antine for their supposed rotenone content. Although all the samples gave a positive Durham test and Gross-Smith-Goodhue (G-S-G) test, no rotenone or any of the rotenoids could be isolated from any of them.

However, fractionation of the chloroform extractives of the seed collected at Vermillion, S. Dak., by the Soil Conservation Service yielded a compound that melted at 151–151.5° and gave a positive reaction in both the above mentioned tests. The name "amorphin" is proposed for the new compound. Analysis showed it to correspond to the formula $C_{33}H_{40}O_{16}$. The compound gave a positive orcin test but did not reduce Fehling's solution. When warmed in concentrated hydrochloric acid, the compound readily dissolved, and when further heated a product separated that after purification melted at 191–192°. Analysis showed it to correspond to the formula $C_{22}H_{22}O_7$. It also gave a positive reaction in both the Durham and the G-S-G test. The compound, tentatively designated "amorphigenin," also was obtained from the ether extractives of the seed. The acid filtrate obtained in the hydrolysis of amorphin readily reduced Fehling's solution.

It thus appears that *Amorpha fruticosa* contains a glycoside which, as well as its aglycone, behaves similarly to rotenone in certain color tests. Details of the experimental procedure will be published elsewhere.

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POST-WAR PLANNING IN RUSSIA

ISSUE No. 20 of the *Astronomical Circulars* published by the Bureau of Astronomical Information of the Academy of Sciences of the U.S.S.R., dated August 13, 1943, contains an interesting plan by D. J. Martinov for the construction of a large southern astrophysical observatory. This plan was apparently presented at a conference of astronomers last September, together with reports by G. A. Shajn and I. A. Dukov on the development of astrophysics and positional astronomy in the U.S.S.R. The destruction of the Pulkovo Observatory has made it necessary to reconsider former plans, and it is now suggested that Pulkovo be reestablished as a center of positional work, together with the Engelhardt Observatory near Kasan, the Nikolaeff Observatory and the Tashkent Observatory. Astrophysical work, on the other hand, is to be largely transferred to a new powerful observatory for which the city of Simferopol in the Crimea has been suggested. This institution is to consist of a central office in or near Simferopol, and of three observing stations—a mountain station at an elevation of about 2,000 meters (presumably in the mountains south of Simferopol); a high-altitude station for solar research at 3,500 meters, and a southern station, possibly in Africa. The equipment is to consist of two 80-inch reflectors (at Simferopol and in Africa), one 120-inch reflector (at the mountain station), two 16-inch double astrographs, one 50-inch and one 30-inch Schmidt telescopes, solar towers similar to those of Mount Wilson, a nebular spectrograph, a coronagraph of the type of Lyot, two 30-inch refracting telescopes (the author says "two reconstructed Pulkovo refractors . . ." which suggests that these instruments were saved), and numerous accessory instruments.

The author recommends that many of these instruments be ordered abroad because

> there are foreign firms which have established reputations in this field and to duplicate their experience and skill at home would take too much time; the construction of such giant instruments as the 120-inch and 80-inch reflectors in this country (the U.S.S.R.) would take many years, while the firm of Warner and Swasey would undoubtedly carry out such a project rapidly and skilfully. Similarly, in the construction of measuring instruments there is no need to compete with the Gaertner Scientific Corporation, or in the construction of accurate clocks with the Shortt concern.

The staff of the new observatory is to consist of 60 to 70 trained astronomers. Since there are not now enough persons available with the required astrophysical experience, it is suggested that the existing universities in the U.S.S.R. at once begin the training of some 60 to 70 students in each organization. The plan provides for the completion of the equipment and the staffing of the observatory in about 1947. For the purpose of facilitating the training of the necessary staff, the author recommends that orders be placed at once abroad for the purchase of various instruments at a cost of two or three million rubles.

