

Other interesting problems relate to the warm water which meets the cold current near Godthaab, the reason why the west coast is so favoured climatically in comparison with the Labrador side, and the drift of the bergs in the Disko region. Finally, there is the whole subject of

the depth and geological history of the basin. The results will be awaited with keen interest. The *Marion* is equipped with a short-wave wireless outfit, and it is hoped to keep up communication with headquarters through the help of amateurs.

News and Views.

THE report of the Council of the British Association for 1927-28 refers to the meeting to be held in South Africa next year. Mr. O. J. R. Howarth, secretary of the Association, has recently visited South Africa and conferred with the authorities there, with the result that the following provisional arrangements have been made:—CAPE TOWN, July 22–July 28–29. Inaugural meeting, July 22, at which it is proposed that the president of the South African Association should address the meeting first, and that the new president of the British Association, Sir Thomas Holland, should then be installed, and reply. Sectional meetings, mornings only, July 23–26. Evening discourse, public lectures, excursions, etc. Call at Kimberley, July 29–30. JOHANNESBURG, July 30–31–Aug. 4. Presidential Address, July 31. Sectional meetings, mornings only, July 31–August 3, and other arrangements as above. PRETORIA—Sectional transactions, etc., as appropriate in connexion with the co-operating congresses; continuing to Aug. 7. After the meetings, extended tours through the Union, to Victoria Falls, Rhodesia, Lourenço Marques, etc., as to which members will be afforded opportunity to indicate their preference.

It is proposed that in consideration of a grant by the South African Association to the British Association of a sum not exceeding £500 and reckoned at £1 per head of the number of persons involved, the British Association should admit to membership members of the South African Association in good standing down to June 1929, entitling them to attend the meeting and receive the report if desired. From 300 to 400 members are expected under this category, and the arrangement resembles that made in 1905. An offer has been received from the Rhodes trustees, and has been gratefully accepted by the Council, to make a grant of £200 towards any further authoritative investigation at the ruins at Great Zimbabwe undertaken in connexion with the South African meeting. A generous invitation has been received from L'Association française pour l'Avancement des Sciences, and from the City of Le Havre, for members unable to take part in the South African meeting to attend that of the French Association in Le Havre, as was done in 1914.

THE British Association, like the great majority of scientific societies, has been unable to recover income tax previously remitted upon income from invested funds. The cases regarded by the Inland Revenue authorities as test cases upon the liability of societies to taxation (Geologists' Association; Midland Counties Institution of Engineers) have been decided against the societies by the Special Commissioners and in the High Court of Justice. The Council is

informed that appeals against these decisions have been lodged. An article upon this subject appeared in the issue of NATURE of Aug. 25. The treasurer of the Association points out in his report that by those decisions the Association is deprived of one-fifth of the income derived from invested funds.

BENMORE and Puck's Glen, a charming region of mountain and stream at the head of Loch Fyne in Argyll, has been given by Mr. Harry George Younger of Benmore to the Forestry Commission acting on behalf of the nation, as recorded in our issue of July 21 (p. 105). It is a handsome and appropriate gift, for the former bare valley had been transformed into a forester's paradise where native and foreign trees grow in great variety and luxuriance, by a former owner, James Duncan of Benmore. Mr. Younger built upon his predecessor's foundation, with the result that Benmore seems destined to be the chief training, experimental, and démonstration area for State forestry in Scotland. Its importance is enhanced because it borders on properties already in the hands of the Forestry Commission. The Commission has decided to hold a formal ceremony at Benmore on a most appropriate occasion. On Saturday, Sept. 8, the Botanical Section of the British Association will make a special excursion to the property, and in the presence of representative botanists of this and other lands, the Right Hon. Sir Herbert Maxwell will dedicate a memorial to the late Sir Isaac Bayley Balfour, in recognition of his lifelong service to arboriculture. Puck's Glen, a mountain gorge full of beauty in itself, affords magnificent glimpses of the wonderful scenery of the district, and the finest view point is now capped by the Bayley Balfour Memorial Rest Hut, a charmingly fantastic structure designed by Sir Robert Lorimer. The hut is built of wood, every variety of timber grown on Benmore being represented in the panelling, the roof-shingles, weather-boards, and the like. Two dedicatory panels are placed within, one to Bayley Balfour and the other to commemorate James Duncan's participation in the afforestation of the area. A small brochure, containing photographs of the memorial hut and of characteristic views in the Glen, has been prepared by the committee in charge of the arrangements.

