

the movement of the Cambrian formations from the direction of the Salair mountain range and the movement of the Devonian formations to the River Tom. These works have become standard guides for mining geologists working in the Kuznetsk Basin. Later, Usov extended his investigations to other parts of the West Siberian Territory. He made a thorough study of the phases and cycles of the tectogenesis of the territory from ancient times to the present day, laid down the principles for distinguishing them and surveyed the tectonic history of the region.

In two of Usov's published works on petrology, "Phases of Effusives" and "Faces and Phases of Intrusives" Usov synthesized the research of the most eminent petrographers, also giving the results of his own research, giving geologists working in the field a method for studying these rocks on the spot.

Usov created a big school of geologists at the Kirov Industrial Institute of Tomsk. He was very interested in the popularization of science, and wrote a number of popular works on geology. He was elected a member of the Academy of Sciences of the U.S.S.R. on January 30, 1939.

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## NEWS AND VIEWS

### National Trust, 1938-39

It is significant of the increased interest of the public in Great Britain's treasures of natural beauty and historic interest—an interest that has grown in proportion as the dangers from building-development have increased—that in the last ten years the properties held by the National Trust or protected under covenant have more than doubled; they now total over 80,000 acres. The gross cost of upkeep, improvements and agents' salaries, according to the Annual Report for 1938-39, exceeds £29,000, while the income from letting, etc., of the properties amounts to £24,650, the difference being met by subscription. The new properties acquired in the period June 1938 to June 1939 number 37 and cover 2,965 acres. Among the more interesting or important acquisitions are 81 acres on Dunstable Downs, 224 acres at Hindhead, Surrey, and more than 900 acres of Dovedale and the Manifold Valley. In addition, 25 properties, covering 7,142 acres, were protected by covenant within the period. Extensive areas are now owned or protected in districts which have been mentioned as prospective national parks. In the Lake District, for example, the Trust now owns 12,000, and protects a further 19,150 acres, while on Exmoor it owns more than 9,000, and protects a further 900 acres. Of Dovedale and the Manifold Valley it owns or protects more than 4,600 acres. At present Cornwall has more coast owned or protected by the Trust than any county; but a considerable stretch of coast in Pembrokeshire will be affected by the recent appeal. The activities of the Trust have been greatly increased by the facilities for co-operation with local authorities under the National Trust Act of 1937, which is now working. Local authorities have already contributed large sums towards preservation schemes in their respective areas. One of the more important undertakings of the Trust, at least from the point of view of the archaeologist, is the custody of Stonehenge. Here additional fencing has been carried out and the café demolished; but work on the aerodrome is proceeding only very slowly.

### Leadership in Democracy

THE seventh Walker Trust Lecture on Leadership entitled "Leadership in Democracy" delivered before the University of St. Andrews by Lord Lloyd on November 14 has been issued in pamphlet form (Oxford University Press. 2s.). Lord Lloyd insists that leadership is not the art of becoming and remaining a leader, but the art of leading. It is the opposite of dictatorship, inspiring free men with the feeling of moral obligation to follow. It requires will directed to a high purpose, clearly realized and defined, and courageously pursued. The need for leadership in a democracy, moreover, is even more urgent than in other forms of government because democracy as we know it in Great Britain is a new and untried system of government with no legal restrictions of rights on majority opinion. Lord Lloyd attributes the difficulties and dangers confronting us to-day largely to the absence of leaders who are able to inspire and guide the wills of men to the accomplishment of a high and disinterested purpose. Failure to make up our minds to positive action and to educate and enlighten public opinion has involved incalculable risks. The peril of democracy is its own failure to find the leadership necessary to make its high and necessary ideals triumphant in a world where men are neither naturally wise nor naturally virtuous.

THE worst sign of our loss of leadership is the tendency to regard democracy as synonymous with this or that piece of political machinery, regardless of whether the machinery is serving or is capable of serving the aims and ideals for which it was set up. Lord Lloyd urges that in a democracy a leader can only lead if he has the courage to be loyal to faith and conscience and to base all his principles upon them. The first task is to set before the people clearly the ends which they should seek and to show how these ends are shaped and determined by the requirements of Christian morality. Peace at home and abroad can only be based on justice, and if we are to play our part in the preservation of liberty here

and its restoration abroad it can only be by promoting a clear understanding of the ends to be pursued and of the kind of society necessary for human well-being. Justice and freedom must first be established before peace can be secured. A peaceful civilization can only be built on a foundation of free men; men subject to misgovernment are no more free men than men subject to a tyranny. We are in danger of losing our great heritage of freedom by surrendering to political expediency, and lack of courage and candour have brought us to the edge of catastrophe.

