recruiting and development of the personnel in advanced teaching and research positions." The support of selected fellows for long periods at a low stipend undoubtedly favors the gradual and natural absorption of these men into the various institutions of the country. How often have we seen a young man come to the end of a two-year fellowship with an investigation well under way, and then, for financial reasons, accept some position where his scientific work must be dropped!

The novel features are still more striking in the disposition of the remaining 60 per cent. of the funds. Subsidies amounting to $28,500 were granted to 23 "associates." These "associates" are men of an established scientific reputation who are on the regular staffs of universities or institutes, the subsidy allowing them to go on a "part-time" basis, so that they may have time and energy to continue their investigations. The total salary, however, is never allowed to exceed that of their colleagues on a full-time basis. In this way the foundation endeavors to counteract some of the undesirable results of the system of regular routine promotion and emphasis on teaching which has ruled in the Belgian universities.

Partly due to the policy of the Fellowship Board of the National Research Council, we have tended to concentrate scientific work in a few institutions. This is doubtless a wise policy in dealing with young men who gain very much from association with a group of active co-workers. But science can not exert the proper influence on the educational life of the country if it is confined to a few research institutes. It is easy to imagine the effect of a policy such as that followed by the foundation with its "associates," in giving prestige to serious, scholarly and scientific work in all the institutions of the country and weaning them gradually from contentment with lesser ideals.

A third category contains subsidies to investigators "who have won distinction by their scientific work." Thirty-two received $25,300 for financial assistance in carrying out various investigations; $10,400 was distributed to 32 applicants for expenses in traveling and visiting laboratories in different countries, and $10,000 was used in paying technical assistants for 13 scientists.

In addition, apparatus costing $26,500 was purchased and loaned to various investigators. This apparatus remains the property of the foundation which, as the result of purchases in preceding years, now has at its disposal apparatus valued at $160,000.

The foundation also provides annually a sum of $31,250, which is devoted to paying life annuities, not exceeding $1,250 each, to certain distinguished scientists, selected apparently on the basis of the prizes and honors that have been awarded to them. As the report explains: "The council considers it its duty to create for certain particularly eminent men of science a position worthy of the rôle that they play in the moral and material development of the country." The recognition of such a group probably emphasizes the diversified character of scientific advance and the fact that constant effort is called for on all fronts.

It is apparent that in Belgium the national importance of sustained scientific work and the continuous selection and development of able men in the institutions of the country is vividly realized, and measures are being taken which far exceed in relative magnitude any analogous ones in our country.

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OAK TREES AND THE WHITE GRUB MENACE

THE southern half of the state of Wisconsin is characterized by an oak-hickory climax forest. This area coincides closely with the estimated areas of severe grub damage to pasture and corn land. Further, most of this injury is caused principally by the grubs of four species of June beetles which have a marked preference for certain varieties of oak, notably bur oak. It would appear that a correlation exists in nature between the abundance of certain injurious species of white grubs and certain preferred adult food plants.

In the choice of trees for propagation, either on a small scale or on a gigantic scale such as the U. S. Shelter Belt project, each variety should be considered in relation to its relative attractiveness as June beetle food not only from the standpoint of the successful establishment of the young trees but also from the standpoint of the possible associated increase of harmful insects, such as white grubs. The same extremely harmful species of June beetles so abundant in Wisconsin which have predominant oak feeding preferences are now present in small numbers in at least part of the area to be crossed by the proposed shelter belt. If conditions are made more favorable for these and other pests future farmers may face conditions just as serious as drought.

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THE BIOLOGY OF THE BLACK WIDOW SPIDER, LATRODECTUS MACTANS[1]

DURING the past three years the writers have made numerous collections of the black widow spider in Ravalli County, Montana. During this period there

[1] Contribution from the Rocky Mountain Laboratory of the U. S. Public Health Service, Hamilton, Montana.

has been a continuing infestation in the main buildings and outbuildings of the Rocky Mountain Laboratory of the United States Public Health Service at Hamilton, and the spiders have been occasionally found in residences within the city. However, they have been most frequently met with in the burrows of the Columbian ground squirrel, *Citellus columbianus*.

