thyroxine. The second part of the discourse exhibited recent discoveries which show that the carbon compounds of multivalent iodine present a much more extensive field than had been realized, wherein this element is seen to be classed less with bromine and chlorine than with elements such as antimony, arsenic, phosphorus, and nitrogen, yet has specific characters of its own.

Chemistry in the Ancient World

THE fortieth Bedson Lecture was delivered on November 26, at King's College, Newcastle-upon-Tyne, by Prof. J. R. Partington, on "Chemistry in the Ancient World". The lecture dealt mainly with the period 4000–1000 B.C., and showed how the outstanding achievements in applied chemistry during this period were made in three principal regions, namely Egypt, Mesopotamia and Crete. The working of metals appears before 3500 B.C. in Egypt and Mesopotamia and somewhat later in Crete and Cyprus. The earliest metal known was probably gold, although copper was known very early in Egypt. The metals silver, lead and iron were also known in the earliest period but were scarce. Refining of gold appears about 525 B.C. An important copper industry was established in Egypt, the malachite ore being mined in Sinai. The use of iron and steel is found among the Hittites and related peoples at the time of the eighteenth dynasty in Egypt, and iron was freely used by the later Assyrians. Brass was known in Palestine about 1400–1000 B.C., and, since the brass industry was later established in Cyprus, some relation between the two regions by way of Râs Shamra seems to be indicated. The techniques of metal workers differed in different regions. The production of bronze was an important event, and the source of the early tin is still doubtful. Zinc occurs in small quantities only in the Roman period. The production of black-topped pottery in Egypt was described and also the preparation of glazes. In some cases the results have been imitated with difficulty and only recently. Glass itself was known in Egypt and Mesopotamia in 3000 B.C., the Egyptians being very skilled in its manufacture and colouring, although blown glass does not seem to have been made until the beginning of the Christian era. The dyes indigo and safflower were used in ancient Egypt, and in Mesopotamia there were the beginnings of the petroleum industry, with extensive use of bitumen for cement and asphalt.

Meteorites of the Gran Chaco

THE announcement in *The Times* of November 9 by a Buenos Ayres correspondent of the discovery of as large mass of meteoric iron in the Campo del Cielo region of the Gran Chaco in the northern Argentine is puzzling. He refers to a "legendary meteorite" long ago spoken of as the "Mesón de Fierro" (iron inn), and assumed to be the source of the iron tips of Indian spears seen by the Spanish conquerors. The discovery of a large mass of native iron in this region was made by Hernán Mexía de Miraval in 1576. This, or perhaps another large mass, was seen by Miguel Rubín de Celis in 1783, and was described by him in the *Philosophical Transactions* in 1788. The weight of this mass has been variously estimated at from 13½ to 45 tons. Another mass of about one ton, found in 1803, was transported to Buenos Ayres during the war of independence with the idea of manufacturing it into armaments; and a portion, weighing 1,400 lb., of this was presented to the British Museum in 1826 by Sir Woodbine Parish, who described it in the *Philosophical Transactions* in 1834. This is still on view in the Natural History Museum at South Kensington. More recently, a mass of 4,210 kgm. (more than 4 tons) was found in 1923, another of 732 kgm. in 1925, and several other smaller masses. These have been transported to the National Museum in Buenos Ayres. The new report may perhaps refer to the rediscovery of the larger mass seen by Rubín de Celis in 1783; or, not unlikely, still another large mass may have been found. It is suggested that the boundary between the provinces of Santiago del Estero and El Chaco is defined by the position of the "Mesón de Fierro". But as shown on a map of the region (*Geog. J.*, **81**, 238; 1933) masses of iron have been found on both sides of this boundary line. Evidently at this place there was an unusually large shower of meteoric irons. The history of the several masses has been given by Dr. Antenor Alvarez "El meteorito del Chaco" (Buenos Ayres, 1926, pp. 222). But the associated meteorite craters, a group of round and shallow depressions (*hoyos* or *pozos*), still require investigation.

Iron Age Site in the Vale of White Horse, Berks

EXCAVATION of an archæological site at Frilford in the Vale of White Horse, Berks, has afforded interesting evidence of a succession of cultures during a period, which if not prolonged in archæological perspective, was at least of considerable duration, extending from the early Iron Age to Saxon times. The site lies close to the Oxford-Wantage road, where it crosses the River Ock, and is situated not more than a hundred yards from a well-known cemetery of the Roman and Saxon periods. The excavation, which was undertaken by the Oxford University Archæological Society at the suggestion of Sir Arthur Evans, was carried out during last term by undergraduate members of the Society with the co-operation of Mr. D. R. Harden of the Ashmolean Museum. The evidence of early Iron Age occupation, according to a report in *The Times* of December 6, is in the form of a series of pits, circular and irregular, dug in the limestone subsoil. These contain Iron Age *A2* pottery. In the largest found to date was a large hearth on a clay floor with, among other objects, a polished hammer-stone. In this period the district was remote and backward; but during the Roman occupation a small but well-built villa was erected on the site. This had a tiled roof and tessellated floor. Unfortunately, seekers after stone in later ages have left little of the walls but the foundation trenches, and the floors have suffered similarly. Samian pottery and coins point to an occupation from the first to the end of the fourth century. If this villa

