in addition, a report of a discussion upon chemical and alchemical symbolism; a translation of "The Visions of Zosimos", by Dr. Taylor; and reviews of four recent books, including notably Prof. Partington's "Origins and Development of Applied Chemistry" and Prof. J. Read's "Prelude to Chemistry". The nature of these two works, differing so widely in scope and treatment, conveys some idea of the ambit of *Ambix*.

Public Health in British India during 1934

THE annual report of the Public Health Commissioner with the Government of India (vol. 1), recently issued, surveys the vital statistics, public health and public health services of British India for the year 1934 (Government of India Press, New Delhi, 1936. Rs. 6 As. 2. or 10*s*.). The mid-year population is estimated to be 275,753,570, the births were 9,288,897, a rate per 1,000 of 34, and the deaths numbered 6,856,244, a rate per 1,000 of 25. The infant mortality per 1,000 live births was 187. Of the causes of death, malaria heads the list with 1,319,026 deaths, and this figure does not include the mortality caused indirectly by malaria. Deaths from respiratory diseases numbered 483,018, those from dysentery and diarrhœa 285,110 and from cholera 199,708. Smallpox, with 83,928 deaths, caused a greater mortality than plague, with 80,131 deaths. At the Research Institute, Kasauli, a number of cases of snake-bite have been treated with anti-venomous serum with a high percentage of recoveries —25 out of 29 cases of cobra bite, and 12 out of 13 cases of bite by Russell's viper. Lieut.-Colonel Jolly, the Commissioner, believes that the intensive public health propaganda carried out during the last ten or twelve years is beginning to bear fruit, and that interest is increasing in such matters as rural reconstruction, nutrition, child welfare and the prevention of epidemics.

Examinations in the United States

EXAMINATION, as a teacher's tool, has undergone remarkable modification in the past sixteen years in the United States. The search for an instrument of precision for the use of teachers in examining their pupils has engaged the ingenuity of a host of investigators, and the resultant devices, the true-false, the completion, the matching, the multiple-choice, the one-word, the problem and other objective-type tests have, to a large extent, supplanted the essay test. The United States Office of Education has recently issued a report (Bulletin 9/1936, Washington: Supt. of Documents. 10 cents) on testing practices of secondary school teachers of 1,600 schools, as described by themselves. It appears that, when constructing tests, about seventy-four per cent of them make use principally of the objective type, only sixteen per cent rely chiefly on the essay test and ten per cent make equal use of both. The report shows that the new style of tests is popular with teachers. Their simplicity appeals to them. But it is clear that their employment calls for watchful control. A principal advantage claimed for them—that a large number of items can be answered in a short time and the subject-matter can thus be the more thoroughly sampled—has been unrealized in many cases through not using a sufficient number of questions. Of intelligence tests, the report says that few teachers really use the results.

The Swiss Earthquake Service

THE Swiss Seismological Commission, afterwards the Swiss Earthquake Service, is the oldest committee engaged in the study of earthquakes. For its foundation in 1878, we are indebted to the veteran geologist, Prof. Albert Heim. Two years later, it was followed by the British Association Committee on earthquakes in Japan, which, on Prof. Milne's return to Great Britain in 1895, enlarged its scope as the Seismological Committee. In 1883, shortly after the destructive Ischian earthquake of July 28, a geodynamic section was added to the Central Meteorological Office at Rome, which still carries on its useful work of studying Italian and other earthquakes; and, in 1892, the Imperial Earthquake Investigation Committee began its similar, but more extensive, work in Japan. The Swiss Committee, under the direction of Dr. E. Wanner, has recently issued its *Jahresbericht* for 1935, containing three valuable tables, the first on earthquakes sensible in Switzerland, twenty-seven in number, none of which reached destructive intensity; the second, of eighty earthquakes with origins as a rule less than three hundred miles distant; and the third, of a hundred and fifty earthquakes recorded at the five Swiss stations (Zurich, Chur, Neuchâtel, Basel and Sion), the distances of the origins being not less than six hundred miles.

Discussion on Lubrication and Lubricants

THE Council of the Institution of Mechanical Engineers, with the co-operation of other societies and institutions, has decided to hold a general discussion on lubrication and lubricants on October 13–15, when a series of some 140 papers from leading authorities throughout the world will be presented. The opportunity will be taken to review the present state of knowledge by means of a general discussion among those especially interested and qualified to discuss the major problems of the subject, with objects such as to endeavour to establish a correlation between theory and practice and to show how bearing design can be applied, to relate academic research with trade practice, to obtain current views upon bearing metals, and to review the significance of laboratory tests, including wear and friction tests. An exhibition will be held at the Science Museum, South Kensington, to illustrate the subjects under discussion, and will be devoted to lubricants, bearings and bearing materials, as well as to testing and other apparatus. The exhibition will be open for a fortnight from October 13. Support for the discussion has been given by twenty-nine British societies and technical institutions and by ten over-seas societies and technical bodies. The complete proceedings will be issued as a bound volume. Advance copies of the papers will be available for use at the meetings.