THE results of the excavations which Prof. Gordon Childe has been carrying out this summer in the Orkneys have now been made known to the public by his letter in the *Times* of Sept. 3. The site on which he has been at work on the southern shore of the Bay of Skail, parish of Sandwick, Orkney, is in many ways remarkable. It is a village consisting of a congeries of chambers or huts of dry masonry, all roughly square, with each course of the masonry projecting slightly

beyond that below as if they had once had corbelled roofs. The walls are extremely well preserved, and niches and shelves are intact. The huts opened on to streets which, curiously enough, were roofed over with stone slabs. These roofs had been used either as camping-places or kitchen middens, for they were covered with kitchen refuse. The excavators had to cut through some five feet of kitchen refuse before they reached the stone slabs. The interior of the huts showed hearths at several levels, traces of later occupation for which evidence of date was afforded by the remains of the red deer. When the original floor was reached, it showed signs of hasty evacuation and a state of indescribable filth.

PROF. CHILDE found that relics were relatively plentiful and, being for the most part of stone, in an excellent state of preservation. Pens of stone pointed to the fact that domestic animals, probably pigs, were kept there. Two finds of outstanding importance were made. One was that of two skeletons in a stone receptacle, of which the slabs were built into the wall in such a way as to form an integral part of the structure. They may well, as is suggested, be the vestiges of a foundation sacrifice. Secondly, on one of the slabs were regular marks which Prof. Childe thinks may represent a script. The culture is neolithic in character; but the occurrence of a script suggests a late date. It may be a survival, which would not be impossible in such a remote district, notwithstanding the existence of a pre-Viking iron-using settlement near by.

ARRANGEMENTS for the programme of the Folklore Congress, to be held in London on Sept. 19-25 in connexion with the jubilee year of the Folklore Society, are now approaching completion. The Congress will open at the rooms of the Society of Antiquaries at 4 P.M. on Wednesday, Sept. 19, when a reception of foreign delegates and members will be held. In the evening, by kind invitation of Dr. Henry S. Wellcome, a *conversazione* will be held at the Wellcome Historical Medical Museum. Thursday will be taken up by papers, the presidential address at 10 A.M. being followed by communications by Prof. Sayce on Egyptian folklore, Dr. G. Roheim, Prof. Starr on Filipino folklore, and others. In the evening a lecture, illustrated by a cinematograph film, on the folk-dances and ceremonies of eastern Europe, will be given by Prof. Pospišic of Brno in the lecture theatre of the Imperial Institute. The papers on Friday include Prof. Rose on mummings' plays in Attica, Prof. R. M. Dawkins on the study of folklore in modern Greece, Mrs. Hasluck on the games of the Turks, and Prof. Schütte on bull-worship among the Kimbri. On Saturday excursions will be made to Oxford and Cambridge. The papers on Monday cover Celtic folklore, and on Tuesday Dr. Ernest Jones deals with psycho-analysis and folklore, and Prof. Elliot Smith with a survival in British folklore from the Rig Veda. The membership fee for the Congress is 10s. 6d. Full particulars may be obtained from Mr. Allan Gomme, Hon. Sec. Folklore Congress, c/o the Royal Anthropological Institute, 52 Upper Bedford Place, London, W.C.1.

No. 3071, VOL. 122]

AN interesting programme of excavation in Iraq is announced for the coming autumn. Not only is the number of expeditions increased from five to eight, but also both France and Germany resume their pre-War activities. Germany, indeed, has already sent workers to Iraq who have received from the Government a share of the finds made before the War, but this year two parties will be actively engaged in excavation: one under Dr. Julius Jordan will dig at Erech, north of Ur, and the Deutsche Orient-Gesellschaft, which was working at Babylon before the War, will now dig at Ctesiphon on the Tigris. Under the auspices of Le Louvre, Père Legrain is resuming the French excavation of Sumerian culture at Tel-lo. Two American expeditions will be at work: one under Prof. Waterman, of the University of Michigan, will work at Tel-Omar in Ctesiphon, and the joint expedition of Harvard University and the American School of Oriental Research, now in its third year of excavation, at Tarkalan, near Kirkuk. The excavations at Ur of the British Museum and the University of Pennsylvania, and the Oxford University and Field Museum excavations at Kish, will, of course, be resumed as usual.

