ments being made in the instrument and its accessories, as well as in the methods of its manipulation and application. Some of them join with others of like predilections in organizations which are commonly called 'microscopical societies,' the purposes of which are mutual stimulation and the enjoyment and propagation of scientific — shall I say dilettanteism? — yes, if you like. At any rate, these gentlemen are engaged in very nearly the same kind of work that *Science* is engaged in; and many of them take your paper, and not only read it, but, when it presents subjects which they can illustrate or test by means of their microscopes, they undertake to see for themselves, and form their own conclusions. A smaller number of them even presume to make original investigations of one kind or another; and some of them actually add a new fact now and then to the great treasury of scientific truth, though it may often be such a little fact as not to attract much attention. I do not think they are usually men of great conceit; and I have never happened to come in contact with one who was over-anxious to be considered a 'regular' scientific man, or to receive any particular recognition by learned bodies. Generally speaking, I have found them to be gentlemen of simple and unpretentious devotion to nature, who had found themselves, somehow, endowed with a preference for those things which are invisible to the average sight, and who had imbibed the teachings of those who, like yourself, have advocated the popularizing of science.

But in this class are some who have earned and compelled recognition as men of science; and in London and in Brussels (to say nothing of home organizations) are microscopical societies of world-wide fame and importance, which have long been looked upon by some of us as bodies of scientific men. In their lists of fellows are such names as Dr. W. B. Carpenter, Dr. Lionel S. Beale, Prof. F. Jeffrey Bell, Rev. W. H. Dallinger, Prof. P. Martin Duncan, Dr. Henry VanHeurck, and many others whose scientific attainments speak for themselves, and no one of whom would disdain the name of '*microscopist*.' In our own country, I may with propriety mention one who has but recently passed away, and who, although possessing other claims to scientific eminence, achieved his greatest reputation and his most lasting fame in the field of pure microscopical manipulation. I refer to the late Dr. J. J. Woodward of the U. S. army, who was pre-eminently a *microscopist*, and who did every thing he could to promote and encourage the finest kind of technical and test work. His labors in that direction, with those of others of like proclivities and skill, have done more than all other causes to bring about the present wonderful perfection of the microscope objective. By the work and the demands of such manipulators, the great manufacturing opticians, like the late Mr. Spencer and Mr. Tolles, have been encouraged and stimulated to produce the latest marvels in optics, — the 'homogeneous immersion' lenses.

In view of the valuable services of such men as I have mentioned, I am at a loss to understand your arrogant assertion that 'scientific men have been very lenient towards the microscopists.' Is it to be understood that you are about to advocate some new standard of orthodoxy, or to put into operation some new formula of excommunication? Permit me, further, to inquire whether you really consider it unscientific to choose skilfully and neatly prepared specimens, carefully classified, neatly labelled, and systematically catalogued and stored? Is it amateurish to prefer a good and complete instrument to a cheap and imperfect one? Is there any particular virtue in working with poor tools when good ones can be obtained? Is there any thing unworthy in patience and painstaking? Is any thing in nature too small to be worth examination, or any fragment of knowledge too insignificant to pay for its acquisition? If you disclaim any such sentiments as these, why speak disparagingly of well-made 'slides,' of fine 'test objects,' of 'delicate diatoms' and 'podura scales,' of 'bits of tissue,' of 'polarizing crystals,' or, 'in short, almost any tiny scrap of the universe'? For when you talk so flippantly of these things, you certainly leave the impression on some minds that there may be matters so trifling and so tiny that they belittle the man who admires or studies them; and instead of promoting the general cause of science, as you profess to be desirous of doing, you cast in the way a stumbling-block of petty prejudice.

C. F. Cox.

New York, March 1.

THE SOLAR ECLIPSE OF MARCH 16.

