Herschel and Peacock. Another astronomer who died the same year was Calandrelli (1749–1827), once director of the Vatican Observatory, while going back four hundrd years we have the birth of Stadius (1527–1579), a predecessor of Kepler as mathematician to the Emperor of Germany. A contemporary of Stadius who should not be overlooked was the famous Dr. John Dee, alchemist and astrologer, who was born in 1527 and died in 1608. To chemists and physicists the tercentenary of the birth of Boyle (1627–1691) and the centenary of the death of Augustin Jean Fresnel (1788–1827) will afford the greatest interest. Though Fresnel sank into an early grave he was one of the foremost students of optics, and it was only eight days before his death that Arago placed in his hands the Rumford medal of the Royal Society. Another physicist of note who died in the same year was Chladni (1756–1827), whose works on sound were translated into French through Napoleon. Henry Beaufoy (1764–1827) was both physicist and astronomer, but is still better known for his experiments in naval architecture. The year 1827 saw the publication by Ohm of 'The Galvanic Circuit worked out Mathematically.' Although no great chemist died in 1827, in that year were born Sir Frederick Abel (1827–1902), John H. Gladstone (1827–1902), Edward Nicholson (1827–1890) and, most distinguished of all, Marcellin Berthelot (1827–1907). In the same year the death occurred of Samuel Crompton (1753–1827), whose work as the inventor of the spinning mule will be the occasion of a gathering at Bolton, and also of George Medhurst (1759–1827), one of the inventors of the atmospheric railway. Among the great pioneers of last century was Sandford Fleming (born 1827), who was engineer-in-chief of the Canadian Pacific Railway from 1871 until 1880."

THE SEISMOLOGICAL WORK OF THE U. S. COAST AND GEODETIC SURVEY

THE most comprehensive survey of earthquakes of the United States, including the insular domain, ever undertaken by the government, is being compiled by the Coast and Geodetic Survey under the supervision of the director of the survey, E. Lester Jones.

The data are being compiled by the chief of the Division of Terrestrial Magnetism and Seismology, Commander N. H. Heck, to show the history of all the major disturbances that have been recorded on seismological instruments in United States territory, some cases dating back approximately a century. This information will be embodied in a compendium which will appear in the autumn telling the story of the principal earthquakes in both technical and non-technical language, with a short résumé of the scientific data, grouped by states and sections of the country as well as chronologically arranged.

The survey has recently completed its seismological report for October, November and December, 1925, with supplemental data to complete the record for 1924, and it has begun work for the official complete detailed record of 1926.

The 1925 report, prepared by the mathematician of the Division of Terrestrial Magnetism and Seismology, Frank Neuman, with the assistance of Lieutenant J. H. Service, Ensign F. B. Quinn and J. D. Thurmond, junior engineer, shows that out of 137 earthquakes recorded in United States domain from October 1 to December 31 of that year, the locations of the disturbances were well known or approximately known in 83 cases and uncertain or unknown in the other 54 cases.

The distribution of these known locations of earthquakes, by states, follows:

California, 17; foreign and submarine, 40; Mexico, 6; Wyoming, 4; Guam, 3; Connecticut, 3; Montana and Nevada, 2 each; Alaska, Hawaii, Maine, New Hampshire, Rhode Island, Washington (State), 1 each.

During that three months' period, seismographs formerly in operation at Vieques, Porto Rico, being thoroughly overhauled, were put in operation in the new Coast and Geodetic Survey magnetic and seismological observatory near San Juan, Porto Rico.

The surveys designed to detect earthquakes in California were continued during that period and a party, under the direction of William Mussetter, operated in the vicinity of the western end of the Santa Barbara channel.

Vessels engaged in survey work are directed to make reports of visible or felt effects of earthquakes but none were reported by them and examination of tidal records from the numerous gauges on the Atlantic and Pacific Oceans disclosed no indication of tidal waves during the three months.

The complete seismological summary for 1925 showing "distribution of earthquakes recorded in the United States, the regions under United States jurisdiction and adjacent sections," enumerate 568 earthquakes so recorded during the year 1925, of which 222 were definitely or approximately located (locations officially described as "well-known or approximately known"), locations of 77 being listed as uncertain and locations of 269 as still unknown.