THE use of ether and certain other chemical vapours for the purpose of shortening the rest period of plants has been an important factor of success in the florist's business, enabling him to meet the demand for blooming specimens at Christmas. A good many different chemicals have been tried; quite recently two have been found especially valuable, particularly for inducing early germination of potato tubers. A paper by F. E. Denny, read at the annual meeting of the Society of Chemical Industry in New York and published in the *Transactions* of the Society, describes the use of ethylene chlorhydrin, a chemical which is now made in quantity at a reasonable cost in the United States and has also recently become available in Great Britain. The potatoes are either cut and dipped into a weak solution of the chlorhydrin and kept in a closed container for twenty-four hours before planting or, on the large scale, whole tubers are exposed to the vapours in a suitable tight room for twenty-four to forty-eight hours. These are stored for a week, at which time sprouting begins, cut, and planted.

THE gain in time induced by the treatment with chlorhydrin was at least one month; some varieties of potato may be treated as soon as lifted. The application of this in industry may enable two crops of potatoes to be grown in one year in the southern States of America, and facilitates the planting of the potato crop in Bermuda, Cuba, Florida, and similar countries, which is done in the autumn, when normally it is difficult to obtain tubers that will sprout. From the point of view of cost and safety to workmen applying it, ease of application and uniformity of result, the use of chlorhydrin leaves little to be desired. The explanation of the phenomenon is well known: as was pointed out by Farmer and Waller in 1898 and by the Armstrongs in 1910, many chemical stimulants check the protoplasmic currents in the plant and cause certain hydrolytic or downgrade changes, thereby releasing the previously insoluble intracellular enzymes

without rendering them inactive. In consequence growth begins.

THERE seems to be feverish activity in the United States at present as to who will broadcast the first news radiovision service. We hear from Science Service, Washington, that radiovision has arrived, and a list is given of eight radiovision stations, with technical details of the emission. For example, 3XK, Washington, will send out 'radiomovies' on Monday, Wednesday, and Friday between 8 and 9 p.m., Eastern standard time. The frequency of the radio waves will be 6420 kilocycles (46.7 metres). Forty-eight lines of light are used to produce the pictures, and there are fifteen pictures per second. The General Electric Company of Schenectady, WGY, sends out twenty pictures per second, the frequency of the radio waves being 790 k.c. (380 metres), but there are only 24 lines per picture. This Company broadcasts from 1.30 to 2 p.m., Eastern time, on Tuesday, Thursday, and Friday. On Tuesday also it broadcasts from 11.30 to 12 midnight, and on Sunday from 10.15 to 10.30 p.m. On Sunday and Friday it also sends out 13660 k.c. (21.96 metres) waves at the same time as the 790 k.c. waves, and on Thursday and Tuesday at 9550 k.c. The Westinghouse Co.'s Station at Pittsburgh, Pa., and several other stations, are sending out irregular broadcasts for experimental purposes. To suggest that the radiovision pictures are anything like so good as sound radio broadcasting was in 1921, is scarcely fair to the many able engineers engaged on the problem and discounts the advances they will doubtless make in the future. The pictures are still very crude, and no doubt many difficulties have still to be overcome before any radiovision service can be considered satisfactory, but every encouragement should be given to those who are devising even slight improvements of existing apparatus or methods.

THE nineteenth meeting of the German Society of Naturalists and Physicians, a counterpart of the British Association, is to be held in Hamburg on Sept. 15-22. The invitation programme now available may be obtained from the secretaries, Hamburg 13, Universitäts-Gebäude; tickets cost 25 RM. or less; bedrooms 3.50 RM. or more. The more important addresses are timed for 9 A.M. or 3 P.M., evening hours being reserved for festivities. Lectures begin with Senator F. H. Witthoefft on world economics and national food supply, followed by Prof. Walden on the importance of Wöhler's synthesis of urea. The medical group is to deal with the onset and disappearance of epidemics and the influence of psychic factors on the sympathetic nervous system. On Tuesday, Sept. 18, the lectures are on the blood-group problem, photochemistry of iron carbonyl compounds, combatting cattle plagues, Naegeli's micellar theory, and the importance of isostasy in the shaping of the earth's surface. On Wednesday, Sept. 19, general lectures are continued—scientific results of the voyage of the *Meteor*, short-wave telegraphy, chemistry of hormones and the female sexual hormone. Popular evening lectures will deal with the ultramicroscopy of the molecule by the

