be carried out, apart from research, to expect nuclear energy to be available on a large scale commercially through the grid system of Britain within less than about ten years. He also said that the Government will not overlook the importance of keeping a balance in capital expenditure on the development of nuclear power, on electricity supply generally and on the coal industry.

Nuffield Foundation Grant for Colonial University Colleges

THE Nuffield Foundation has announced that it is setting aside £250,000 for the benefit of the new Colonial university colleges. From this capital sum the University College, Ibadan, Nigeria, and the University College of the West Indies, Jamaica, are to receive grants of £50,000 each; grants to other Colonial university colleges, including a scheme of research into education in the Colonies, are being considered by the Foundation. At Ibadan, £5,000 of the £50,000 grant will be used to build and equip a house—to be known as Nuffield House—for academic visitors. The balance of £45,000 will be held and invested by the Foundation, and the income from this sum for five years will be used to finance a Nuffield visiting professorship for Nigeria. At the end of five years the scheme will be reviewed by the College and the future of the fund will be decided. The first Nuffield visiting professor to be appointed to Ibadan is Prof. P. W. Richards, professor of botany in the University College of North Wales, Bangor, who has published many papers on tropical rain forests. The £50,000 grant to the University College of the West Indies, near Kingston, Jamaica, will be invested in a fund to be known as the Nuffield Endowment Fund. The income from the Fund will be used by the College to finance pilot projects. The choice of projects will rest with the College Council, without emphasis on any particular subject or type of study. The progress of any project so assisted will be reviewed at the end of five years.

Archives of Machine Design: New Polish Journal

THE first number of a new engineering quarterly journal has just appeared; it is entitled *Archiwum Budowy Maszyn*—literally, *Archives of Machine Design*—and is sponsored by the Machine Design Committee of the Polish Academy of Science (Tom 1, Zesyt 1; pp. 120. Warszawa: Polska Akademia Nauk, 1954; 15 zlotys). Summaries of five hundred to a thousand words, in Russian and English, are given at the end of each contribution. This issue comprises four papers of twenty to thirty pages each and one of less than ten; they range over a wide field of mechanical engineering science and treat essentially practical problems from a scientific point of view. The first two papers, on safety factors and a statistical approach to the analysis of failures, respectively, lead to criteria for the more economic design of machine elements. A paper on the conductivity of fibrous insulating materials reports some pure research work with theoretical analysis of the results, some of which are novel. The final paper introduces an improved method for the design of internal combustion engine cams, involving a parabolic variation in the acceleration as a function of time; with the design information given, such a cam should be more effective than the traditional type and no harder to design. This new journal, which shows an outlook intermediate between the German and the Russian, is undoubtedly to be welcomed.

Microscopy of Metals

SINCE Sorby in 1864 first published an account of his work on the microscopic examination of the etched structures of metals, and after an incubation period of nearly two decades, the importance of the microscope in both theoretical and industrial metallurgy has increased greatly. During the past twenty or twenty-five years, in particular, the rate of advance has been spectacular, and the use of polarized light, dark-ground illumination, phase-contrast and the reflecting microscope, among other techniques, has increased its scope of utility enormously. It was therefore appropriate that the refresher course of the Institution of Metallurgists in 1953 was devoted to a consideration of these new, and in some directions quite exciting, techniques. The papers presented are now published by the Institution (pp. 132; from the Institution, London, 1954; 15*s*. 6*d*.) and provide an account, not easily available elsewhere, of the help that the modern microscope can give in the examination of metals and alloys. Five lectures are reprinted, two of which deal with the principles of the microscope and, in particular, of these newer techniques, and with the preparation and examination of the sample. There is then an extended treatment of the use of polarized light and of phase-contrast and interference metallography, and, a matter of growing importance, of the hot-stage microscope for the examination of materials at elevated temperatures. In this publication a condensed but sound account is given of the general, present position, and there are few microscopists interested in this field who will not benefit from its study. The papers are well illustrated by a large number of photomicrographs, and, though a few of these show too clearly from the 'screen' that they are reproductions, the general standard is good.

Cave Sites of the Mogollon Culture in New Mexico

THE finds from the cave sites of the Mogollon culture of west-central New Mexico are of no great antiquity; indeed, the earlier ones do not date before 1100 A.D. and the later group perhaps to 1300 A.D. But they are no less interesting for that, and the careful study of four cave sites, two of them containing cliff dwellings, by Paul S. Martin, John B. Rinaldo and Elaine Bluhm, has been well worth while (Fieldiana–Anthropology, Vol. 42: Pub. 731 of the Chicago Natural History Museum; pp. 227; 1954; 2 dollars). The culture of the Mogollon Indians has long been under investigation, but these are the first cliff dwellings that have been carefully dug and of which the details have been published. The caves occur in New Mexico in the Pine Lawn valley district. The excellent illustrations make it easy to follow the excavations. After describing the digs, a critical study of the pottery and other finds from the various levels follows. Several different types of arrow head were unearthed, and it is interesting to learn that certain types go with certain styles of pottery and seem to be characteristic of certain levels. This may prove to be an important check on studies elsewhere based exclusively on the pottery sequence. The volume is very well put together, and altogether constitutes an excellent piece of work.

An Actinophage for Potato Scab

A NUMBER of actinophages active against species of *Streptomyces* have already been reported. In a