

## Dinosaurs in Plenty

A RICH haul of dinosaur skeletons has been recovered by a joint expedition to South Gobi Desert and Western Mongolia organized jointly by the academies of sciences of Poland and Outer Mongolia. Work began in the summer of 1963 with a reconnaissance expedition to the largely uninhabited region north of the border between Outer Mongolia and the Sinkiang province of China. The expedition in the summer of 1964 found three splendid dinosaurs in Upper Cretaceous sandstones in the Nemegt basin some 400 km west of Dalan Dzadagad, the provincial capital of South Gobi. During the same season it became plain that the Palaeocene deposits in the area contained the skeletons of small mammals not previously associated with the region. In 1965 a larger expedition 23 strong worked in the same area and another farther to the west. The collection consisted of a 20 m skeleton of a large sauropod dinosaur and the skull of another, two 10 m skeletons of carnivorous dinosaurs of the family *Tyrannosauridae*, an incomplete skeleton of *Protoceratops andrewsi* and a nest of dinosaur eggs. Particular importance is attached to the discovery of the skeleton and skull of sauropod dinosaurs in the Upper Cretaceous, for these are thought to be representative not merely of a new species but a new genus. The curators of the museums in Poland and Outer Mongolia, among whom the material recovered by the expeditions will eventually be distributed, are no doubt delighted by the way in which the expedition has provided the cores of several new palaeontological collections.

## Nuffield Activities

THE Nuffield Foundation allocated £2.5 million to grants of various kinds in 1965-66. This was a greater sum than usually available because companies were apparently paying additional or larger dividends in anticipation of the consequences of the 1965 Finance Act. The pattern of the foundation's grant-giving is the familiar one and ranges from scientific research to educational and social innovation. The introduction to the annual report explains that the foundation hopes that "by having discretion over a variety of interests, it is likely to avoid the traditional bogey of charities—that they may become irrelevant". The Nuffield Foundation, the report continues, hopes to steer a middle course between a policy of covering a broad field and a policy of choosing a few specific programmes in which to invest its funds. It explains that even though the foundation has used, and will continue to use, the principle that funds should be invested in projects like "the stone that casts ever-spreading ripples", the educational research and development which the foundation is sponsoring is a proof that it is not exclusively concerned with academic or "fundamental" research.

Among the educational work begun during the year is a project called "Resources for Learning" intended to explore ways of making more efficient and effective use of the educational system. "The questions to be investigated will include, for example: at which points, in which subjects and for what purposes are programmed learning, educational television and other new media likely to contribute most effectively to the learning process? How can the school time-table be

rearranged to realize the full potentialities of these resources? What would be the best ways of deploying staff? What are the architectural, social and economic implications of any suggested changes? And, most important of all, how can we ensure that such changes will lead to a positive improvement in the learning opportunities for the pupil?" This is thought to be a particularly important innovation because, in the nature of things, it cannot easily be carried out by the parties most directly concerned—local authorities and the government. Apart from this project, the foundation says that its interest in teaching is beginning to level off, chiefly because the Science Teaching Project, working with the development of new curricula for the schools, has lived through the period of rapid initial growth.

Among the particular grants awarded to biologists is one that will establish Dr. D. C. Phillips in the Department of Zoology at Oxford; Dr. Phillips is moving from the Royal Institution where he worked on the X-ray analysis of lysozyme. The foundation's interest in food safety continues, and it has been able to set up a new unit for animal pathology at the University of Edinburgh. At the University of Wales the Welsh Plant Breeding Station has received grants for the study of the effect of genetic variation in the form and disposition of leaves and for the study of photosynthesis. At the Department of Agriculture at Oxford work on the effects of light and temperature on the growth of plants is being supported, and Dr. D. M. Brown of the Chemical Laboratory at Cambridge has been awarded a grant to study the chemistry of nucleic acids. A large grant has also been made to enable an Institute of Theoretical Astronomy to be set up at Cambridge under the direction of Professor Fred Hoyle. This grant will cover staffing costs until 1972, and a matching grant from the Science Research Council will enable the institute to obtain a computer. The Wolfson Foundation is providing a grant for a special building.

## Daltonism

PROFESSOR W. D. Wright of Imperial College has prepared the following summary of his paper "The Unsolved Problem of Daltonism" read at the symposium on John Dalton organized by the Manchester Literary and Philosophical Society in September this year:

The paper which Dalton read to the Literary and Philosophical Society of Manchester on October 31, 1794, on *Extraordinary Facts relating to the Vision of Colours: with Observations by Mr. John Dalton* was the first serious study on colour deficiency to be published.

So great was the stir produced by Dalton's defect that for a long time this visual infirmity was known, to his amusement, as "Daltonism". Dalton first became convinced of the peculiarity of his vision at the age of twenty-six when he observed that a pink geranium appeared sky-blue by day but red by candle-light. To his surprise his friends saw no such change, although his brother did, and he then came to realize that this was a subject worthy of systematic investigation.

Dalton's paper in 1794 describes a whole range of observations and types of colour confusion, and it is clear from these that he suffered from the defect that we should now classify as protanopia. This is the