Application forms for tickets of admission and for copies of papers, and further information about the discussion may be obtained from the Secretary, Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1.

A Naked-eye Group of Sunspots

A VERY large group of sunspots, that is likely to develop into the largest group so far recorded during the present eleven-year cycle, came into view at the sun's east limb on July 22 in latitude 31° N. The date of central meridian passage is July 28·5; on August 4, the group will reach the sun's west limb. The group comprises a large leader spot and a follower of composite structure; these, with companion spots, covered no less than 2,000 millionths of the sun's hemisphere on July 24. On July 26 (the date of this report) the two chief component spots could be distinguished separately with the naked eye.

The Night Sky in August

THE moon is new on August 6 at $12{\cdot}6^h$ and full on August 22^h at $0{\cdot}8^h$ U.T. Conjunction with the planet Venus occurs on August 3 at 9^h, and from the northern part of England and in Scotland an occultation can be seen (see NATURE, July 17, p. 103). On August 18 at 23^h, there is a conjunction with Jupiter, and on August 24 at 20^h a conjunction with Saturn. On August 30, the moon occults the 5th magnitude star, o Tauri, the re-appearance at Greenwich taking place at $3^h\ 20^m$ at position angle 314° from the moon's north point. From sunset until sunrise during August, four bright planets are visible. Mars sets before midnight; Jupiter is on the meridian at $21\frac{3}{4}^h$ in the middle of the month, followed by Saturn at $2\frac{3}{4}^h$; whilst Venus rises at about $1\frac{1}{4}^h$ and is a brilliant object in the early morning skies, passing between Procyon and Castor and Pollux towards the end of the month. Uranus is nearly stationary in Aries and may be picked out from the background of stars of similar magnitude (about 6^m) with the help of the map given on p. 57 of the B.A.A. Handbook. At about 21^h the constellations on the meridian offer almost unlimited scope for interesting 'sweeps', which should include double stars such as α Herculis, θ Serpentis, β Cygni, γ Delphini and δ Cephei. The latter star is a notable short-period variable giving its name to a class of variable which, recognizable in the nearer extra-galactic nebulæ, enables the distances of these remote systems to be determined. Of the nebulæ and star clusters to be viewed with binoculars or a small telescope, the 'ring' nebula in Lyra, the 'dumb-bell' nebula in Vulpecula and the star cluster in Hercules should be easily located by means of a star atlas. The general outline of the Milky Way may also be studied with binoculars, noting the bifurcation near the bright star, Deneb, and the star clouds near the southern horizon. It may be recalled that towards a point at R.A. $18^h\ 4^m$: Dec. +31° the solar system is moving into space with a speed of 12 miles a second. Between August 10 and 12, in particular, the sky may be watched for meteors of the Perseid stream. An ephemeris for the comet Grigg-Skjellerup is given on p. 32 of the B.A.A. Handbook and also one for the comet Encke, which may possibly be picked up before long on its return to perihelion due next December. The periodicity of this comet, only 3·3 years—the shortest known period for a comet—was first recognized by Encke in 1819.

Announcements

The Earl of Rothes has accepted the appointment of chairman of the governors of Faraday House Electrical Engineering College, in succession to the late Lord Castletown.

DR. L. J. SPENCER, formerly keeper of minerals in the British Museum, has been elected a corresponding member of the Société Géologique de Belgique.

PROF. L. J. WITTS, professor of medicine in the University of London and physician to St. Bartholomew's Hospital and Prof. G. E. Gask, emeritus professor of surgery in the University of London, have been appointed members of the Medical Research Council, in succession to Sir Thomas Lewis and Sir David P. D. Wilkie, who retire on September 30.

THE Trustees have appointed Dr. S. Ochoa of the University of Madrid as Ray Lankester investigator for 1937, and Dr. Ochoa began his researches at the Marine Biological Association's laboratory in Plymouth on July 1, his subject being the experimental relationship of structure to environment in fishes and other animals. This work is a continuation of previous researches at Madrid and Heidelberg on the same subject.

THE first International Congress of Medical Public Health Officers organized by the syndicate of French medical hygienists under the auspices of the Health Section of the League of Nations will be held in Paris on October 20–21 under the presidency of Prof. J. Pariset. Further information can be obtained from Voyages Duchemin-Exprinter, 26 Avenue de l'Opéra, Paris 1e.

THE twenty ninth Annual Autumn Meeting of the Institute of Metals will be held at Sheffield on September 6–9. On September 6, Dr. D. R. Pye, deputy director of scientific research, Air Ministry, will deliver the sixteenth Autumn Lecture entitled, "Metallurgy and the Aero Engine". Further information can be obtained from the Secretary, Institute of Metals, 36 Victoria Street, London, S.W.1.

THE fourteenth annual conference of the Association of Special Libraries and Information Bureaux (ASLIB) will be held at Gonville and Caius College, Cambridge, on September 24–27, under the presidency of Sir Harry Lindsay, director of the Imperial Institute, who will give an address on "The Interrelation between Science, Agriculture and Industry". Further information can be obtained from the General Secretary, ASLIB, 31, Museum Street, London, W.C.1.