

Earthquakes in India

The *Times* correspondent from Bombay reports that several earthquake shocks have been felt daily between July 5 and July 9, with epicentres near Paliad, a town 64 miles from Bhavnagar, near the west of the Gulf of Cambay. Paliad is being deserted by its population of approximately 5,000 in consequence of these shocks. This area cannot be said to have been greatly affected by earthquake shocks in the past, and there is no record of one at all in Miss E. F. Bellamy's catalogue for the years 1913-1930. There was some destruction of property in this district at the time of the Great Cutch earthquake of June 16, 1819, which was attended by what was probably the greatest vertical surface displacement resulting from any earthquake in India. The ground to the north was uplifted by 15-20 ft., whilst that to the south was depressed between 10 and 15 ft. When further reports come to hand, it will be interesting to see whether this epicentre is a south-easterly migration of the great earthquake of more than a century ago, or whether it is purely a local surface phenomenon.

Science and Mankind

IN his presidential address to the Society of Chemical Industry at Ottawa on June 20 on the relation of science to the world of to-day, Viscount Leverhulme reminded his audience that science recognizes no political frontiers and accepts as her servants those in all countries who are engaged in the search after truth and who are working to increase mankind's knowledge of natural phenomena. Discussing the relation between mankind and science, he suggested that possibly we ask too much of science and apply new methods in fields where they have only a limited application. The man of science approaches all problems with the one purpose by observation, measurement and comparison to discover truth. The quest is dispassionate, and though a utilitarian purpose or a commercial motive might inspire the research, that does not affect the scientific approach to the problem which characterizes the scientific worker. Nearly all the contributions of science to our comfort and welfare can be traced to the quest of knowledge for its own sake.

THE scientist as such is not concerned with ethical and moral problems, or with the political issues which may surround developments arising from his work. When, however, so many scientific discoveries having a practical application can be used destructively as well as constructively, the significance of the remark made by Lord Leverhulme's father that the greatest problem in the twentieth century would be the man behind the machine becomes apparent. Lord Leverhulme, indeed, suggested that just as the ethical development of the human race has not reached the point where it can safely be given aeroplanes and high explosives, so the human mind, in the mass, has not reached the point when it can adjust itself to the new revelations of physical and astronomy. If mankind is to become worthier of the gifts and opportunities science is giving him, Lord Leverhulme

suggested that we must depend on forces and guiding principles at present outside the range of science. Even psychology, which is giving us a deeper understanding of man's mind and emotions and behaviour, has its limitations, and man cannot impartially demand of science the answer to every question and expect of her the solution of every problem. We should abandon the conception of science as an invading army that has ravaged and laid bare the spiritual. In the daylight of true proportion and perspective, science should be welcomed as a friend by those who work for the progress of humanity in other spheres of life.

Science and Industry

THE Messel Memorial Lecture of the Society of Chemical Industry for 1938 was delivered by Dr. L. H. Baekeland on June 21. Dealing generally with "Science and Industry", Dr. Baekeland sketched more particularly the growth of chemical industry first in Europe and then in the United States. The value of chemical industry was only fully realized in the United States with the outbreak of the Great War, and Dr. Baekeland described how Mr. F. P. Garvan's appreciation of the dependence of the United States on Germany for dyes, intermediates, photographic chemicals, medicinals, etc., led him to organize the Chemical Foundation, of which he remained president until his death. Any *bona fide* American chemical manufacturer or company can become a stockholder, but can only subscribe for a limited number of shares. Every stockholder has the opportunity of acquiring licences by paying royalties on any patents owned by the Foundation. The money thus collected is used for developing chemical education, research, and similar efforts for advancing knowledge in chemistry and for the development of chemical industries. Generous support is furnished to many societies for the advancement of science and industry and medical research. Garvan also recognized the possibility of much closer relations between chemical industries and agriculture, and instigated the formation of the National Farm Chemurgic Council to co-ordinate agriculture, industry and science. Few men, Dr. Baekeland considers, had more influence in the United States on science and industry than Mr. Garvan, and there is now a much wider appreciation of the importance of scientific research in industry.

International Astronomical Union

THE triennial conference of the International Astronomical Union, representing 27 countries, will be held at Stockholm during the week August 3-10 under the presidency of Prof. E. Esclançon, director of the National Observatory of Paris. After the usual opening meetings, the conference breaks up into a number of committees at which astronomical problems, especially those calling for international co-operation, are discussed. Draft reports from no fewer than twenty-nine such committees have been distributed a month in advance to those attending the meeting. Among the topics to be discussed are standard notations in astronomy—a provisional list

of suggested symbols has been circulated in advance—air almanacs, the publication of classical works of astronomy which are untranslated or difficult of access, the sources of error in observations with meridian telescopes and the distribution of fundamental stars for observation to different observatories, co-operation in cinematography of solar prominences to cover longer intervals of time than are available for one observatory, wave-length standards in the laboratory and the solar spectrum, the zero point of photographic magnitude and colour index, problems of stellar statistics and the absorption of light in interstellar space. Reports will be received on the present position of the "Carte du Ciel", of the observations of Eros at the opposition of 1931 and of the observations of radio signals at 71 different observatories in the world scheme of 1933. General discussions will take place in the different special committees on the past and future co-operation in the observations of stellar parallaxes, proper motions, variable stars and novae, radial velocities, solar phenomena and cometary spectra and magnitudes.

