

local needs are among the devices with which an earth observatory should be equipped.

The natural places for establishing such observatories at first are lands where the earth movements are most rapid, regions of volcanoes and frequent earthquakes. In such establishment, the Japanese have taken the lead, and their island empire is girdled with observatories. The writer has before him a pamphlet, in English, printed in Tokio in October, 1908, containing eleven contributions to practical seismology by a Japanese investigator, M. Omori, the first of which bears the significant title, "On the Fore-Shocks of Earthquakes." Dr. Omori declares, "My belief is that a large destructive earthquake will be foretold in its epicentral region by some fore-shocks," and this belief he substantiates by exact instrumental proofs.

With reference to Sicily, it is well to make note of the fact that an American volcanologist, Frank Alvord Perret, has predicted disaster on Mount Etna for two years past. Mr. Perret, who was decorated by the Crown of Italy for his splendid service to science and to humanity on Vesuvius in 1906, wrote in the *World's Work* of November, 1907:

By the rational methods of scientific research, we know that a great eruption of Mt. Etna is impending, the only uncertainty at present being which side of the mountain will break open.

Great volcanic eruptions are preceded by great earthquakes, and the Messina disaster of December 28 comes on an earthquake date ("terrestrial maximum of gravitational stress") actually platted in advance by Mr. Perret on his diagrams for 1908. Like Dr. Omori, he is a man whose whole time is unselfishly devoted to these studies, but he has no observatory and no adequate means of support. A few business men in Springfield, Mass., last year came valiantly to his aid, and now their foresight is worthy of all honor. When young men think of making science their life-work, it would be well to remember Pasteur, and to consider carefully whether the highest development of the investigative faculties may not concern itself with humane rather than with historical motives. To those who will give time and money to the establishment of earth observatories, there will come by way of reward some of the most astonishing discoveries of the twentieth century.

Plans have been prepared in Boston for an earthquake-proof observatory and museum, built on Japanese lines; to be equipped with instruments for measuring earth tremor, earth waves, earth sounds, earth tilt, earth gravity, and earth magnetism. It is proposed to secure an endowment which will provide for expeditions as the most important work of the observatory, whereby trained men will be sent to volcanic lands to

carry on research which may not be done at home. The Geological Society of America has passed urgent resolutions strongly recommending "to governments and to private enterprise the establishment of volcano and earthquake observatories." What should be done in New York? It may be well to state briefly the vision of what *could* be done to set an example to the world: Provide \$4,200,000. Erect ten small observatories costing \$20,000 each, in New York, Porto Rico, Canal Zone, San Francisco, Alaska, Aleutian Islands, Philippines, Hawaii, Scotland, and Sicily. With \$200,000 per annum, the income of four millions, supply each observatory with \$10,000 per annum to maintain its director, assistant, and expenses, and reserve \$100,000 for the central office for administration, exploration, and publication. Define the objects of the work to be direct measurement and record of earth process with a view to the benefit of humanity. Define three immediate goals for the investigators: (1) Prediction of earthquakes; (2) prediction of volcanic eruptions; (3) engineering and construction in volcanic and seismic lands. The objects of the two European stations are to cover the important volcanic fields of Iceland, the east Atlantic, and southern Italy, and to keep in touch with the advance of European science. The work would be strictly American, and if it were carried out, it would be epoch-making in the history of science.

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J. G. Spurzheim's "Phrenology," which attracted attention seventy-five years ago, has been reprinted, with some abbreviations, by the J. B. Lippincott Co. As a literary curiosity it is even more interesting than Dr. Gall's classical fantasies.

"Kulturpflanzen der Weltwirtschaft" is an illustrated volume written by different authors (Leipzig: Voigtländer), containing interesting accounts of the discovery and development of tea, coffee, cotton, and other useful plants, their diffusion among various nations, as well as their influence on industrial, commercial, and social life and on the growth of civilization and human customs and character in general. Especially entertaining and instructive is the chapter on the origin and cultivation of tobacco. One aspect of these investigations deserves special mention. The stamp impressed by the physical world upon races and its influence in determining the peculiarities of men and nations have long been recognized; and there are systems of anthropology and ethnology and philosophies of history, which admit only these material causes and derive from them all so-called moral and mental characteristics. But it is only in comparatively recent times that the counterpart of this view has been considered and that the effects of human action in modifying the aspect of nature and in changing the physical condition of the earth have attracted the serious attention of scientific men. One of

