lem. It would be very desirable if authors of general physics text-books could be induced to exercise greater care in the treatment and statement of problems in calorimetry.

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CORYNEUM CANKER OF CYPRESS

THE Monterey cypress (*Cupressus macrocarpa*) is widely planted in the warmer temperate parts of Europe, South America, Australia and New Zealand. It has long been a favorite for hedges, windbreaks and for park purposes in the coastal region of its native California, occurring so generally that, like eucalyptus, it has become a characteristic of the landscape. The early California plantings enjoyed comparative freedom from pests and diseases. Then insects gained a foothold, becoming particularly active in trees on unfavorable sites and in the warm, dry interior valleys. Nearer the coast the cypress fared better and, while a gradual increase in damage from insects and root troubles has been noted, the loss among trees under proper care has not been large until the last two or three years, when dying back of specimens of all ages became general around the south half of San Francisco Bay. The injury was first attributed to the attack of bark-beetles, as these insects were commonly present in the dead trees. Mr. J. M. Miller, entomologist, United States Department of Agriculture, in the spring of 1927, reported to this office that he was unable to trace the dying back in certain trees at Palo Alto and Stanford University, California, to insects. From the appearance of the affected parts he was led to believe that a fungous disease might be responsible. The same trouble has since been found to be general in the portions of Alameda, Santa Clara and San Mateo Counties adjacent to San Francisco Bay. It has also been reported from Sacramento County, but is not yet definitely known to occur elsewhere.

Affected trees become conspicuous through the dying of individual parts of the crown, either branches or portions of the top. This continues until finally the entire tree is either killed or is rendered so unsightly that its removal becomes necessary. An inspection shows the dying to be due to the girdling action of bark cankers caused by a fungus. The affected bark first swells and soon begins to die in the central portion of the canker. The dying is accompanied by heavy resin flow, which furnishes one of the most characteristic indications for the presence of the canker. Ordinarily branch cankers are less than a foot in length, but on the main stem they may be longer. A pitch moth commonly works among the resinous material on the diseased bark, giving the appearance at first glance of being connected with the injury. The causal fungus is an apparently undescribed species of Coryneum, the blackish pustules of which usually appear irregularly scattered over the surface of the discolored, dead bark of the cankers. Inoculations on young Monterey cypress with spores of the fungus resulted in positive infections, both on wounded and unwounded young bark and on unwounded foliage. Typical acervuli of the Coryneum developed from a number of the infections. The common avenues of infection in the open have not yet been definitely determined. As control measures the removal of sources of further infection by the cutting-out and destruction of all cankers followed by applications of a standard fungicidal spray are indicated. So far the disease is confined mainly to Monterey cypress, but the well-known Italian cypress (*C. sempervirens*) is also severely attacked and it is not unlikely that other cypress species may be found susceptible.

No clue as to the origin of the disease has been found. To all appearances it has been present in certain of the localities where it is now serious for perhaps four or five years, but beyond that nothing is known. There is no record of any disease resembling it on the native cypresses of the state. Irrespective of its origin the canker has sufficiently demonstrated its destructive possibilities to warrant efforts for the prevention of its spread to localities where it is not now present. Further studies of the disease are under way.

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MORE RESEARCH

SPEAKING of *research:* Ré-search is bad enough, but how about ré-zearch? One hears this occasionally from doctors of philosophy in various sciences. I once knew a minister who used frequently to pray for ré-zawrse, thus perpetrating three distinct errors in one comparatively short word.

JAMES S. STEVENS
ORONO, MAINE

IN reference to the letters as to "The Pronunciation of Research," in SCIENCE for May 4, I think there will be universal agreement that the Oxford Dictionary is the final court of appeal as to spelling and pronunciation of English. That gives the accent on the second syllable of "research" used both as a noun and a verb, and also places the accent on the second syllable in "researcher."

W. H. KUN

IF there were any valid argument for accenting "research" on the first syllable, it would equally well apply to a great number of other words beginning with "re-," in which the force of the prefix is exactly the same (for those who advocate accenting the penult, "reinter" is a good one for practice!).

