

foundations at the ground level and on or under vegetation where the air is damp. One spring day, Miss Burger and the writer took 50 individuals of varying stages from the stones of a rock-banded curbing 35 × 2 feet in area. Six months later, the identical site yielded five mature females, one mature male and two immature females. A pile of scattered fenceposts left lying in a field in April had from one to six mature females under each post in October.

In the fall of 1935, an undergraduate in one of the writer's classes was bitten on the hand upon retrieving a tennis ball. Apparently in the very short interval of time the ball lay in the grass outside of the court, a female black widow clung to it and then inflicted the bite as it was picked up. This student's symptoms were typical: The sensation of a pin prick, pain increasing in intensity and localizing in the lower torso, a marked rigidity of the abdominal muscles and prostration. In spite of opiates and other measures, pain, so intense that a wooden gag was necessary, was experienced for about two days. Apparently this case is the first time a student has been bitten while in residence, though the spiders are seen on nearly every collecting trip. In the Elementary Biology Laboratory, one or more *Latrodectus* cultures are kept going most of the year and all students in field courses are warned to respect this dangerous arachnid.

From his personal experience, the writer has concluded that (1) the black widow is abundant in Tidewater Virginia, (2) it is unlikely to inflict its poisonous bite unless handled, and far from invariably then, and (3) its bite is so serious, especially to children, that reasonable caution should be observed when poking into situations where it is likely to be.

It may be relevant to conclude this account with a true and rather amusing anecdote. Some Williamsburg children, sons and daughters of professors as well as colored children, are in the habit of collecting insects and spiders and selling them to biology students for one cent each. One little colored boy discovered purveying black widows at this price was told of the dangerous character of such merchandise. A few days later he was found still selling black widows—but his price had jumped to a nickel each.

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#### THE ADSORPTION-ABSORPTION AND TRANSLOCATION OF DERRIS CON- STITUENTS IN BEAN PLANTS

OBSERVATIONS in field work in which derris and cube were used as insecticides showed possibility of the constituents of these roots being adsorbed-absorbed and translocated to new growth of the treated plants.

Two varieties of beans (Pinto and Burpee Stringless Green-pod), grown in pots under greenhouse conditions, were treated before the first trifoliate leaves appeared with suspensions of derris in water, containing 0.025, 0.05 and 0.25 per cent. rotenone. Some of the plants were treated by spraying the entire plant with a compressed-air hand sprayer, some by painting only the first pair of true leaves and some by painting only the stems.

As soon after treatment as the first trifoliate leaves had attained a fair size or about the time the second trifoliate leaves were opening, the first trifoliate leaves were removed from the plants and used for tests. Larvae of the Mexican bean beetle (*Epilachna varivestis* Muls.), confined in open glass cells, were allowed to feed on these leaves and the leaf areas consumed were measured. There was very low mortality among the larvae feeding on the new growth from either the treated or the untreated plants. There was, however, a definite reduction in feeding area of new growth on treated plants over that on untreated plants. This reduction in feeding area was observed on the first, second and third trifoliate leaves.

Chloroform extracts were prepared from the same plants as those used for the feeding tests. These extracts were prepared for biological and chemical tests by evaporating to dryness and removing the residue with acetone. An aliquot of the acetone solutions was tested against goldfish (*Carassius auratus*) in water suspension, and 100 per cent. mortality was observed in every case. No mortality was observed in extracts prepared from untreated plants. Where sufficient leaf material was available, an aliquot was used for the colorimetric analysis.

The data accumulated thus far indicate that derris constituents are being adsorbed-absorbed and translocated to new growth of bean plants treated with a suspension of derris powder in water.

A more detailed paper will be presented elsewhere.

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#### THE SIXTH EDITION OF THE BIOGRAPHICAL DIRECTORY OF AMERICAN MEN OF SCIENCE

A NEW edition of "American Men of Science" is now in preparation. It should be ready in about a year, the present plan being to issue the work once in five years. The fifth edition was published in March, 1933; the dates of publication of the earlier editions were 1906, 1910, 1921 and 1927, one edition having been omitted owing to war conditions. The number of

entries in each successive edition has been about 4,000, 5,500, 9,500, 13,500 and 22,000.