the most interesting phases of this subject is the transformations produced in the flora, as well as the fauna, of a country, a phenomenon which has been observed on a large scale since the discovery of the Western hemisphere. In Greece and Italy these processes have greatly changed the primitive physiognomy of those lands. Imagine the effect of removing the aloe and the cactus from the rock coast of the Mediterranean; and yet these prickly plants of bluish-green with fleshy leaves and gorgeous blossoms, which harmonize so well with the landscape, have been introduced from South America during the last three centuries. The cypress, with its gloomy but grateful shade, is a native of the mountains of Afghanistan; the orchards of olive and fig-trees are from Palestine and Syria; and the splendid palms in the cloistered court of SS. Giovanni e Paolo on the Caelian Mount and in the magnificent grove of Bordighera between Genoa and Nice are exiles from Arabia and the oases of the Sahara.

The advent of the Chinese woman doctor was celebrated a few weeks ago by the conferring of diplomas on six graduates of the Women's Medical School at Shanghai. It was founded three years ago, the funds having been provided by Li-Ping-Shu, president of the Chinese Town Council. The principal is a Chinese woman who has received an advanced education in Canton and Hongkong; and there are thirty students. Each of the six graduates read essays, two of which were in English.

George Washington Hough, professor of astronomy at Northwestern University and director of the Dearborn Observatory, died suddenly January 1 at his home in Evanston. He was seventy-two years old. Professor Hough's greatest contributions to science were his observations regarding the planet Jupiter. He discovered and measured more double stars than any other astronomer now living, about 550 in all. His inventions include a device for making maps of stars during observation, and many other scientific instruments now used in observatories. Besides contributions to the magazines, he published "Annals of the Dudley Observatory."

The death is announced of C. E. Stuyvaert of the Royal Observatory of Belgium. He was born in 1851, and began his work at the observatory (then at Brussels) in 1879. He was engaged, at the time of his death, on a large-scale globe of the moon.

Drama.

The Bohemian Jinks. By Porter Garnett. San Francisco: The Hicks Publishing Company.

Mr. Garnett has written an interesting book, describing the origin and growth of the forest dramas, produced annually in midsummer by the Bohemian Club of San Francisco. When these celebrations began, thirty years ago, they were exceedingly informal, but gradually, after the club had acquired possession of two hundred and forty acres of forest land,

at Guerneville, seventy-five miles from San Francisco, they began to assume a distinctive and elaborate form, of a musical, dramatic, allegorical, and spectacular character. Thus, within the last decade the performances have included pieces—akin both to the ancient masques and modern fairy extravaganza—bearing such titles as "The Enigma of Life," "The Man in the Forest," "Montezuma," "The Hamadryads," and "The Triumph of Bohemia," the work of well known literary men and artists, members of the club, and presented with striking instrumental, vocal, and electric effects. The peculiar feature of these performances is that they occur at night in the natural woodland and that all artificial mechanism is carefully hidden. The proscenium of the theatre is formed by two huge redwood trees, at the foot of a steep ascent, thickly covered by brush. A series of foot-paths connect invisible platforms, constructed one above another, on the face of the hill. From the front, the effect is one of virgin forest, but actually there is a stage of many tiers, conveying a sense of space and distance, and facilities for grouping, impossible in the ordinary theatre.

Open-air drama, of course, is no new thing, either in the old or new worlds, but these Californian Bohemians appear to have improved upon precedent, by devising allegorical spectacles suitable to the natural conditions and on that account peculiarly impressive. They have succeeded, also, apparently, in making romance realistic by a complete avoidance of theatrical convention. Mr. Garnett, perhaps, overrates the significance of these celebrations as a new type of drama—their characteristics being directly traceable to local influences and special opportunities—but there seems to be no doubt that in literary and imaginative quality they are out of the common.

"Aristophanische Studien," by Hugo Weber (Leipzig: Theodor Weicher), is a recent book which treats in scholarly fashion some leading perplexities in the comedies of Aristophanes.

A noteworthy collection of famous German dramas is edited by Prof. Georg Witkowski under the title, *Die Meisterwerke der deutschen Bühne* (Leipzig: Max Hesse). Recent additions are Karl Gutzkow's comedies, "Zopf und Schwert," "Das Urbild des Tartüffe," and "Der Königsleutnant," with introduction and notes by Dr. Alfred Klaar. Dr. Klaar is also responsible for the introduction and the notes of Gutzkow's tragedy, "Uriel Acosta," which is perhaps the best known of his dramas, and which has been translated into English by Richard Hovey. Heinrich Laube's "Karlschüler," the famous play which makes use of some of Schiller's experiences at the school of his patron, the Duke of Württemberg, and his tragedy, "Graf Essex," are introduced and annotated by Prof. Alexander von Weilen.

