

account of two palaeolithic sites in Lower Austria, one near Kamegg in the Krems region and the other near Getzersdorf im Traisental. The former belongs to a very late palaeolithic and can be grouped with the Hamburg series; the latter is rather older and can be classed as a late gravettian, so far as the upper levels are concerned, the lower level being somewhat older. Both sites are described by Dr. F. Brandtner, the actual description of the industries from Getzersdorf being by Dr. F. Felgenhauer. The illustrations of the tools found at Kamegg are excellent, those from Getzersdorf are indifferent. The whole forms a useful number with full descriptions of what are obviously important local sites.

Observations on the Size of the Sun

WHILE numerous workers have claimed to have detected variations in the diameter of the Sun, other investigators have failed to find any variations, or to detect any significant differences between the equatorial and polar diameters. A paper entitled "Greenwich Observations of the Horizontal and Vertical Diameters of the Sun", by P. J. D. Gething, of the Royal Greenwich Observatory (*Mon. Not. Roy. Astro. Soc.*, 115, 5; 1955), gives the results of the yearly mean horizontal and vertical radii of the Sun observed at Greenwich from 1851 to 1939, but corrections for personality have not been applied. These are compared with observations for the horizontal semi-diameters of the Sun, made at Campidoglio since 1876, and later at Monte Mario; but there is no obvious agreement between the variations found at the two observatories. It has been claimed by Miss M. A. Giannuzzi, however, that the Greenwich observations of horizontal diameter contained an oscillation with a period of 22-24 years, agreeing in period and phase with an oscillation found from the Italian results, and a more detailed analysis of the Greenwich measurements of both horizontal and vertical diameters during 1915-36 was undertaken, in which allowance was made for the effect of personality and irradiation. The resulting diameters show that there were comparatively large variations from year to year; but it is emphasized that these variations do not necessarily represent real changes in the size of the Sun and may be due to variations in the mean personality correction. It is pointed out that Miss Giannuzzi's use of observations obtained by a large number of observers without applying personality corrections, on the assumption that changes in the mean personality corrections would be sufficiently small to be ignored, may not have been justified. A table in Gething's paper, which gives the horizontal semi-diameters corrected for personality, in the observations during 1917-36 by five members of the Greenwich staff, shows that the scatter around the combined mean of the individual means, when corrected for personality, is so large that the reality of the variations from year to year is untrustworthy. From the relative sunspot areas during 1917-36, it is seen that there is no obvious connexion between sunspot activity and the apparent variations in diameter. The conclusion is that Greenwich observations do not provide any clear evidence of real variation in the size of the Sun.

Growth of Isolated Oat Embryos

IN an investigation of amino-acids as sources of nitrogen for the growth of isolated oat embryos, G. P. Harris (*New Phytol.*, 55, 2, 253; 1956) has found that ammonia, nitrate and casein hydrolysate

were each effective as nitrogen sources. Casein hydrolysate was not inferior to the inorganic forms of nitrogen. A mixture of eighteen of the amino-acids present in casein hydrolysate was able to substitute for the latter as a nitrogen source for the growth of the embryos. The value of the mixture of amino-acids as a nitrogen source was dependent on interactions occurring between its constituent amino-acids. Out of twelve of the latter, all except arginine were markedly inhibitory to growth in length of the roots, when supplied alone. Marked antagonisms occurred between L-phenylalanine and L-tyrosine, DL-isoleucine and DL-valine, L-leucine and DL-valine, and L-arginine and L-lysine in their effects on root growth. Amino-acids which alone produced no, or relatively little, inhibition of root growth generally antagonized the effects of amino-acids which were more inhibitory.

Geographical Association: Annual Meeting

THE annual meeting of the Geographical Association will be held in the London School of Economics during January 1-4 under the presidency of Lord Nathan, who will speak on "Aviation and Geography: Reaction and Interaction". Among the topics to be discussed are: water supply in Britain (Prof. W. G. V. Balchin); techniques in field-studies (Dr. E. W. H. Briault); antarctic exploration (Mr. E. W. K. Walton); the International Geophysical Year (Dr. D. C. Martin); agricultural changes in the Chilterns (Mr. J. T. Coppock); economic development of Brazil (Prof. R. O. Buchanan); and geography and the social revolution (Prof. D. L. Linton). There will also be a discussion on "Geography and a Liberal Education". There will be the usual publishers' exhibition of books, maps and appliances, and exhibits of field-work, film strips, etc., by members of the Geographical Association. Further particulars of the meeting can be obtained from Mr. R. C. Honeybone, University of London Institute of Education, Malet Street, London, W.C.1.

Conference of the Universities of Great Britain and Northern Ireland

THE annual conference of the Universities of Great Britain and Northern Ireland will be held in the Senate House of the University of London during December 14 and 15. The topics for the three sessions are: "Overloading Curricula and the Length of Undergraduate Courses" (Sir Philip Morris, chairman of the Committee of Vice-Chancellors and Principals (*chairman*); Mr. R. B. McCallum, master of Pembroke College, Oxford; Prof. C. B. Perry, professor of medicine, University of Bristol; Prof. D. G. Christopherson, professor of applied science, Imperial College of Science and Technology, London); "Organization of Postgraduate Studies" (Dr. Constance M. Rigby, president of the Association of University Teachers (*chairman*); Sir James Mountford, vice-chancellor, University of Liverpool; Dr. D. A. Bell, Department of Electrical Engineering, University of Birmingham; Prof. F. S. Dainton, professor of physical chemistry, University of Leeds; Prof. E. R. H. Jones, Waynflete professor of chemistry, University of Oxford); "Impact on the Universities of the Government's Policy for the Expansion of Technological Education" (Dr. J. F. Lockwood, vice-chancellor, University of London (*chairman*); Sir Eric Ashby, president and vice-chancellor, The Queen's University, Belfast; Sir Harry Pilkington (*chairman*), National Advisory