This geometrical increase in the number of American workers in science is most promising for the future of our civilization; but it makes difficult the preparation of a biographical directory containing all the names. Those listed in the directory have probably done more for the welfare of the American people than all the business men of New York and all the political leaders in Washington. But by the nature of things only a few of them can be distinguished.

For a long series of years I compiled and printed in *SCIENCE* a list of all doctorates in science given by American universities with the subjects of the theses. In 1906 when the first edition of "American Men of Science" was published there were 139; now there are nearly 2,000. The increase in college graduates is still greater; in high-school graduates it is truly remarkable.

It is a problem of interest, which a work such as "American Men of Science" may help to solve, whether scientific men as a group are now on the average less able or do less important work than formerly. They are less distinguished; there may be as many leaders in a savage tribe as in a great nation. The saying "we can not see the forest for the trees" may be reversed to "we can not see the trees for the forest." We should expect to find more able men in a group of 2,000 than in a group of 139, but it may be that the selection is now less severe. We certainly seem not to have as many great men of science as in 1906.

For the new edition of "American Men of Science" we have on cards more than 12,000 new names supposed to have the qualifications used in previous editions. These are the possession of a doctor's degree or similar preparation, the publication of research work contributing to the advancement of science, and the holding of a position that promises a scientific career. It is difficult to select from those having these qualifications the ones who may be expected to contribute most to the advancement of science; yet it is now or will soon become impossible to include in one volume biographical sketches of all those in America who are engaged in scientific work. Under these conditions the editors would like to receive advice from those included in the directory concerning the advisability of several alternatives, namely: (1) Publish the book in two volumes; (2) decrease the length of the entries; (3) give only the names, addresses and positions of those whose sketches have not been changed significantly since the preceding edition was published and (4) limit the entries to about 25,000 of those whose work is supposed to be of most value.

In spite of the circumstance that the directory is as large as it should be, it is the object of this com-

munication to ask those who read it to send to the editors the names, addresses and qualifications of scientific men and women whose names do not appear in the fifth edition and who should now be included. Our lists are nearly complete for those who have received higher degrees since the last edition was published, for those who hold positions in some seven hundred colleges and universities, for those who have contributed to leading scientific journals and for members of scientific societies with research qualifications. But there are other groups not so complete, such as physicians, engineers and others engaged in the professions who have contributed to the advancement of science; teachers in normal colleges, junior colleges and high schools; federal, state and municipal employees; workers in industrial and private laboratories, amateurs and others.

It is further urged that those who have not returned the requests for the needed information do so at once and that those who have received the entries from the fifth edition return them as soon as is convenient with the needed corrections and additions. Proofs will be sent when the sketches have been put in type. It is most desirable that entries and proofs be returned promptly, for otherwise the sketches can not be included in the book, except in special cases when the data can be verified from other sources.

The omission of names that should be included not only detracts from the value of the book, but may be serious for those concerned, for the directory is largely used in connection with appointments, awards, the acceptance for publication of manuscripts and the like. A university executive told me recently that he used the book more frequently than any other and had supplied an additional copy to each of his two secretaries. An executive responsible for recommending the award of large sums in grants has told me that when he leaves home he always takes a copy with him.

The Biographical Directory of American Men of Science is not intended to be only an address book, though it is hoped that as such it is useful. The editor was originally interested in collecting the material for a scientific study of scientific men. Perhaps no advance in our knowledge of the material world can be of such great value as knowledge concerning the natural qualities and environmental conditions favorable to scientific research. If we find the men and give them the opportunity the rest will follow. A second primary object of the work is to make men of science acquainted with one another and with one another's work. As the editor remarked in the preface to the first edition:

There scarcely exists among scientific men the recognition of common interest and the spirit of cooperation which would help to give science the place it should have in the community. It is fully as important for the nation

as for men of science that scientific work should be adequately recognized and supported. We are consequently in the fortunate position of knowing that whatever we do to promote our own interests is at the same time a service to the community and to the world.

