

two genera (e. g., *Pucciniastrum*, *Chrysomyxa*, *Uredo*, *Cronartium*, *Endophyllum*, etc.) representing four subfamilies; and *Aecidiaceae*, with thirty-five genera (e. g., *Ravenelia*, *Uropyxis*, *Phragmidium*, *Aecidium* (*Gymnosporangium*), *Dicæoma*, etc.) representing five subfamilies. The old genus *Uromyces* is split into *Nigredo*, *Uromycopsis*, *Klebahnia* and *Telospora*, while *Puccinia* is split into *Dicæoma*, *Allodus*, *Bullaria* and *Dasyspora*. We hope to present a fuller account of this interesting study in the near future.

Dr. Arthur and F. D. Kern have published (in *Bull. Torr. Bot. Club*, vol. 33) a paper on the 'North American Species of *Peridermium*,' of form-genus of *Uredineae* inhabiting conifers. The authors distribute the species of *Peridermium* among the following actual genera: *Coleosporium* and *Cronartium* (on *Pinus*), *Pucciniastrum* and *Calyptospora* (on *Abies*, *Tsuga* and *Ephedra*), *Melampsorella* and *Melampsoridium* (on *Abies* and *Larix*) and '*Chrysomyxa*' (on *Picea* and *Abies*).

#### CALIFORNIA TREES.

ABOUT a year ago Alice Eastwood issued 'A Handbook of the Trees of California' as one of the 'Occasional Papers' (IX.) of the California Academy of Sciences. In a thick pamphlet of 86 pages and 57 plates she has given such a popular account of the trees of California as must prove of great use to the botanical students of the Pacific coast. It will be useful also to botanists elsewhere, since it brings together in convenient form the names and descriptions of the trees known to be native of that region. In all, the author includes 134 species, of which 42 are Gymnosperms. There is but one species of palm and two *Yuccas*. Of other common genera there are of willows (*Salix*) 11 species, *Populus* 3, *Juglans* 1, *Betula* 1, *Alnus* 3, *Quercus* 13, *Celtis* 1, *Crataegus* 2, *Acer* 4 and *Fraxinus* 3. The state has no native elms, magnolias, lindens, beeches, hickories, chestnuts, persimmons, nor mulberries, but it has in the Madroño (*Arbutus menziesii*) and the California laurel (*Umbellularia californica*) two most

interesting trees which go far towards making up for the loss of the former.

An especial interest attaches to this volume because it is one of the last issued by the California Academy of Sciences before its destruction by earthquake and fire, and still more because of the heroism of the author (who is also the botanical curator) through whose faithfulness and bravery some of the collections were saved. Such great devotion to duty, and entire indifference to personal danger as she displayed in the most terrifying experiences compel our highest admiration.

CHARLES E. BESSEY.

THE UNIVERSITY OF NEBRASKA.

#### DEGREES CONFERRED BY THE UNIVERSITY OF ABERDEEN.

AMONG the large number of doctorates of law conferred by the University of Aberdeen on the occasion of its recent quatercentenary, *Nature* selects the following as especially concerned with science:

Richard Anschütz, professor of chemistry, Bonn; Henri Becquerel, professor of physics, Paris; Sir James Crichton-Browne, Kt., Lord Chancellor's visitor in lunacy; Casimir de Candolle, Geneva; Frank Wigglesworth Clarke, chief chemist, U. S. Geological Survey, Washington; Yves Delage, professor of zoology and comparative anatomy, Paris; J. Deniker, librarian of the Museum of Natural History, Paris; W. Einthoven, professor of physiology, Leyden; Herbert Mackay Ellis, director-general, Naval Medical Service, London; Arthur J. Evans, keeper of the Ashmolean Museum, Oxford; Andrew Russell Forsyth, Sadlerian professor of pure mathematics, Cambridge; Sir Archibald Geikie, secretary to Royal Society; Arnold Hague, U. S. Geological Survey, Washington; H. J. Hamburger, professor of physiology, Groningen; Edward Hjelt, professor of chemistry, Helsingfors; Harald Høffding, professor of philosophy, Copenhagen; Ferdinand Hueppe, professor of hygiene, Prague; Howard A. Kelly, professor of gynecology, Johns Hopkins University, Baltimore; Surgeon-General Sir Alfred Keogh, K.C.B., director-general, Army Medical Service; Rudolf E. Kobert, professor of pharmacology,