#### Damage by Rabbits

THE economic loss to farmers and others through damage caused by rabbits reaches a large annual sum, and it has long been a grievance that much of the damage was done by rabbits bred on adjoining property, over which the sufferer had no control. The "Prevention of Damage by Rabbits Act", passed through Parliament in July, helps to right this state of affairs. It empowers county councils to serve a notice requiring an occupier of land either to destroy his rabbits or to fence them in, and the penalty for non-compliance with such a notice is £25 together with £5 per diem for a continuing offence. County councils are also empowered to provide men and equipment for assisting occupiers to keep down their rabbits, and cyanide fumigation and similar methods of rabbit-control are legalized. The Act also imposes a heavy penalty (£20 for a first offence) for using or permitting the use of spring traps for rabbits elsewhere than in rabbit holes, that is to say, "under the roof" of a rabbit hole. The Bill was promoted at the instigation of the Universities Federation for Animal Welfare, and the secretary of the Federation is prepared to send "Instructions for Dealing with Rabbits" to any person interested who may apply to him at Gordon House, 29 Gordon Square, London, W.C.1.

#### Ancient Greek Measures and Athletic Records

A REVISED estimate of Greek units of linear measurement would appear to emerge from a study of the records of feats accomplished in the long jump by athletes of ancient Greece in the great festival games. M. Evangelos Kalfarentzos, Inspector-General of Physical Education at Athens, in a communication presented at the conference in connexion with the Lingiad Gymnastic Festival (*The Times*, July 31) arrives at the conclusion that the length of the remarkable jumps attributed to certain famous performers must be computed in terms of a 'foot' which was not uniform in all parts of the Greek world. He bases his argument on the evidence of a comparison of the reputed size of the stadium with the measurements of the various stadia as shown in the results of modern excavations. While it is true that the stadium at Olympia measured 600 'feet', it is an error, M. Kalfarentzos maintains, to hold that all stadia were of this length. Thus the stadium at Delphi was 1,000 'feet'. The actual length of the Delphi stadium was 177.55 metres which, divided

by 1,000, gives a 'foot' of 17.76 centimetres. Phaullus, the winner at the Pythian games, as he is named by contemporary writers, is universally accredited with a 'record' jump of 55 'feet' and he is said to have been the first to clear the ditch of soft earth of 30 ft. breadth. Calculated on the revised estimate of the Delphic foot, this jump measures 9.77 metres, or almost exactly 32 feet according to British measurement; while the jump of Chionis, winner at the Olympic games in 664 B.C., is computed at 7.05 metres, or 23 ft. 1 in., on the basis of a 'foot' of which a nominal 600 went to a stadium length, which has been shown to be 192.25 metres.

#### Further Discoveries in Mycenaean Greece

EXCAVATORS on Mycenaean sites in Greece during the past season have indeed been fortunate. No fewer than three discoveries of major importance have been made—the inscribed tablets from the "Palace of Nestor", the first from a Mycenaean site, which, though later, may throw light on Cretan script, the Mycenaean Royal tomb at Athens, and now a Mycenaean royal burial, probably of a queen, which has been found by the Swedish Archaeological Expedition under Prof. Axel W. Persson of the University of Uppsala at Dendra in the Peloponnese (*Illustrated London News*, August 19). The expedition, which had set out with the intention of excavating at Mylassa in south-west Asia Minor, but was prevented by the political situation, attacked as its second string, the site of Midea, near Nauplia, with which the director was already acquainted, and where he had opened a royal tomb in 1926, finding the gold 'octopus' cup. Midea, according to Thucydides, was a vassal state of the Mycenaean rulers.

THE expedition first located the royal palace, and then opened five tombs, one of which, relatively small, contained a beautiful collection of late Mycenaean pottery. Three of the tombs were of exceptional size and all had much to offer of interest to archaeologists. Three had been more or less stripped by grave robbers; but one of them from an unlooted pit yielded a fine collection of bronzes, knives, swords and cups, while in another were the first known wooden coffin and bronze helmet of Mycenaean date. The fourth grave, however, in which the entrance, approached by a dromos of considerable dimensions, had not been touched since it was sealed, contained a wealth of gold and silver objects of great artistic merit, with which no finds in Mycenaean Greece since the days of Schliemann will bear comparison. In the smaller of two pits, which contained the badly preserved remains of a skeleton, were golden necklaces, a large gold cup weighing 100 gr., a signet ring of gold, and a number of gold rosettes, rings and pendants. More than two hundred gold ornaments belonged to five necklaces of different types, and there were more than 1,000 pearls of glass paste, and about one hundred of Baltic amber, the first to be known as of Mycenaean date. The second pit contained burial gifts, including terracotta and silver vases, and the first known Mycenaean spoon. The pottery suggests a preliminary dating of 1400 B.C.