

Bureau of Standards, Department of Commerce. The latter was the hardest hit of all scientific organisations affected, the Congress appropriation for 1933-34 of 2,056,000 dollars having been reduced to 1,336,000 dollars, less than one half of the 1931-32 expenditure. Part of the reduction was automatically covered by the President's 15 per cent reduction of all salaries of Government employees, but the personnel displaced amounted to 350, and one of the research projects on which they were engaged remains a total loss. Among the discontinued projects are the investigations on the manufacture of fructose, the sensitivity of photographic emulsions, soil erosion of pipes, and testing methods for paper.

THE research work of the Chemical Division was practically paralysed, and really important researches on rubber, including a basic study of its electrical properties which was nearing completion, as well as on lubricants, were brought to a standstill. Fundamental work at the Bureau of Mines has been seriously reduced, while the organic research carried out at Pittsburg has been completely eliminated by the closure of the laboratory. Much research on explosives, fuels and physical chemistry has also been discontinued at Pittsburg, and the petroleum and other field stations have similarly been affected. In the Department of Agriculture, reductions have been much less serious. The only major activity discontinued under the Bureau of Chemistry and Soils is the operation of a blast furnace for the recovery of potash and phosphorus. The study of a poison weed in Texas under the Bureau of Animal Industry has been seriously curtailed, but elsewhere chemical work under Government agencies has involved, it is stated, no essential curtailment of activities.

Exploration of Kharga Oasis, 1932-33

A SUMMARY report of the expedition of the Royal Anthropological Institute to Kharga in 1932-33 appears in *Man* of November. This report covers the third and final season's work of the expedition as originally planned. Miss Caton Thompson did not accompany the expedition on this occasion and Miss Gardner's attention was devoted mainly to the further geological exploration of the oasis and also to clearing up certain points from previous years' work. More than two hundred miles were carefully surveyed and in addition comparative studies were made in the Nile Valley from three bases. One of the most important of the results in relation to the main object of the expedition was the dating of the top tufa terrace at Refuf both by advanced Acheulean hand-axes in a scree deposit beneath the tufa and by core and flake tools without hand-axes interbedded in the tufa itself. This is the first time that implements have been found in such a situation. A number of shells new to Kharga were collected. An unmapped pass was discovered in lat. 25.5°. In a note commenting on the work of the expedition and the results, Miss Caton-Thompson directs attention once more to the difficulties attendant on archaeological work in Egypt owing to the unsatisfactory

state of the antiquities laws. In this instance, the difficulty arises from the fact that the Egyptian Department of Antiquities has enforced on an expedition for geological and prehistoric research conditions which were framed to meet the requirements of dynastic and predynastic excavation. The Kharga expedition has provided unprecedented material for the typological study of early palaeolithic industries, but as Miss Caton-Thompson points out, their scientific value is entirely destroyed if picked specimens from a series forming a related whole are selected for retention in Egypt. She urges the immediate introduction of fresh regulations permitting the temporary export for purposes of study of such series, unutilised by capricious selection.

Southern Railway Electrification

SIR HERBERT WALKER, general manager of the Southern Railway Co., has contributed a paper on the economic results achieved by the Southern Railway electrification to *World Power* of November, which proves that this scheme was a sound railway development. He points out that at the time of the amalgamation of the L. and S.W.R. and the L.B. and S.C.R. in 1923, the success of the electrification of their suburban lines had been already proved. The electrification of the Brighton-Worthing line in 1932 confirms the success of the earlier electrification schemes. Immediately the section of line to Brighton and Worthing was electrified, the number of passengers carried began to grow. At the end of six months the number carried was 22 per cent larger than the corresponding period of the preceding year. This is due partly to the introduction of a service of trains of much greater frequency than formerly, and partly to the shortening of schedule times owing to the increased powers of acceleration and to the higher speed up steep gradients. Notwithstanding the lower fares brought into operation between many of the stations, the increase in receipts for the first six months was nearly 18 per cent. The development of the passenger traffic is shown by the fact that the number of people who travelled to Brighton during the Easter holiday period of last year was nearly 150,000, and exceeded the population of Brighton itself. The percentage increase in the issue of season tickets on the Brighton and Worthing extension has increased from month to month. The increased annual cost to the railway of the interest on all the capital charges due to the electrification has been covered in the first six months of working.

History of the Public Lighting of Paris

IN the *Revue Scientifique* of October 28, M. R. Boutville gives an interesting account of the public lighting of Paris from the earliest times until the end of the nineteenth century. He points out that the first public lamp was the famous candle lantern placed in front of the Grand Chatelet in 1318. An ordinance of Louis XIV in 1667 increased the number of lamps in the streets and insisted that they should be lit 'even in moonlight' from November 1 until March 1. A medal was struck in 1669 to commemorate