During the spring and summer the spiders are found in or at the margin of irregular webs stretched across the openings of the ground squirrel burrows, especially of those which are deserted. When disturbed they retreat to the walls some distance back from the opening. This habitat is favorable because of rather plentiful and constant insect fauna which is associated with the underground tunnels and nests.

The underground conditions are also well suited for successful hibernation, since the burrows extend below the usual frost line. During the excavating of squirrel nests in November and December, 1932, after the surface soil was frozen, spiders were found deep in the burrows. Immature specimens, as well as males and females, were found in the tunnels and nests.

This spider has also been encountered in abundance in the semi-arid, unirrigated bench lands of the Yakima Valley in Washington, where characteristic webs, egg cases, spiderlings and females were found in the openings of abandoned warrens of cottontail rabbits.

These observations suggest that rodent burrows form an important natural habitat for the breeding and hibernation of *Latrodectus mactans* in the northwestern states.

WM. L. JELLISON
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A NEW SOUTH DAKOTA METEORITE

THE South Dakota State School of Mines recently came into possession of an iron meteorite found in the spring of 1934 on the W. L. Dale ranch located at the head of Black Pipe Creek in northeastern Bennett County, South Dakota. The specimen was unearthed by a farm helper while disking a field in planting corn. The field had been cultivated for several years, and nothing unusual had been observed. The disk struck the meteorite, the impact producing a peculiar sound and this led to investigation, including some digging. The conditions were much as might be expected in connection with any field stone, and there were no observable signs of the meteorite having fallen recently. The specimen was found in the northeast corner of the southeast quarter of section 32, township 33, range 39. This is approximately 35 miles northeast of Martin, the county seat of Bennett County, and 10 miles south and 3 miles west of the post office of Norris.

The meteorite, designated as the Bennett County meteorite, is a smooth, compact, irregular saddle-shaped mass 16 inches (407 mm) long; 12 2/3 inches (321 mm) wide; and 10 1/2 inches (267 mm) high in the highest part, measured perpendicular to the somewhat flat base. Its weight as found was 195 pounds 11 ounces. Much of the surface is pitted. A considerable part of it has a smooth, somewhat shiny and nearly black surface, while other parts, particularly the base, is largely covered with a brownish-yellow oxidized coating. An analysis of unoxidized drillings shows the contents as follows: iron, 94.26 per cent.; nickel, 5.25 per cent.; cobalt, 0.46 per cent.; sulphur, 0.04 per cent. The analysis does not indicate carbon, but microscopic examination discloses occasional small particles of graphite. In addition to the nickel-iron alloys polished surfaces reveal numerous small inclusions of triolite. Some of the triolite is in the form of nodular inclusions and some of it in thin veins. Polishing and etching reveal coarse Widmanstatten figures, but further study of the structure is necessary before the meteorite can be definitely classified as to type.

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GROUND WATER AND FOREST BELT

PROFESSOR H. J. LUTZ, of the School of Forestry, Yale University, has kindly called my attention to an error in the statement of one of the illustrations used to emphasize the importance of a sound basis of scientific knowledge as prerequisite to any proper program of national planning in respect to natural resources.

On page 390 in SCIENCE for November 2, 1934, I stated:

> Again, scientific study has recently shown that, if the number of trees per acre is reduced below a certain minimum in the yellow pine belt just east of the Cascade Mountains, then the ground water level drops and the country becomes a desert.

It is well known that the ground water level is lower beneath a forest than it is under most other types of vegetation. The effect of cutting a forest is not in general to lower but to raise the water table. I am informed that the natural spread of the forest belt east of the Cascades in central Oregon is initially promoted not by a favorable change in the ground water but because of an irregularly recurrent increase in surface moisture which provides both seeds and seedlings especially favorable opportunities for growth.

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