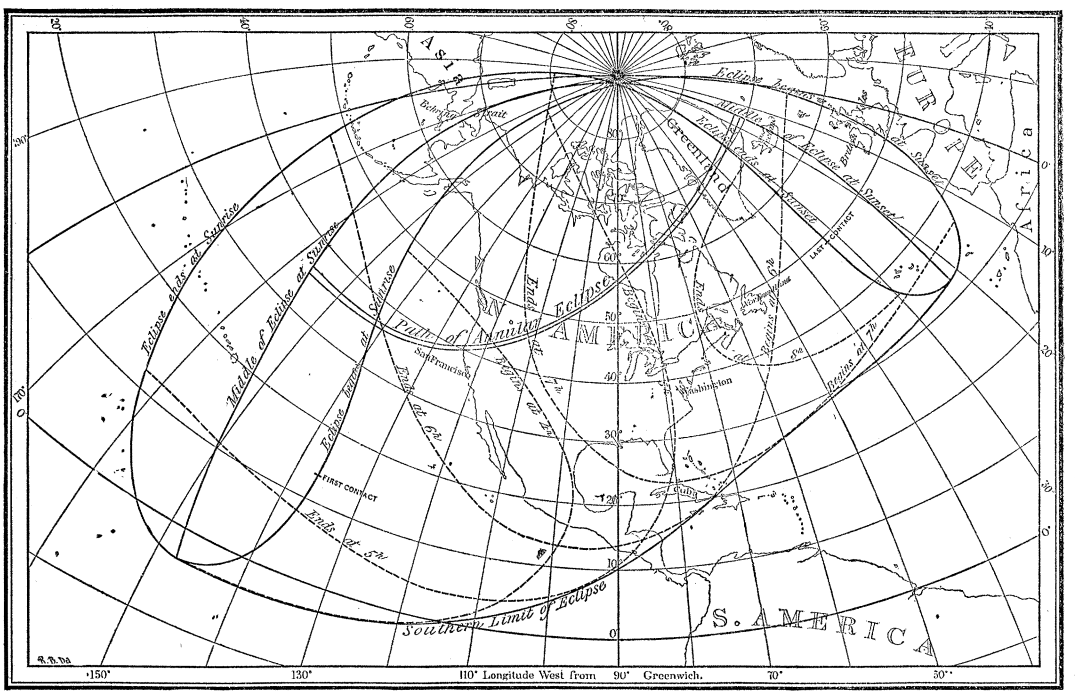
Attention has already been drawn to the chief circumstances of this eclipse in the *Science almanac*, or at p. 578 of the last volume of *Science*, where the times of beginning and ending are given for a large number of places in the United States. The annular phase will be visible only within the limits of a belt between thirty and forty miles wide, which lies over a very sparsely settled tract of the North-American continent, and which is difficult of access at this season of the year. In the United States generally, the eclipse will be visible as a partial one on the afternoon of the 16th in the eastern states, and in the forenoon in the western.

Regarding the cycle of eclipses called the Saros, this eclipse is a 'return' of the annular eclipse of the 22d of February, 1849, visible almost wholly upon the North Pacific Ocean, the track of the annular phase skirting the eastern shores of Japan; also of the annular eclipse of March 5–6, 1867, which was visible as a partial eclipse over almost the entire European continent, and the greater part of Africa and Asia; the central line of annular phase running through northern Africa, crossing the Mediterranean and southern Italy, Russia and Siberia, and which was observed at a large number of European observatories. The next return of the eclipse following the present one will occur in the latter part of March, 1903.

Annular eclipses are usually regarded as a useless and insignificant sort of celestial phenomenon, and astronomers in the past have given very little attention to the observation of them. In comparison with the imposing spectacle of a total eclipse of the sun, an annular

eclipse is doubtless entitled to interest the average observer but little; however, it is quite possible that the rapid development of the means of eclipse research may in time lead to the utilization of annular eclipses with quite the same regularity that total eclipses are at the present day observed. In so far as we have learned, astronomers have made no preparations for observing this eclipse within the belt where the annular phase is visible.

The notion that an annular eclipse is an indifferent species of occurrence has certainly been helped along by the deceptive way in which these eclipses are almost always represented in astronomical treatises, where the ratio of the semi-diameters of the sun and the moon are unnecessarily out of proportion; and frequently that of the moon is drawn only three-quarters that of the sun, thus giving the impression that a very large proportion of the total light of the sun is unextinguished at the time and place of central eclipse. In point of fact, the greatest breadth the annulus can have, under the most favorable circumstances, is only about a minute and a half of arc, or less than one-tenth the semi-diameter of the sun at the time; while not infrequently — as is the case with the annular eclipse which occurs on Monday next, when the moon's semi-diameter is only one-thirtieth part less than the sun's — the eclipse which is put down in the almanacs as annular, only barely escapes being total. It seems very possible that a strongly developed corona might be observed on such occasions: indeed, the experience of many observers who have followed the corona after the total phase, makes it quite probable. To be sure, the duration of the annulus at such times is very short; but, if the corona could be observed on these occasions, we should be able to halve the intervals of an observation as conducted by the present methods at the times of total eclipses only.



ANNULAR SOLAR ECLIPSE OF MARCH 16, 1885.

THE ANNISQUAM SEASIDE LABORATORY.

WE have in America two classes of summer schools of natural history, — one in which only original investigators are allowed to study (Professor Agassiz's laboratory at Newport, the Fish-commission laboratory at Wood's Holl, and the Johns Hopkins laboratory at Beaufort, being examples); the other where students of