# Dissolution of the ABZ

from a Correspondent

THE thirty-eighth annual general meeting of the Association of British Zoologists, held at the rooms of the Zoological Society of London on January 13, was also its last, for the following resolution was passed unanimously by the fifty members present:

- "The Association of British Zoologists ceases to exist and its assets, when all its liabilities are met, shall be transferred to the Zoological Society of London.
- The Association states that the funds be used at the discretion of the Zoological Society and suggests that an annual award be made, to be awarded to some person who is contributing to zoology.
- The Association hopes that the Zoological Society will endeavour to select a candidate who is contributing to the maintenance of zoology as an independent discipline."

As a result of this resolution a sum in excess of £1,000 is being transferred: the meeting was, in fact, formally ratifying the majority decision of a postal plebiscite of the 549 members made during the previous year. In these days, when new scientific societies are being born almost every week, it is perhaps interesting to consider why another which is financially solvent and with such a considerable membership has died.

The ABZ was set up in 1929 to serve as a "professional body" for zoologists, and to enable a meeting to be held during the winter to include those persons who also met regularly at the summer meeting of Section D of the British Association for the Advancement of Science. The president of Section D was, by custom, chairman of the ABZ. Until after the 1939–45 war members paid a life subscription of ten shillings; this was later raised first to £1 and then to £2. Although during the nineteen-thirties a substantial proportion of new graduates joined (for life), in recent years recruitment has been small (the only candidate in 1972 was told he might attend the 1973 meeting, but his subscription was returned to him). Why should this have happened, when the number of professional zoologists has so greatly increased?

The contributions at the final meeting went some way to answer this question. Professor J. Z. Young (University College, London) gave a most entertaining account of the "Past, Present and Future of British Zoologists". He spoke of the scene in the nineteen-twenties, still dominated by post-Darwiniana morphologists, but who were now challenged by those professing the new science of "experimental biology". This was an intermediate step, for Professor Young thought also that those who had lived through the next period in which molecular biology had come to the fore had seen something comparable, in zoology, to the Darwinian revolution in the nineteenth century. Science as a whole had gained greatly, but zoology as an isolated discipline had changed.

Dr K. Mellanby (Monks Wood Experimental Station), speaking on "Ecology, Zoology and the Environment", noted that, when the ABZ began, readers of the popular press had never heard of these terms. Ecology had indeed shown itself to be invaluable in detecting environmental pollution, and here again zoologists had now become members of interdisciplinary teams. Dr Mellanby went on to deplore the abuse of ecological terms by many publicists and the way in which some genuine scientists allowed themselves to be used by such publicists. Dr A. Bidder (University of Cambridge), speaking on "The ABZ: Why the Beginning, Why the End?", described how her father, the late George Bidder, and the late Frank Balfour-Browne had been responsible for the birth of the society, and had provided the silver spoon (that is, £25 each) at its christening. She traced the changes in zoology, in particular the way in which the close association between many senior zoologists and the British Association had declined.

The meeting proved so successful that there was even a half-hearted move by some members to try to revive the corpse even after it had unanimously been pronounced to be dead. It was generally agreed, however, that other bodies were now doing what the ABZ had intended. The Institute of Biology now acts in regard to many of the professional interests of zoologists, and specialist societies now cater for their varied scientific interests. Many participants hoped that there would be a revival of support for Section D of the British Association as the one remaining place where all zoologists met as zoologists and could continue to learn from each other.

COLLAGEN

# Intermolecular Space

from a Correspondent

A NEW method has been proposed by Katz and Li for estimating the intermolecular space in reconstituted collagen fibrils; this has implications for the molecular packing in these materials (*J. Mol. Biol.*, **73**, 351; 1973).

Nothing could be simpler than the molecules of connective tissue. They have the shape of long uniform rods 3,000 Å by 15 Å, yet their mode of packing in connective tissue has been difficult to determine, the principal reason being that electron microscopy has not yielded a clear picture of the molecular arrangement. Only in special cases is any structure evident in transverse sections, and the well developed 670 Å periodicity in longitudinal sections does not provide enough information to resolve the problem.

The other commonly used technique in such investigations, X-ray diffraction, has not given conclusive evidence. It is only recently that well resolved diffraction patterns showing the relevant reflexions have been obtained, but the well known phase problem means that these patterns cannot be interpreted directly. In other fibrous proteins like muscle and keratin, good electron micrographs provided the principal features of the molecular packing, and the interpretation of the diffraction patterns was put on the right lines, but this has not happened with collagen. Katz and Li have brought to this situation a fresh approach by experimentally estimating the space between the collagen molecules in reconstituted material.

The new method makes use of the fact that in a collagen fibre there are two regions of intermolecular space presumably filled with water—the space between the fibrils (usually fibrils are about 1,000 Å in diameter) and the intermolecular space proper within the fibrils. The water content of collagen, which is obtained by measuring the difference in weight between wet and dry material, gives an estimate of the sum of the two spaces. The interfibrillar space is then estimated using a probe molecule and the resulting value for the intermolecular space within a fibril is fed into a geometrical formula to yield parameters on molecular packing. The molecules in a fibril are closely packed with the largest holes being 15–20 Å wide and thus the fibril can be expected to show selective permeability. Katz and Li's choice of probe molecule is polyethylene glycol of molecular weight 4,000.

The new technique provides a value of about 1.14 ml./g for the intermolecular space. This result is then related to the unit cell volume which is calculated from a reflexion in the X-ray diffraction pattern. Katz and Li conclude that the molecules pack in a hexagonal array in the reconstituted fibrils. They also say that their results are not at present applicable to native tendon and it will obviously be of interest to extend this approach to the biological tissue.