is evidence of the advance of civilization in the area, there are also signs of disturbance, presumably tribal. In the largest pit of the Iron Age a small hoard of late Roman coins, dating from A.D. 370–380, had been buried. In the same pit was a Saxon burial of the sixth or seventh century. The skeleton was well preserved, and with it were a knife and "scramasax". Excavations will be resumed during the Easter term, when it is hoped to determine the date of the villa with greater precision, as well as its relation to the cemetery.

University Functions and Responsibilities

THREE addresses to Victorian political organizations by Dr. R. E. Priestley, when he was vice-chancellor of the University of Melbourne, have been published under the title "The University and the National Life". In the first of these addresses, dealing with the finance and objectives of the University of Melbourne, Dr. Priestley attempts to summarize the functions of a university in a democratic country. First, he considers a university should admit and, if necessary, finance by scholarships, grants and loans, the pick of every generation of the youth of the State, irrespective of the class of homes or society they came from. The university's first duty should be to provide inspiring teaching and the means of full development of body, character and mind for its undergraduate students. For this purpose, research and investigation are essential and the staff must be large enough to ensure adequate contact with students as well as leisure for investigation. The university should aim at sending out graduates whose natural and recognized place would be the front ranks of the occupations they follow and who would be the natural leaders of their generation.

DR. PRIESTLEY also urged that a university should admit interest in, and a certain responsibility for, its men and women throughout their lives, and he stressed the importance of the university extension department as a means of stimulating and satisfying the desire for knowledge which, if democracy is to survive, must become the outstanding characteristic of the average citizen of the democratic state. A university, too, should be a reservoir of liberal and progressive thought, the defender and upholder of all that is best in the thought, customs and traditions in the lives of the people and the State. In his second lecture, on the university and rural interests, Dr. Priestley outlined the ways in which a university agricultural department could assist the farmer. Besides the training of men in the sciences of special importance to agriculture and the carrying out of research on fundamental problems which assists the building up of the fundamental knowledge needed to indicate to the technical worker the most profitable line of attack on his problems, Dr. Priestley stressed the value of the agricultural department as a source of unbiased opinion on agricultural matters. In his third address, on "A Free University", he referred to the value and importance of an adequate scholarship system and to the danger in Australia that efficient representation of sectional views may cause selfish and sectional interests to prevail over national interests. An even graver danger might be the failure to secure the best possible recruits for Australian public services, and only when university graduates are freely recruited for such services is the university making its best contribution to the community.

Staff and Student Stipends in Soviet Universities

ACCORDING to the Soviet Union Year Book Press Service, on November 12 the Soviet Government published a decree changing the regulations governing the payment of the academic staff at the higher educational institutions (universities) of the U.S.S.R. and increasing the stipends granted to students at these institutions. Under the new regulations, the academic staff will be paid on a staff salary basis, instead of on the old system of payment according to the number of hours worked. They will be able to hold a staff position at one higher educational institution only, though at liberty to engage in work at other higher educational or research institutions if they so desire. The salary rates for the upper staff are: directors of chairs at universities, 1,100–1,500 roubles per month (about £42–56), in accordance with length of service; professors, 1,000–1,300 roubles per month; senior lecturers, 700–900 roubles per month. Apart from their salaries, the members of staffs have the advantages of many social services, such as free medical treatment and free school and university education for their children. The new rates of State stipends granted to students at the universities are as follows: students taking a five-year course receive 130 roubles per month for the first year, 150 roubles per month for the second year, 175 roubles per month for the third and fourth years, and 200 roubles per month for the fifth year. Students taking a four-year course receive the same amounts for the first, second and third years, and 200 roubles per month for the fourth year. Students at the teachers' training colleges receive 130 roubles per month for the first year and 150 roubles per month for the second year. Stipends for postgraduate research students will be increased to 400 roubles per month. The number of higher educational institutions in the U.S.S.R. in 1936 was 700, and the number of students in them in the educational year 1936–37 was 542,000.

Mitogenetic Rays?

AN article entitled "An Experimental Study of the Problem of Mitogenetic Radiation", which forms *Bulletin* No. 100 of the National Research Council, Washington, D.C., will be welcomed by many who have waited for an authoritative statement on the reality or otherwise of this type of radiation. The authors, Alexander Hollaender and Walter D. Claus, have spent two years in order to prove or to disprove the existence of the so-called mitogenetic rays. These rays have been defined as radiation comprised between the wave-lengths 1900 A. and 2500 A., having an intensity of 10–1000 quanta/cm.^{2}/sec., the claim