use of Röntgen rays, the world and environment, health and housekeeping, colour and scent of flowers, communities of men and bees. The detailed programmes of thirty-five sections are cross referenced with invitations and entangled with the meetings of about as many separate but allied societies. There will be cinema shows, an exhibition, zoological gardens, and an institute for tropical diseases to visit. The meeting ends with a visit to Kiel (milk research institute and model dairy), and alternative excursions to Cuxhaven, Heligoland, Westerland, Wyk, Borkum, Nordeney, Lübeck, Schwerin, Lüneburg, Denmark, Norway, and Sweden.

SIR JOHN RUSSELL finished a very strenuous tour in Australia at the end of July and then sailed for New Zealand. His lectures in the capital cities aroused considerable interest amongst agriculturists. In the intervals he travelled by train, aeroplane, and motor over long distances, and was enabled through the co-operation of universities, State departments of agriculture, and the Council for Scientific and Industrial Research to make a close study of many features of Australian agriculture. Chief attention was given to problems arising in the irrigation areas of South Australia, Victoria, and New South Wales, and Sir John was able to examine numbers of typical soil profiles. Difficulties associated with sodium clays, impermeable clay-pans, the rise of salt, the duty of water, and so forth, are being acutely felt in these areas, and the need for close study of them is becoming more imperative each year. Steady progress in soils work is being made under Prof. J. A. Prescott as the result of a co-operative arrangement between the Council for Scientific and Industrial Research and the Waite Institute (University of Adelaide) and it is anticipated that close and effective association with the proposed Soils Bureau at Rothamsted will be rendered possible as the result of this visit. The proposal to establish a new irrigation research station in the Murray watershed is in abeyance pending the report of the Irrigation Sub-Committee of the Committee of Civil Research, of which Sir John Russell is a member.

AN earthquake of moderate intensity was recorded at Kew Observatory at 6 hr. 18 min. 39 sec. G.M.T. on Sept. 1. The epicentre was about 3900 miles away, but the initial impulse was too small to give any indication of the bearing.

THE annual report for 1927 of the National Institute for Research in Dairying, University of Reading, recently issued, contains an account of the Institute and of the research work that has been carried out, as well as of some of the problems awaiting study were the necessary funds available.

THE July issue of the *British Journal of Physiological Optics* completes the second volume of the journal. It contains the concluding part of the retranslation and republication of the "Atlas of Ophthalmoscopy" of Prof. Haab of Zurich, which has been carried out by the editor of the journal, Mr. W. B. Barker. The numerous coloured plates of the Atlas reflect great credit on the printers.

The discussion on colour vision is continued by a paper by Mr. D. C. Henry, who considers that the trichromatic theory is the most satisfactory one in the field, and that when it is supplemented by some form of photo-chemical theory of the retinal mechanism, it may provide explanations of fatigue and contrast phenomena which at present it cannot do.

MESSRS. Watts and Co. announce the early publication in their Shilling Forum Series of "Craftsmanship and Science"—Sir William Bragg's presidential address to the British Association; also of Sir Arthur Keith's Ludwig Mond lecture on "Darwinism and what it implies."

APPLICATIONS are invited for the following appointments, on or before the dates mentioned:—A resident lecturer (man) in rural science and gardening, with mathematics as second subject, at the Bangor Normal College—The Principal, Normal College, Bangor, North Wales (Sept. 14). A warden of the Moulton Farm Institute and assistant county agricultural organiser for Northamptonshire—The Secretary for Education, County Education Offices, Northampton (Sept. 14). Junior assistants at the National Physical Laboratory—The Director, National Physical Laboratory, Teddington (Sept. 18). A pathologist at the Miller General Hospital for South-east London—The Secretary, Miller General Hospital for South-east London, Greenwich Road, S.E.10 (Sept. 20). An assistant pathological chemist at St. Mary's Hospital—The Secretary, St. Mary's Hospital, W.2 (Sept. 24). A scientific officer under the Directorate of Scientific Research of the Air Ministry, primarily for research at the Royal Aircraft Establishment in connexion

