It must, however, be realised that the subject-matter of this symposium deals with certain fundamental issues which constantly come up for consideration in dealing with several geological problems, especially in the field of biostratigraphy and geochronology. Here in India, for instance, we have quite a number of problems of stratigraphical classification and correlation in the discussion of which questions relating to the origin and evolution of life forms have to be considered on the lines embodied in the symposium. One of the most important of such studies is that dealing with 'Boundary Problems'; and the present writer's papers on the 'Cretaceous-Eocene boundary' in India will serve as an example to illustrate this point.

Then again, we have the problem of what look like "discrepancies between the chronological testimony of fossil plants and animals". and these require clarification Indian stratigraphy offers many such problems; and these were discussed some years ago at the Silver Jubilee Session of the Science Congress (1938) held at Calcutta and dealt with much the same aspects of diastrophism and evolution embodied in the present symposium. It is interesting to note, in the present context, the following observation made by one of the speakers at the Calcutta discussion: 'The syntheses of the so-called geological philosophers, with their cycles and epicycles of diastrophism and their rhythmic orogenies are foredoomed when extended beyond provincial developments in an attempted worldwide application'

It is in the study of the evolutionary history of fossil plants that we come across some of the most striking examples of certain periods when there seem to be sudden and abrupt changes in the manner and rate of evolution resulting in a complete 'transformation' in the character of the floras; and there has always been a temptation to correlate such periods with corresponding periods of diastrophism, and establish a relationship of cause and effect Prof. Seward in his famous Hooker lecture (1922) referred to this aspect and discussed the deep significance of such 'nodal points' in the history of plant evolution. A couple of years later, Dr. D. H. Scott drew our attention to the four periods of 'transformations' in the evolutionary history of plants and re-discussed the whole problem in the light of Prof. Seward's views. More recently (1937), Prof. Birbal Sahni reverted to this topic again in his address on 'Revolutions in the Plant World' and reviewed the whole position from various points of view, making some very interesting comments and suggestions. He concluded by saying that while the problem of these 'revolutions' still defies solution, one broad fact remains, *viz.*, 'that some of the periods of the most active creation of new forms of life have coincided with the physical revolutions of the geological past'. Dr. and Mrs. Jacob, in their recent article in *Current Science* (1953) have also referred to some aspects of this study, and tried to show a relationship between cyclic geological phenomena and their influence on plant evolution through the ages.

From this general review, it is clear that the question of establishing any kind of intimate relationship between Diastrophism and Evolution—and that, on a worldwide basis—is not so simple as it looks; and the great difficulty is to account for the selective manner in which this relationship has operated at different times and on different groups. The facts of the case are by no means clear or conclusive. 'Evolution' implying the progressive appearance and disappearance of life forms, has obviously been a very complicated process resulting from the action, reaction and interaction, of a variety of factors; and while it is true that the palæontological record reveals certain periods of abrupt and rapid changes, it would appear that in both the geological and biological fields, such revolutions are merely 'provincial interruptions in an evolutionary continuum'

ELECTRONMICROSCOPY FOR STUDY OF THE NERVE SYSTEM

IN studying the conducting threads of nerves under a light microscope, the finer fibres are seen to have a jelly-like inner part and a pearly sheath of fatty substance, called myelin, enclosed in thin membrane. This membrane and the fine fissures found in it are all that it has been possible hitherto to discern. By using different reagents it was only just possible to see the outer structure through the light microscope, the earliest signs of which are extremely thin fibriles, the so-called neuro-fibriles, in the inner part of the nerve thread.

However, using the electron microscope, Prof. H. Fernandez-Moran, of the Karolinska Institute, has observed the fine structure of the inside of the thread and has shown that the myelin sheath consists of over 100 layers, each only about 80-100 Å thick. These layers are as thin as those discovered by F. Sjorstrand in his pioneer examination of the structure of the eye's retina, and later in the peripheral nerve.