The editorial work and difficulties in the preparation of the book are great; the costs of preparation and

publication are large. The editors ask those engaged in scientific work to continue the cooperation that they have given in connection with the earlier editions over a period of thirty-five years.

J. McKEEN CATTELL

GRAND CENTRAL TERMINAL,  
NEW YORK, N. Y.

## SCIENTIFIC BOOKS

### GEORG WILHELM STELLER

*Georg Wilhelm Steller, the Pioneer of Alaskan Natural History.* By LEONHARD STEJNEGER, Cambridge, Mass. Harvard University Press, 1936. Pages i to xxiv, and 1 to 623. Frontispiece in color of Catesby's and Steller's Blue Jays; headpiece, the Free Imperial City of Windsheim; and plates 1 to 29. Price, \$6.00.

THE cross marking Steller's grave and the grave itself have long since washed away; but the young and enthusiastic German naturalist, for twelve years in the employ of the Imperial Academy of Sciences of Russia, has a much greater monument in the biography just published by Stejneger. There is no one so competent to write such a book. As he says in his introduction, the subject of this biography was thrust upon him and was not picked out by choice. Its inception dates back to the days when Professor Spencer F. Baird, secretary of the Smithsonian Institution and director of the National Museum, commissioned the author to go to Bering Island to investigate rumors about the Steller sea-cow, which the hero had discovered on Bering's ill-fated expedition to Alaska. At that time Stejneger spent two summers and one winter (1882-1883) on the Komandorski Islands and Kamtchatka, the winter being passed on Bering Island where the remnants of Bering's crew, including Steller, wintered in 1741-42. Since then Stejneger has visited Bering Island four times, but for much shorter stays. It is no wonder that he became interested in the life of Steller.

Stejneger was more fortunate than Steller; for, though he never saw a live sea-cow, he brought back skeletons, while Steller, for lack of room on the rebuilt *St. Peter*, was permitted no space for carrying to Kamtchatka such a large animal.

During his visit Stejneger made a detailed map of the island, every part of which had been traversed by Steller or the other survivors. This map was used as the topographical basis for the work of the Russian Geological Survey.

There is practically nothing in Steller's life that Stejneger has omitted. Beginning with his family history, his birth on March 10, 1709, Plate 1 is a photo-

static copy of the page of the St. Kilian Church register, Windsheim, showing the record of Georg Wilhelm Stöhler's baptism. When Stöhler entered the Russian service, he found no satisfactory equivalents of the letters of his name and so changed it to Steller. In 1927 the author visited Steller's birthplace, and in 1930 went to Halle to look into his university background. He also searched libraries and obtained many photostatic prints of manuscript records regarding Steller's life. Steller had a gifted mind. He was a theologian, physician and, most of all, a naturalist. He was a true "medical truant." Only three times in the book does the reviewer recall references to Steller as a physician: first when he early entered the Russian Army service, later and foremost during the outbreak of scurvy aboard Bering's vessel, the *St. Peter*, on the second Kamtchatka Expedition, and finally when he was critically ill and refused to take medical advice, saying that he was a medical man capable of looking after others and also himself. The outbreak of scurvy is excellently described. It is interesting that two naval surgeons of the second ill-fated Kamtchatka Expedition, both Germans, Johan Theodor Lau and Heinrich Schäfer, attended Steller in his last illness (1746) at Tyumen, Siberia, although they had not been assigned to the *St. Peter*.

One is struck with the absence of a portrait of Steller, until on page 157 he reads: "Unfortunately no description of Steller's physical attributes has been handed down to us, much less any portrait." His mental characteristics are better known, namely, that he was high-strung, temperamental and indefatigable. His industry and innate optimism are well brought out, for, when shipwrecked on an unknown island (Bering), he wrote the manuscript of "De Bestiis Marinis" when other men would have bemoaned their fate.

Forty-four pages at the end are designated as appendices:

- A. A description of the pictures of the sea-cow. [Exterminated in 1854, if not earlier.]
- B. Steller as an ichthyologist.
- C. Steller as a botanist.
- D. Steller's hitherto unpublished letter [to Johann Georg