Of these 568 earthquakes, 130 were "provisionally located" as occurring in North America and 43 with some uncertainty in North America; 4 provisionally, and 1 uncertainly, in South America; 3 provisionally, in Europe; 11 provisionally, and 1 uncertainly, in

Asia; 7 in the Atlantic Ocean and adjacent water, provisionally; 60 provisionally, and 32 uncertainly, in the Pacific Ocean and adjacent waters; 7 provisionally in the Indian Ocean, and adjacent waters; 269 unknown.

THE AERIAL SURVEY DETACHMENT

Two aerial survey detachments, each composed of a commissioned officer of the Army Air Corps, who is a photographic pilot, and an enlisted photographer, were recently authorized by the War Department, for the purpose of assisting the U. S. Geological Survey in carrying out its extensive program for the present calendar year in mapping areas in various states throughout the country.

One of these detachments will photograph areas in Maine, New Hampshire and Vermont, approximating 8,000 square miles. A great portion of these areas, particularly in Maine, have never been adequately mapped, and all existing are old and somewhat obsolete. The other detachment will begin operations on a 4,000 square mile area in Illinois, and later will photograph areas in Michigan and Wisconsin.

One detachment of this kind, organized last year for a like purpose, photographed during a six months' period approximately 9,000 square miles of territory in the states of Michigan, Wisconsin and Illinois. Through the work of this detachment it is estimated that the saving to the government was approximately $100,000, thus demonstrating the efficacy and economy of aerial surveying.

Each aerial survey detachment is equipped with trilens camera and accessories, and furnished with two special photographic planes, one of which is held in reserve. The function of these detachments is to make aerial photographs, which are in turn used in making topographic maps by the Geological Survey. The personnel of the detachments is relieved of all other military duties and assigned exclusively to aerial survey activities for a period of six months. It is placed under the direct control of the chief of Air Corps, who is authorized to issue the necessary orders, for its movements and employment, according to the program submitted by the survey.

THE CHEMICAL EXPOSITION

FROM the advance information which has reached *Industrial and Engineering Chemistry*, it may be announced that

Many distinctively new and outstanding achievements in chemical engineering, in the manufacture of instruments of precision, in mechanical engineering as applied to the chemical industry, in new apparatus of various and sundry kinds, and, we are happy to say, in new chemicals and new chemical products, will feature the Eleventh Exposition of Chemical Industries, which will open its doors to the public on September 26 at the Grand Central Palace, New York City. There will be an extensive exhibit of casein plastics, some of which are new in the field and deserve careful examination. Alloys especially high in their resistance to corrosion will be another point of interest, for some of them have been offered only lately following a considerable period of research. One of the great corporations which has not been prominently identified with this development has recently undertaken some new lines of manufacture, the products of which will be seen at the exposition.

This year in a section devoted largely to exhibitors of containers, emphasis will be placed upon packaging, weighing, labeling and handling equipment. The subject of containers has long been a troublesome one, for in the past many products of the chemical industry have been marketed in such disreputable packages that attention was directed to the matter some time ago. Not only is the use of such packages detrimental from the sales point of view, but in some instances the common carriers have refused to accept some commodities for transportation, not primarily because of their hazard, but chiefly because of the carelessness in methods of packing. This unfortunate situation is now much relieved and the exhibits to be found this year at the exposition will prove of great assistance to chemical manufacturers.

Among the exhibits will be found many of distinctly educational nature. These include those under the auspices of the American Ceramic Society, the American Chemical Society, the National Safety Council, several bureaus of the United States Department of Commerce and the United States Department of Agriculture. Several industries will use the opportunity to promote the education of the public with reference to their products, as for example, the new types of glass which permit a large percentage of the active rays of the sun to pass through them. Iowa State College will present evidences of development in the industrial use of agricultural products. From the territory represented by such railroads as the Southern and the Southern Pacific Company, and from the Ontario Department of Mines will come interesting displays of natural raw materials from the field as well as from the mine. The southern section will include a considerable number of exhibitors, part of which will represent commercial houses and large industries. Some three hundred exhibitors are upon the list of those who have engaged space.

SCIENTIFIC NOTES AND NEWS

BERTRAM BORDEN BOLTWOOD, since 1910 professor of radio-chemistry in Yale University, died by suicide on August 14, at the age of fifty-seven years.

FRIENDS of Mr. Thomas A. Edison and employees of the Edison interests throughout the country joined on August 8 on the lawn of Edison's home at Llewellyn Park, West Orange, N. J., in honoring the inventor, who fifty years ago completed the first mechanism for