flector, being fully as bright on that date as at any previous observation, although its theoretical brightness is decreasing. It is a faint, diffused object, but to show that it is within the range of quite moderate telescopes, I would say that I first picked it up on the evening of November 5th, with a refractor of only two inches aperture. In my last observation two faint stars were seen shining through the comet.

The comet's position for the 10th of December will be A. R. 4 hours 40 minutes, Dec. + 44 degrees 47 minutes. On December 14th it will be about 5 degrees south of Capella. WILLIAM R. BROOKS.

Red House Observatory, Phelps, N. Y.,
November 30th, 1880.

MICROSCOPY.

Dr. Carpenter, the well-known English microscopist, occupied the attention of the Royal Microscopical Society, on the 6th instant, by describing the "Student Microscope," recently designed by Mr. George Wale, of New Jersey. The instrument in question was highly commended for its efficiency, and English opticians were advised to consider the practical improvements it suggests.

Mr. James Swift exhibited and described an improved form of *Calotte* diaphragm, consisting of a series of small circular apertures, to be applied above the achromatic condenser immediately beneath the object, and on a level with the surface of the stage.

A binocular eye-piece, by Professor E. Abbe, was described as consisting of two uncemented prisms (together forming a thick plate of glass) in the direct tube; the adjacent diagonal surfaces of the prisms being both cut at the calculated angle of 38° 5′, which angle was computed to allow precisely one-half of the light to be transmitted, and to reflect the other half; the latter half fell upon a total reflecting prism, whence the rays emerged through the diagonal tube to the left eye. Another point was the mechanism by which the *diagonal* tube attached to the direct tube by a box-fitting, was moved to accommodate the width of different observer's eyes, a screw motion causing the tube, with eye-pieces above and reflecting prism below, to travel smoothly nearer to or further from the direct and stationary tube.

The application of the eye-piece to the left tube at such a distance as to compensate for the extra distance travelled by the pencil of light, and thus render the images seen by both eyes of equal magnitude.

Lastly, the application of two semi-circular caps, one over either eye-piece; in one symmetrical position of these apertures the effect produced was *pseudoscopic* vision, by another arrangement of them stereoscopic vision was obtained.

This form of binocular is said to be specially applicable to the short tubes of Continental microscopes and some of American make,

A new fluid for writing the names of objects on glass slides is sold by Mr. Browning, of London. It is more active than hydrofluoric acid, and has an immediate action on the surface of glass.

Dr. Günther, of Berlin, has made photographs of *Frustulia Saxonica*. These and a micro-photograph by Mr. S. Wells, of Boston, were compared with the photograph by Dr. Woodward, produced in 1875. The latter showed no trace of beaded resolutions, whereas both the former showed the resolutions remarkably well. Mr. Mayall asks if Dr. Woodward still maintains his opinion of the unreality of the longitudinal lines.

Mr. Crisp mentions that Professor Abbe has found great advantage in mounting diatoms in monobromide of naphthaline, by which they were rendered far more visible than when mounted on Canada balsam.

BOOKS RECEIVED.

THE NATURALIST'S DIRECTORY FOR 1880. Edited by SAMUEL E. CASSINO, 299 Washington street, Boston. May, 1880.

This useful work will be welcome in scientific circles; it contains the names, addresses, special departments of Study, of Naturalists, Chemists, Physicists, Astronomers, etc., etc., etc. It also gives a list of scientific societies, of scientific periodicals, and the titles of scientific books published in America from July 1, 1879 to October 1, 1880.

The arrangement of the names in this edition of the directory is by States, and was adopted after repeated requests, though not, as the publisher admits, without misgivings on his part as to the convenience of the list thus arranged. On this point we are glad to notice that what we consider to be an error is acknowledged, and that in future the alphabetical order will be resumed. For our purposes the directory thus arranged is almost useless, as the loss of time in searching 45 separate lists for an address, is a great drawback to the use of the work.

We are also at a loss to know on what principle the list has been constructed, as the omission of the names of well-known scientific men is quite incomprehensible; as examples we fail to notice Professor John Le Conte, of California; Professor W. H. Brewer, of Yale; Professor Jas. D. Dana, of Yale; Professor Simon Newcomb, of Washington; Col. J. J. Woodward, M. D., Washington; Professor Asaph Hall; Professor Julius E. Hilgard, Washington; Professor C. Y. Young, of Princeton; Professor C. F. Chandler, of New York City; Professor Henry Draper, of New York City; and Professor Jno. W. Draper, of Hastings-on-Hudson, or Mr. Edison. We have had no time to make a systematic search for omissions, but the above names which are household words in scientific circles do not appear.

As we find some of these names have already appeared in previous editions, the present omission would not appear to be altogether accidental.

As this directory is the only one of its kind published, we suppose these errors will not effect its sale, but we regret that a more perfect work was not produced.

Since writing the above notice, we have heard from the publishers of the Directory; they state that the arrangement of the work is acceptable to a majority of the subscribers, and that the cause of the omission of names was due to their failure to receive responses to printed circulars which were forwarded to all known scientists.

The readers of this journal must be familiar with the efforts we have made to secure a perfect register of the scientific men of the United States. Our intention in this respect was also made known by an editorial notice in the New York *Times*, and in the *Medical Record* of last week.

The *Times* pointed out the value of such a perfect list, and the little trouble it entailed on scientific men. So far the response to our appeal has been very partial. We therefore again request those who have hitherto failed to forward their names and addresses, with speciality of study, to do so at once, and if the heads of Universities and Colleges would make up lists, considerable help would be rendered.

We also suggest that those interested in scientific pursuits make up lists of scientific men in their neighborhood, and of amateurs following a particular line of scientific investigation.

As we stated lists of names will be forwarded to the Smithsonian Institution, and Messrs. Cassino and others will have the full benefit of it for future use.