

derangement resulting from, or coincident with, head injury is referred by a physician to a special centre, it would be advantageous if the same meaning were attached to the same words. To further this aim sixteen words in common use have been defined. It is possible that another committee might have arrived at a slightly different phraseology, but although general acceptance cannot be expected, yet here is a very useful beginning, and the glossary will probably have a gradually widening sphere of application. Some of the terms defined are: *coma*, *confusion*, *delirium*, *traumatic stupor*, *concussion*, *malingering*, *hysteria*.

An Early Marine Engineering Institution

IN *Engineering* of April 4, Eng.-Captain E. C. Smith gives a short history of the almost forgotten Institution of Marine Engineers, which existed from 1876 until 1879. It came to a close ten years before the present Institute of Marine Engineers was founded, and it does not appear there was any connexion between the two. The Institution grew out of a Registry of Sea-Going Engineers, afterwards called the Associated Marine Engineers, founded in the City of London. In January 1876, the *Marine Engineering News*, the forerunner of the present *Marine Engineer*, was founded, and the editor of this and the secretary of the Institution were one and the same person, Matthew Augustus Soul, a patent agent. Another leading figure in the activities of both journal and society was Nicholas Proctor Burgh, the writer of several books on engines and steam, on the latter of which he held some unusual views. The other promoters of the Institution were consulting engineers in the City of London. The aims of the Institution were admirable. Papers were to be read, a museum and library formed, and a provident fund started; but evidently affairs did not flourish, for both Institution and *News* came to a close in 1879, leaving little trace of their doings.

Meteorology in India

No drastic changes are indicated in the Report on the Administration of the Meteorological Department of India in 1939-40 (Pp. iii + 35 + 8 plates. Delhi: Manager of Publications, 1940. 1.2 rupees; 3s. 9d.). A start has been made on the construction of new buildings at New Delhi for the Upper Air Office, which is to be transferred to that city from Agra. Thirty acres of land have been acquired for this purpose, and the buildings were begun in December 1939; they were expected to be ready for occupation towards the end of 1940. The forecasting office at New Delhi, which was closed as a measure of economy in 1932, at a time of financial stringency, was re-opened, and at about the same time a new wireless station attached to the Poona Meteorological Office began to function. These last two developments allowed the Department to complete its "regional synoptic" scheme for the broadcasting of station weather reports. The stations included in these broadcasts, and in similar broadcasts from Karachi, Calcutta and Rangoon, are shown in plate I

of the report, and those included in the "Collective Synoptics" in the same plate.

In addition to carrying on the ordinary routine work, so far as war-time restrictions permitted, special investigations were made, among which was one into the seismological features of the Satpura Range earthquake of March 14, 1938. Daily measurements of ozone in the upper atmosphere were begun at the headquarters' office towards the end of 1939 with the aid of a Dobson photo-electric spectrophotometer. Assistance was given to a scientific expedition from the United States under the leadership of Dr. R. A. Millikan, of the California Institute of Technology, Pasadena, mainly by the staff of Agra Observatory. This expedition made observations of cosmic rays at Agra, Gwalior, Peshawar and Bangalore, using large balloons to which were attached recording electroscopes and ion counters fitted with *radio sondes*.

New Instruments in Physics

AN interesting account of the debt of modern physics to recent instruments comes from the Bell Telephone Laboratories in New York and is given by Karl K. Darrow (*Review of Scientific Instruments*, 12, 1-10; Jan.; 53-61, Feb. 1941). The instruments are classified into three types according as they are devoted primarily to observation, to measurement or to achieving new conditions. In the first article consideration is given to those instruments in which substances can be subjected to new combinations of physical forces or in which one variable is pushed to extreme limits. Bridgman's scheme for achieving pressures of the order of 100,000 atmospheres, Beams's ultracentrifuge rotating at more than 20,000 turns per second, the piezo-electric or magnetostriction oscillator, the Dickel and Clusius use of convection and thermal diffusion to separate isotopes, the attainment of vacua of the order of 10^{-8} or 10^{-9} mm. mercury, by the aid of oil diffusion pumps and 'getters', the attainment of temperatures of only a few hundredths of a degree absolute, and of high electric voltages, and magnetic field strengths are all dealt with. The second article is devoted to instruments of observation and instruments of measurement without enforcing too sharp a distinction to the two types. Both articles are well illustrated and give an excellent idea of the present limits reached in most branches of modern physics. The developments in that protean tool, the thermionic vacuum valve, and its resulting developments in acoustics are so great that another article would have been necessary to deal with them.

The Smithsonian Institution: Annual Report.

THE report of the Smithsonian Institution for the year ending June 30, 1940, includes the report of the secretary, the financial report of the executive committee of the Board of Regents, together with reports on the United States National Museum, the National Gallery of Art, the National Collection of Fine Arts, the Freer Gallery of Art, the Bureau of American Entomology, the International Exchange Service, the