The Volks-Schillerpreis of 3,000 marks was recently awarded to Ernst Hardt, in recognition of his five-act drama, "Tantris der Narr." His competitors were Julius Bab, Hugo von Hofmannsthal, and K. Gjellerup.

Music.

Edvard Grieg. Von Gerhard Schjelderup and Walter Niemann. Leipzig: C. F. Peters.

Larger Piano Compositions. Edvard Grieg. Boston: Oliver Ditson Co. \$1.50.

Fifty Songs. Edvard Grieg. Boston: Oliver Ditson Co. \$1.50.

Edvard Grieg is dead, but his music is more alive than ever. In addition to the copyrighted Copenhagen and Leipzig editions of his works, there are more than forty American reprints of them, and no name on a concert programme is more popular than his. Books on his art and personality also are multiplying rapidly. For many years Closson's French brochure was the only source of information. Then came Schjelderup's biography, in Norwegian, which was followed by the first book in English, H. T. Finck's "Edvard Grieg" (in John Lane's Living Masters of Music series), of which a greatly enlarged new edition is now in press. George Bell & Sons published last spring in their Miniature Series a little book of eighty pages by E. Markham Lee. A month ago the Leipzig firm of C. F. Peters, which has published Grieg's music ever since 1863, issued a quasi-official biography by Schjelderup and Niemann; and the latest issue of the Peters catalogue also announces the forthcoming reminiscences (including 198 Grieg letters) of his friend, Julius Roentgen, the eminent Dutch composer and editor of Grieg's posthumous works. These works, which are just out, include a string quartet, eleven songs, three pianoforte pieces, and the orchestral score of the "Peer Gynt" music complete.

During the last decade of his life Grieg was repeatedly offered large sums for his autobiography, but his health was too poor (for forty years he had only one lung to breathe with) to allow him to undertake a task requiring such a prolonged effort. This is to be greatly regretted, for the story of his life, told by himself, would have made very interesting reading. His letters are characterized by the same clearness, individuality, directness, northern sentiment, and mingled melancholy and gaiety as his songs and pianoforte pieces. His skill in literary composition was publicly revealed in articles on Schumann and Mozart which he wrote for the *Century Magazine* and one

on Verdi, which was printed in the *Nineteenth Century* and *Littell's Living Age*. Parts of an amusing and vivid autobiographic sketch covering his childhood and his student days at the Leipzig conservatory appeared in the *Contemporary Review*. The whole of this sketch, in the original German, is reprinted in the volume by Schjelderup and Niemann now before us, and will make every reader wish it had been continued. Schjelderup, who contributes the biographic half of this volume, is one of the ablest of the younger Norwegian composers; and, what is more, he knew Grieg personally. Some letters to him from the great composer are included, but what gives this book a unique value is the interwoven letters to his Leipzig publisher, Max Abraham (head of the Peters firm), with whom Grieg corresponded forty years. These letters are not only delightfully intimate, but in some cases they take the place of chapters in the missing autobiography. After the death of this friend, they were addressed to his nephew and successor, Herr Hinrichsen, to whom he wrote among other things a most vivid account of two days spent with the German Emperor on his yacht—a letter which shows the Kaiser in one of his most characteristic attitudes as a musical enthusiast. There is also a full epistolary account of the festivities attending Grieg's silver wedding.

From these letters and the details supplied by the author, we learn that Grieg, despite his ill-health, enjoyed life on the whole and seldom felt the *tædium vite*, as his friend Liszt so often did. He even joked about his infirmities, regretting only that they so seldom allowed him to enjoy the raptures of creative work, or make arduous excursions to the mountains for the collecting of folk songs. Concerning old age, he agreed with his friend Herzogenberg, who said: "Life is a dinner. I have come to the cheese, which tastes very good." He might have lived longer, could he have resisted the invitations to give concerts. On this point he wrote, in March, 1906:

From a financial point of view, I can get along without these concerts, and a public appearance is the most terrible thing I know of. My nerves, my entire person, suffers indescribable tortures, but a certain something, I know not what, urges me on irresistibly. A beautiful orchestral performance of my works and a sympathetic audience are things I cannot resist. That, I think, is what makes me act so foolishly.

Grieg's compositions are analyzed at considerable length in the second part of this volume by Walter Niemann, with an enthusiasm tempered by criticism. A few errors have crept into the last chapter. Grieg did not speak English so well as he did German and he did not write his article on Mozart in English. The *Century* is not published by the Macmillan