with aircraft power units—The Chief Superintendent, Royal Aircraft Establishment, South Farnborough, Hants (Sept. 25). A Milroy lecturer on State medicine and public health for 1930—The Registrar, Royal College of Physicians, Pall Mall East (Sept. 26). An instructor at the Government Technical School, Makerere, Uganda, capable of giving instruction in carpentry and joinery, fitting and turning, blacksmithing and tinsmithing, etc.—C. A. (N), The Secretary, Board of Education, Whitehall, S.W.1; for *Scottish candidates*—(N), The Secretary, Scottish Education Department, Whitehall, S.W.1 (Sept. 30). A principal and professor of medicine, and a professor of pathology and bacteriology, at the Veterinary College, Patna—The Secretary to the High Commissioner for India (General Department), 42 Grosvenor Gardens, S.W.1 (Oct. 15). An irrigation engineer under the Government of Ceylon—The Crown Agents for the Colonies, 4 Millbank, Westminster, S.W.1 (quoting M/732). A headship of the Junior Technical School for Boys of the Borough Polytechnic Institute—The Principal, Borough Polytechnic Institute, Borough Road, S.E.1. Two temporary engineering assistants under the Air Ministry, capable of preparing detail drawings, reinforced concrete work and steel structures—The Secretary, Air Ministry, Adastral House, Kingsway, W.C.2. A museum assistant at the Norwich Castle Museum—The Curator, Castle Museum, Norwich. An entomologist at the Indian Lac Research Institute, Ranchi, Bihar and Orissa, for research work on the bionomics of *tacchardia lacca*—"India," c/o Richardson and Co., 26 King Street, St. James's, S.W.1.

Our Astronomical Column.

A NEW STAR CATALOGUE FROM OBSERVATIONS WITH THE GREENWICH ALTAZIMUTH.—The present Greenwich altazimuth was erected in 1897, taking the place of Airy's smaller instrument which had been in use for half a century. It was used for observing the moon in the first and last quarters of each lunation, at which periods meridian observations are untrustworthy. For the rest of the time it was used in the meridian as a second transit circle. When Brown's new tables of the moon were introduced into the almanac in 1923 there was such an improvement in the representation of all the short-period terms in its motion that it was considered that meridian observations of it would suffice for the future. The altazimuth was then placed in the Prime Vertical for the observation of fundamental stars, and a catalogue of these, based on observations extending from June 1923 to January 1927 has just been issued; it contains all stars of magnitude 5.4 and brighter, the declination of which lies between N. 11° 40' and N. 50°, their number being 601. Observations were made in azimuth only; the declination, which is found with greater accuracy than the right ascension, depends on the interval between the east and west transit of each star; refraction is not directly introduced, and the results form a useful check on meridian observations.

The results show that the declinations of Boss in this zone need to be increased by 0.45", this correction being 0.02" less than that of Eichelberger's new fundamental catalogue, and 0.27" greater than that of the First Greenwich Catalogue for 1925 (observed

with the transit circle). It is generally agreed that Boss's proper motions in declination have appreciable systematic errors, due probably to imperfections in the older catalogues employed by him; small as the corrections are, they are large enough to have some effect in problems concerning the structure and motions of the stellar system.

THE MELBOURNE ASTROGRAPHIC CATALOGUE.—Melbourne Observatory undertook the photography of the most southern zone of the Astrographic Catalogue extending from south declination 64° to the south pole. The printing of the catalogue has been greatly delayed by shortage of funds, but two volumes have now been published. Vol. 1, which has just come to hand, contains the measures of the plates, the centres of which are in declinations -67° and -68°. The x and y co-ordinates of each star are given to the third decimal of a minute of arc, also the measured diameters, and, in the case of C.P.D. stars, the reference number and magnitude given in that catalogue. The stars used as reference stars are in heavier type: these were measured twice. The usual provisional constants are given for reducing the rectangular co-ordinates to right ascension and declination.

Vol. 2 contains 291 pages: a full page contains 240 stars, but as many pages are incompletely filled, the average per page is probably about 200; but the stars in the volume are not all different, since those between -67° and -68° occur twice over, owing to the overlap of zones.