mortiera, and in spite of certain differences which Goebel points out, I am inclined to believe that the two genera are pretty closely related. In Monoselenium there is a marked degeneration of the sporophyte, the elaters being quite rudimentary. Spores and elaters of the Oakland specimens agree exactly with Goebel's figures.

There can be no doubt that the Californian specimens have been introduced with nursery stock from China or Japan, and a careful search in those countries would probably show that the plant is not an exceptionally rare one.

DOUGLAS HOUGHTON CAMPBELL
STANFORD UNIVERSITY

COAL BALLS

I AM anxious to obtain information on American coal balls, such as have been found mostly, up to now, in the coal seams of England and northern France, and which were used by J. Lomax in Bolton, England, for his magnificent thin sections of paleozoic plants. The coal balls have not been reported anywhere in North American coal seams, but they exist here. A splendid specimen of such a coal ball was obtained by the Illinois State Geological Survey at Harrisburg, Illinois, O'Gara Mine No. 9, and others were collected by myself in coal seam No. 5 in Illinois and coal seam No. 9 in Kentucky. Recently a coal ball from Newcastle, Texas, was sent to me by W. E. Wrather. These so-called coal balls are well preserved and petrified plant tissues which appear in brown or black lumps in upper portions of coal seams. Their preservation is due there to penetration by silica or calcium carbonate. They allow microscopic examination of the most minute details. I think some of the bone coal, called so by miners, and quoted occasionally in literature, may be coal balls.

It would be extremely gratifying if a sufficiently large number of American coal balls would be discovered to increase materially our knowledge of carboniferous plant morphology which is now exclusively based on English and French material. I shall be very glad to receive any communications from coal operators or state surveys which may lead to the discovery of deposits of coal balls.

A. C. NOÉ
UNIVERSITY OF CHICAGO

A FUND FOR GERMAN AND AUSTRIAN LABORATORIES RAISED BY THOSE WHO HAVE WORKED IN THEM

"We should rather through the instrumentality of men of science soften the asperities of national hostility."—Humphry Davy to a delegation from the French Academy which went to London in 1807 while war was in progress between England and France.

The desperate financial condition of the German and Austrian laboratories is well known. If any one desires to help a specified laboratory or a specified head of a laboratory, any contribution given will be sent as from the donor directly to the individual in charge of such laboratory.

The following individuals were the first to subscribe to this fund, which already reaches $2,175:

Abel, J. J.; Baldwin, E. R.; Carlson, A. J.; Chittenden, R. H.; Conner, L. A.; Cushing, H.; Dakin, H. D.; Farnam, H. W.; Greenwald, I.; Hatcher, R. A.; Howland, J.; Kerr, A. T.; Kingsbury, B. J.; Lee, F. S.; Lilienthal, H.; Lusk, G.; Marine, D.; Means, J. H.; Meigs, E. B.; Mendel, L. B.; Niles, W. L.; Palmer, Mrs. W. W.; Peabody, F. W.; Pierce, H. F.; Pike, F. H.; Pratt, J. H.; Pritchett, H. S.; Ringer, A. I.; Robinson, C.; Scott, E. L.; Shaffer, P. A.; Simpson, S.; Sollman, T.; Stern, Miss F.; Talbot, F. B.; Tiffany, Mrs. C. L.; Wallace, G. B.; Wilder, R. M.; Woodyatt, R. T.

Checks of $5 to $150 have been received: any sum will be welcomed.

Make checks payable to Graham Lusk, *Treasurer,* 477 First Avenue, New York City. The fund will be closed on May first.

GRAHAM LUSK
CORNELL MEDICAL SCHOOL

QUOTATIONS

SCIENCE AND THE PACIFIC

ON the invitation of the Commonwealth Government, which has promised the sum of £5,000 towards the cost, a Pan-Pacific Congress is to be held in Melbourne and Sydney in August and September of this year. The National Research Council of Australia has arranged an extensive program and invitations are being issued to the scientific men of countries bordering on, or having interests in, the Pacific. The Pacific Ocean is a geographical and biological unit, and many problems of

scientific and practical interest can best be solved by the cooperation of people with local knowledge—if, indeed, the word "local" can be applied to so large a part of the surface of the globe. The first Pan-Pacific Congress was held at Honolulu in 1920, on the initiation of the National Research Council of the United States, which issued the invitations and arranged the program. In commenting at the time on this striking evidence of the growing importance of the Pacific in the economy of the world and of the shifting of the center of gravity of American interests from the Atlantic seaboard, we remarked that the world was round, and that the congress at Honolulu would reach problems which the British Empire approaches from the other side.

We are the more glad to record the important step taken by Australia and to offer our best wishes for the success of the meeting this year. Although the United States and Canada, Australia, New Zealand, China and Japan have the more immediate interest in the science of the Pacific, there is no geographical limit to the advantages gained from the acquisition of knowledge. Not long ago it was thought, for example, that meteorology of the northern hemisphere could be investigated sufficiently without reference to what takes place south of the equator. But the world is an organic whole, and the storm centers, currents of the air and of the oceans, even the vibrations of the solid earth, have a general effect. The geology, the animals and plants, the races and the habits of men in any one part of the world must be understood if we are to advance in our knowledge of any other part of the world to comprehend the past, to adapt ourselves to the present and to make reasonable anticipations of the future. It is to be hoped that the leading scientific bodies in this country will send delegates to the Pan-Pacific Congress in Australia.—*The London Times.*

SCIENTIFIC BOOKS

THREE OF A KIND

Handbook of Meteorology, A Manual for Cooperative Observers and Students. By JACQUES W. REDWAY. John Wiley and Sons, 1921. 294 pp. Price $4.00.

The New Air World, The Science of Meteorology Simplified. By WILLIS LUTHER MOORE. Little, Brown and Company, 1922. viii + 326 pp. Price $3.00.

Climatic Changes, Their Nature and Causes. By ELLSWORTH HUNTINGTON and STEVEN S. VISHER. Yale University Press, 1922. xiii + 329 pp. Price $3.50.

The above three of America's latest book contributions to meteorology have a peculiar group distinction (that is why they are reviewed *en bloc),* the distinction of running from horrid to worse in whatever order one may read them.

Mr. Redway says that his book was written "for the use of cooperative observers and for the instruction of students in meteorology and aeronautics." But no such worthy purpose can be accomplished by a book that literally has more errors and loose statements than pages, especially when many of these errors are fundamental.

A few "horrid examples," selected from a very great number, will indicate, perhaps, what radical revision this book must undergo before it can be recommended for serious use:

Page 2: "Carbon dioxide is not observable above an altitude of two or three miles." But it is "observable" at much greater altitudes, as we know from those who have made such observations, and as we are compelled to assume from the fact that vertical convection keeps the atmosphere well mixed through a depth of six or seven miles.

Page 3: Here it is stated that at the surface of the earth ozone amounts to twelve parts (whether by weight or by volume is not stated) per million of the atmosphere. Presumably the author found this statement somewhere, but at the same time he had access to the results of those modern observations that have shown that the lower atmosphere contains no more than bare traces of ozone.

Page 6: "Strictly speaking, it is the vapor itself and not the space, nor the air, which is saturated." Obviously, the author got the idea in some way that it is not scientifically exact—and it is not—to say that the air is saturated, and then deliberately made a worse statement.

Page 12: The various statements on this page, largely mere jumbles of words, are good