Rostock; Casimir Kostanecki, professor of anatomy, Cracow; Hugo Kronecker, professor of physiology, Bern; Sir Francis H. Laking, Bart., G.C.V.O., physician in ordinary to His Majesty the King and the Prince of Wales; Commandatore Rodolfo Lanciani, professor of ancient topography, University of Rome; Charles Rockwell Lanman, professor of Sanskrit, Harvard University; Gustavus Mittag-Leffler, professor of mathematics, Stockholm; Oscar Liebreich, professor of pharmacology, Berlin; Sir Norman Lockyer, K.C.B., director of Solar Physics Laboratory, South Kensington; Sir Oliver Lodge, Kt., principal of Birmingham University; Friedrich Löffler, professor of hygiene, Greifswald; Donald Macalister, president, General Medical Council; A. B. Macallum, professor of physiology, Toronto; Sir John Macfadyean, principal of the Royal Veterinary College, Camden Town, London, N.W.; Lord M'Laren, vice-president, Royal Society of Edinburgh; Jinzo Matsu-mura, professor of botany, University of Tokyo, Japan; His Serene Highness Albert Honore Charles, Prince of Monaco; Wilhelm Ostwald, professor of chemistry, Leipzig; Edmund Owen, vice-president, Royal College of Surgeons of London; W. M. Flinders Petrie, professor of Egyptology, University College, London; Rev. George E. Post, professor of surgery in Johanite Hospital, Beirut; Sir Richard Douglas Powell, Bart., K.C.V.O., president of the Royal College of Physicians, London; Salomon Reinach, professor of archeology, Paris; Guglielmo Romiti, professor of anatomy, Pisa; Sir Henry E. Roscoe, late professor of chemistry, Owens College, Victoria University; Major Ronald Ross, C.B., Liverpool School of Tropical Medicine; Vladimir Scheviakoff, professor of zoology, St. Petersburg; Jakob Schipper, professor of English philology, Vienna; Dukinfield Henry Scott, hon. keeper, Jodrell Laboratory, Kew Gardens; William Napier Shaw, director of the Meteorological Office, London; Joseph J. Thomson, Cavendish professor of experimental physics, University of Cambridge; Frederick Trendelenburg, professor of surgery, University of Leipzig; Sir William Turner, K.C.B., principal of University of Edinburgh; Gius-

epe Veronese, professor of analytical geometry, Padua; Hugo de Vries, professor of physiological botany, Amsterdam; J. William White, professor of surgery, Pennsylvania University; J. W. van Wijhe, professor of anatomy, Groningen, Holland; Sir John Williams, Bart., K.C.V.O., late professor of midwifery, University College, London.

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*THE FRANCO-AMERICAN EXPEDITION TO  
EXPLORE THE ATMOSPHERE IN THE  
TROPICS.*

THE third cruise of the *Otaria*, the steam-yacht sent by M. Teisserenc de Bort, director of the private meteorological observatory at Trappes, near Paris, and by Mr. Rotch, director of the similar observatory at Blue Hill, near Boston, to explore the atmosphere over the tropical Atlantic has ended, and the yacht has returned to Havre after a very successful voyage of three months and a half.

Atmospheric soundings with balloons and kites were executed over the central part of the North Atlantic, the equatorial regions and the South Atlantic as far as Ascension Island. The soundings southwest and northwest of the Canaries confirm the conclusions reached during the two preceding cruises of the *Otaria*, namely, that the upper anti-trade blows from southeast or southwest, not only within the tropics but generally as far north as latitude 30°, and is found above the open ocean as well as above the Canaries. Farther north it is transformed into a westerly wind.

The observations with *ballons-sondes* revealed this new and important fact, that in summer over the equator, very low temperatures (reaching — 80° C.) exist in the upper air above 12 kilometers, being analogous to those occurring in winter at the same height in our own latitude.

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*SOCIETY FOR THE PROMOTION OF IN-  
DUSTRIAL EDUCATION.*

A PUBLIC meeting will be held at Cooper Union on Friday evening, November 16, at eight o'clock, under the auspices of the national Society for the Promotion of Industrial Education.