The solution of this problem (and of all others of similar character) is clearly and definitely indicated in an admirable little book by Martin C. Flaherty, entitled "How to Use the Dictionary" (Ronald Press Co. 1923). It can be read in a few hours and will richly repay the effort.

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CARNEGIE LIBRARY OF PITTSBURGH

CORRECTIONS TO THE BIOGRAPHICAL DIRECTORY OF AMERICAN MEN OF SCIENCE

IN the fourth edition stars should be attached to the subjects of research of Dr. Atherton Seidell, chemist in the hygienic laboratory of the U. S. Public Health Service, and of Dr. T. Wingate Todd, professor of anatomy in Western Reserve University. The copy was correct, but unfortunately the errors were passed by the proofreaders.

In the table (page 1128) showing the strength of institutions in the different sciences, Harvard University should be given a rating of 4.6 in anthropology, one man who was called to Harvard before the date of reference not having been so recorded. This places Harvard first among universities in anthropology and further emphasizes its dominant position. Changes in position are frequent, the situation having altered in a number of institutions between the date to which the table refers and the time of its publication.

Several less serious errors have been discovered, as also the omission of names that should be included. The latter situation, however, is inevitable, partly owing to the large number of individuals concerned and partly because some scientific men will not reply to requests for information.

J. MCKEEN CATTELL

REPORTS

WORK ACCOMPLISHED BY THE FIELD MUSEUM PALEONTOLOGICAL EXPEDITIONS TO SOUTH AMERICA

THE work undertaken by the Field Museum paleontological expeditions to Argentina and Bolivia has been finished. The party composing the second expedition returned to Chicago in November, 1927. Collections brought together by these expeditions from many localities have now been received at the museum.

These expeditions, made possible by the generous support of Captain Marshall Field, were active from 1922 to 1927. The work has been carried on by two successive expeditions under the leadership of the present writer. The object was to make collections of fossil mammals from as many as possible of the known fossil-bearing horizons of South America. A similar undertaking had not been made by a North American institution since the Princeton University expeditions to Patagonia of 1896–99.

The first expedition, consisting of E. S. Riggs, G. F. Sternberg and J. B. Abbott, set out from Chicago early in November, 1922, and proceeded to the Santa Cruzean formations of southernmost Argentina. Near the Port of Rio Gallegos the first working base was established. Collecting was carried on in the province of Santa Cruz until the end of the following May, when the approach of southern winter made a movement northward advisable. Collections amounting to 282 specimens of fossil mammals, together with a few specimens of fossil birds, were made from the Santa Cruzean formation. This number included 177 skulls, with a few skeletons more or less entire. According to field determinations, this collection included thirty-two genera of fossil mammals, and a considerably larger number of species.

With the approach of winter the party moved northward to the vicinity of Commodoro Rivadavia. There the months of July and August were passed in collecting recent mammals and birds when weather conditions permitted.

The second working season, from September to May, 1923–4, was devoted to collecting fossil mammals from the earlier fresh-water formations, designated by North American geologists as the Deseado Series, and referred by them to the Oligocene period. Collections of fossil shells to the number of three hundred, and a few specimens of cetaceans, were also made from the Patagonian Beds. Some collections of Cretaceous dinosaurs were made from the San Jorg formation. A fossil forest of *Araucaria* was discovered near Cerro Madra y Higa of the province of Santa Cruz, and a collection of 250 specimens of cones, twigs and branches made from it. Unrecorded occurrences of Deseado mammals were examined near this point and at another locality in the vicinity of Pico Truncado.

Of the Eocene mammals, only a limited collection was made from the "Nothostylops Beds" of Ameghino. A larger collection, comprising 256 specimens, was collected from the upper fossil-bearing horizons of the Deseado formation, including the "Astraponotus Beds" and the "Pyrotherium Beds" of Ameghino. No less than eight widely separated fossil-bearing localities were examined, and a reconnaissance was made through the northern part of the province of