It seems indicated from the reports that there may be discussions on such questions as the origin and maintenance of stellar energy, the hydrogen content of the sun and stars, the theory of the Fraunhofer lines, the source of the far ultra-violet solar radiation, problems of spectrophotometry (of interest to a wider circle than that of astronomers alone) and instrumental questions such as the use of the Schmidt camera, the aluminizing of mirrors and of pyrex matrices for gratings: the work of Prof. R. W. Wood on these lines suggests the ultimate replacement of prisms by gratings for stellar work. The reports of the committees give clear evidence that the conference will be helpful, stimulating and useful, and there is every reason to expect a good attendance from Europe and America. South Africa has recently rejoined the Union and will be represented. Among the less arduous features of the Congress may be mentioned visits to the Observatory at Saltsjöbaden and to the Planetarium, also an excursion to Uppsala. His Majesty the King of Sweden will give a reception at the Royal Palace. The general secretary of the Union is Prof. J. H. Oort, of the Leyden Observatory.

British Museum (Natural History): Acquisitions

THE two most important additions to the Mammal Section of the Zoological Department during the present month are—the bequest by the late Mr. Norman B. Smith of his collection of Rhodesian, East African, and Sudanese game trophies, and a collection of mammals from South-west Africa presented by Major P. H. G. Powell-Cotton and Mr. Christopher Powell-Cotton. An important addition to the Osteological Section is the skeleton of a Hunter's hartebeest (*Damaliscus hunteri*) from the Tana Valley. The increasing scarcity of this species makes this specimen of special value; it is the gift of Messrs. Rowland Ward. The Museum has acquired from Lieut.-Colonel F. M. Bailey, who has just vacated the post of British envoy to the Court of Nepal, a large collection of birds made in that

country. There is still much to be learnt concerning the distribution of Himalayan birds. Many species found in the Eastern parts do not occur in the Western, and the question as to how far east or west in Nepal they extend will, to a great extent, be solved when Colonel Bailey's collection has been properly examined. A further valuable selection of Swiss minerals, numbering 618 specimens from 59 carefully recorded localities, has been presented to the Department of Mineralogy by Mr. F. N. Ashcroft. The Department has purchased a large portion of the oldest meteoric stone, the fall of which is recorded. It fell in 1492 at Ensisheim, Alsace, France. For a long time the meteorite, which originally weighed 236 lb., was suspended by a chain from the vault of the choir of the parish church of Ensisheim, Alsace.

Geological Museum: Recent Acquisitions

AMONG the recent acquisitions of the Geological Museum is a large geological relief model of the London basin, measuring about 10 ft. by 5 ft. This is constructed on a scale of 1 in. to a mile, vertical heights being exaggerated about six times, and it includes an area extending from Foulness in the east to the Vale of White Horse in the west, and from Baldock in the north to Leith Hill in the south. The model illustrates clearly the main synclinal structure of the London basin, from the chalk rocks of which London draws so much of its water supply. Details of this structure of the solid rocks are accentuated by the colouring of drift and other surface deposits by various shades of stipple superimposed on the solid geology. A second relief model just placed on exhibition illustrates the glacial lakes of Cleveland, on a scale of 1 in. to a mile. This reconstruction, which is based on the work of the late Prof. P. F. Kendall, shows the glaciers, ice-dammed lakes, and drainage system of the Cleveland area at the time of the maximum extension of the Pleistocene ice-sheets. Among the dioramas recently added to the displays is one of an Anglo-Iranian oil-field, presented by the Anglo-Iranian Oil Co. This is the second experiment in a type of diorama in which the foreground is cut away to a depth of several thousand feet to show the geology. Two diamonds of unusual crystal form from Atian Kama, Akim, Gold Coast, have been given by Mr. G. P. Ashmore. Some five hundred varieties of marble used in decorative work in western Europe are now being exhibited.

The Science Museum

THE report of the Science Museum for 1937 again directs attention to the urgent need for the rebuilding of the centre block and for the extension of the Library. Four years ago, the Advisory Council estimated that the book-stores would be filled by the end of 1938 and gave a warning that further storage room was essential. The Library is the most valuable of its kind in the country and great use is made of it by those engaged in research, and if it is to perform its functions properly it is necessary that books and periodicals should be arranged so that they can be issued to readers with the least possible delay.