ing,' may safely accept the conclusions reached by Pernter and Trabert.

NOTES.

AN article on 'The Making of Australia,' in the *Scottish Geographical Magazine* for March recalls the fact that in the early days of exploration in the interior of Australia the discovery of an inland sea was reported. The news was naturally hailed with delight, but further exploration soon showed that no such sea existed. The deception had been caused by a mirage.

FOR November and December, 1901, the *Monthly Bulletin* of the Philippine Weather Bureau appears for the first time in English as well as in Spanish. In the December number there is an account of the earthquake of December 15 at Manila, with a facsimile (natural size) of the curves traced by the Cecchi seismograph.

THE Weather Bureau has recently issued a new edition of its 'Instructions for Voluntary Observers.' This useful pamphlet contains instructions for the erection, use and care of maximum and minimum thermometers and of the rain-gauge; instructions regarding the keeping of records, and a brief discussion of the proper uses of several terms which are often misused, *e. g.,* hurricane, tornado, whirlwind, etc.

A SECOND edition of Eliot's valuable 'Handbook of Cyclonic Storms in the Bay of Bengal,' embodying all the latest results, has been published. The first edition was dated 1890.

R. DEC. WARD.

HARVARD UNIVERSITY.

JOHANN VON RADINGER.

THE obituary notices of Johann von Radinger, who died November 20, 1901, are appearing in the European scientific journals.

Radinger was born July 30, 1842, in Vienna. His education was secured at the Technischen Hochschule, where he became assistant to Professor von Burg before completing his course, and, later, 1867, adjunct to Professor Grimm von Grimburg. He was promoted in 1876, and was made Professor des Maschinenbaues in 1879. In 1891 he was the Director of that great school of engineering, and at his death, his record within its walls extended over a period of thirty-four years. In 1895 he was made President of the Osterreichischen Ingenieur and Architektenvereines.

In all this long professional and scientific career, Radinger exhibited talent, even original genius, industry and great power of achievement. But his spirit was of that lofty and broad and clear-sighted character which, as in the case of nearly every man of genius, while splendidly working in a chosen vocation, could still find opportunity and strength for those avocations which attract all men of mind. He was interested in art, in literature and in all the sciences. He kept himself abreast modern progress in all these departments of human activity. He even found time to do some purely literary work, and his dramatic poem, 'Das Weib des Polykrates,' was produced under most trying circumstances. His genius was recognized by both state and private honors. The Order of the Iron Crown was conferred upon this engineer and man of science as the highest tribute the government could pay to his merits as a man and a public-spirited citizen.

He combined, as do so many men of his profession, practical knowledge and high attainments in applied science with an intimate acquaintance with the pure sciences. He found occupation for a time with Cail at Paris in practical manufactures and, as Konstrukteur, himself directed important interprises. He performed his full share of the great work of his time in the reduction of the art of machine-construction to a scientific system. He was particularly fruitful of good work in the development of the theory and the scientific method of design and construction of details of mechanism, interesting himself particularly in the great work of his generation of making the heat-engine, and especially the steam-engine, an embodiment of the theory and the art, in applied thermodynamics and in applied mechanics. He was a successful leader in the substitution of the exact methods of science in these fields for the old 'rule-of-thumb' ways, in the conversion of the vocation of engineer-

ing into a profession demanding learning as well as experience.

Largely under his energetic direction, the legal enactments of the empire for the provision of safeguards in the operation of steam-engines and boilers took correct form and he was appointed to important positions under the laws enacted to secure their proper enforcement. He taught his classes and he taught his public with equal fruitfulness and zeal. He was a teacher of the most admirable sort, exact, clear-sighted, endowed with that imagination without which no teacher can instruct and no investigator can either advance or help others to advance in research, friendly and patient, ambitious and aggressive, enduring and persevering, a leader always in the front rank and always beckoning from the van, never pushing his men on from the rear. He accomplished a notable life's work as instructor, investigator and author.

In personality, Radinger was interesting, attractive and impressive. The writer, as colleague on the International Juries at Vienna and at Philadelphia, 1873–1876, became greatly interested in the quiet, yet earnest and enthusiastic, scholar, philosopher and teacher. Inquiring into every detail of the, to him, astonishingly numerous wonders of invention and construction in the 'Yankee sections'; noting each device, its form, proportions and special construction and finish with the greatest care; comparing its dimensions with its work and the relation thus established by its designer with that usual in his own country; studying the methods of piece-work and of manufacture by production of interchangeable parts; excited over the marvelous watchmaking illustrated at the Centennial, or, after the jury had adjourned for the day, wandering in the art galleries and the halls of sculpture, or into the exhibits of the great publishers in search of interesting text or fine bindings, the broad grasp and unbounded intellect of the man were always revealed.

He was one of those generous men who, at the Vienna exposition, admitted the right of George Corliss to the 'Ehren Diplom,' although not a steam-engine of his make was exhibited. Radinger, von Grimburg, Reuleaux, Tresca, Dwelshauvers, Hartig, Schneider of Creusot, and a few others, advocated the highest award to the great American inventor, as they agreed, on the ground that the proof of his genius and of his enormous usefulness to the world was to be found in every section in the whole exhibition; every section contained one Corliss engine, and often several exhibits illustrated the work of the great mechanic.

The teacher, the man of science, the man of affairs, the investigator and author, the noble, kindly, generous and judicial man, will dwell in the memories of all who knew him and will be mourned by his colleagues and his friends as long as they live. His works will long remain, monuments to his life, his labors and his achievements. R. H. Thurston.

SCIENTIFIC NOTES AND NEWS.

The spring meeting of the Council of the American Association for the Advancement of Science will be held on Thursday afternoon, April 17, in the Assembly Hall, Cosmos Club, Washington, D. C.

Dr. Alexander Agassiz, who is now in Europe after his expedition to the Maldive Islands in the Indian Ocean, will return in time to preside at the meeting of the National Academy of Sciences which will be held at Washington next week.

Dr. James E. Russell, dean of Teachers College, Columbia University, has returned from a tour of inspection of the school system of Porto Rico, made at the invitation of the Porto Rican government.

Last year the Misses Caroline and Olivia Phelps Stokes placed in the custody of the New York Botanical Garden the sum of $3,000, the interest to be employed in efforts to preserve our native flora. The income for the current year was disposed of in the form of three competitive prizes, of $50, $30 and $20 respectively, for the best essays on this subject. The first of these prizes has just been awarded to Dr. F. H. Knowlton, editor of *The Plant World*. Dr. Knowlton's essay is printed in the March number of the *Journal* of the New York Botanical Garden.