The breath-taking scope of this plan will probably startle those who have had little inclination during the past two years to indulge in post-war planning. It shows an extraordinary spirit among the scientific workers of the U.S.S.R., especially if we consider that the plan was prepared at a time when even the proposed site of the new observatory was still in the hands of the enemy. Perhaps it would be advantageous to the organizers of the astrophysical observatory in Russia if they would augment their plan by sending to the United States and to Great Britain a few of their best astrophysicists. These visitors could study the performance of various types of instruments and profit from the experience of existing observatories. They could also broaden the basis of their interests and secure adequate training in those

branches which have not previously been developed in Russia. Since it is generally recognized that Russian astrophysicists have obtained remarkable results in many fields of study the benefits of such an arrangement would be by no means one-sided and our own observatories would gain enormously from the contact.

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IS TEACHING ABILITY RECOGNIZED?

LIKE a refrain one hears in current discussions of academic problems remarks like the following: "These objectives can be obtained only if the teaching ability of faculty members is given as much recognition as is given to research ability." "Teaching ability is not rewarded by our colleges as is research ability."

If some one does not soon question the accuracy of these statements they will come to be believed through mere repetition. The first time I ever heard the validity of such assertions openly and adequately challenged was during the meeting of the American Society of Agronomy at St. Louis in November, 1942. A session was being held on teaching and its problems. A guest speaker had repeated the time-worn remark that in our colleges teaching is not rewarded as is research. In the course of the discussion which followed Dr. H. K. Hayes, of Minnesota, offered the comment that teaching ability in that field was recognized and rewarded. He added that if necessary he could present the proof.

The discussion went on. As I was a visitor, only a few of the men present were known to me personally. It was, however, evident from the remarks that many of them were men of unquestioned eminence in their field. The group evidently included a good number of heads of large departments of agronomy and a sprinkling of deans of agriculture. Finally some one asked Professor Hayes for his proof. His reply, which I quote from memory, was somewhat as follows: "I have objective proof. It is here in this room. I do not wish to embarass anyone so I will not name individuals unless someone insists, but I see here a goodly number of individuals of recognized standing and influence in their fields whose positions rest on their recognized ability as teachers rather than as investigators." That ended the discussion.

One result of the discussion thus ended was that I started a survey of the teaching of botany in the United States during the past generation. Some portion of the material assembled will be published elsewhere. One of the conclusions to which I have come is a wholehearted agreement with Professor Hayes's spontaneous outburst at St. Louis. It makes little difference what objective criterion of eminence one chooses provided the list contains a fair number of names. A list of presidents of the Botanical Society of America will serve or a list of the presidents of any of the other societies concerned with plant science or the chairmen of Section G, or of those who have received the now much discussed "stars" in "American Men of Science." In any case one finds a large percentage of those who are known first and foremost as teachers. This is particularly impressive when it is realized how many of our colleagues have to give all their time to research or administration.

The same thing may not be true in fields other than those of the plant sciences. At least the question may fairly be raised regarding them. Of course I have no information as to the salaries received by these outstanding teachers; that seems to be the critical point, but it seems unlikely that they have been conspicuously less well paid than their fellows.

Apparently one source of the assertion so freely made that teaching ability as such is not adequately rewarded is the failure of those who make it to recognize that teaching ability may be coupled with other abilities. In other words, the mere fact that a member of a college faculty is unable or unwilling to carry out a research program does not constitute *prima facie* evidence of teaching ability of a high order.

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SCIENTIFIC BOOKS

ERUPTIVE ROCKS

Eruptive Rocks, Their Genesis, Composition, and Classification, with a Chapter on Meteorites. By S. JAMES SHAND. Second edition. New York: John Wiley and Sons. London: Thomas Murby and Company, 1943. Pp. xvi + 444; figs. 47, pls. 3. $5.00.

THIS second edition of Professor Shand's notable book has been extensively revised. The wide field and laboratory experience of the author and his many contacts with the points of view of petrologists of three continents, as a student in Scotland and as a teacher in South Africa and America, give him an unusually comprehensive grasp of the subject. This has resulted in a book which gives the best elementary treatment of the eruptive rocks that is in print. The author has a wide familiarity with the literature and lists many references at the end of each chapter. Throughout, the discussions are brief and critical, and they preserve an excellent balance between the field,