisation apparatus for outputs varying from that through a single tap to that required for large cities. One of the first important installations laid down to his designs was that for Nice, and since this was constructed many other places on the Riviera have followed the example of Nice, owing to serious outbreaks of typhoid. In 1932, the scientific commission for the study and control of the water supply of Paris decided to supersede the use of chlorine by the use of ozone for treating water taken from the Seine and the Marne, while quite recently an important ozone-sterilisation plant has been put into commission for the water supply of Nancy, a manufacturing city of 120,000 inhabitants. There are other plants in operation in Belgium, Italy, Rumania and on the Congo, and the system has been applied to the water supply of large passenger vessels. The principal apparatus in a plant is the electrically-worked Otto ozone generator, and of this Mr. Rich gives a full description.

Grey and Red Squirrels in England

IN the report on animal numbers, issued by the Oxford University Bureau of Animal Population at the end of 1934, the director, Mr. A. D. Middleton, states that the evidence from the Bureau's three hundred or so observers in various parts of Great Britain points to another serious increase of the American or Carolina grey squirrel (*Sciurus carolinensis*, Gmelin) and also an increase of the native British red squirrel (*Sciurus leucorous*, Kerr) after the setback due to disease outbreaks of a species of *Eimeria* (Coccidia) noted in 1931. During the last three years, the report points out, the British red squirrel seems to have been steadily regaining