the causes that affect the observer's perception of the image. The first portion of the paper was concerned almost exclusively with the secondary aberration of the refracting telescope. He found that it was impossible to bring more than a small fraction, perhaps one fourth of the light emanating from a star within a radius of one tenth of a second. For this reason a black line on the planet would not be imaged as black in the telescope, but only as a gray diffused line. This effect was one that could not be cured by any arrangement or figuring of the lenses, but could be diminished by increasing the ratio of focal length to the aperture of the telescope.

The second part of the paper was devoted to what the author proposes to call 'visual inference.' This includes the process by which the eye, from the image on the retina, infers the nature of the object which produces the image. He showed at some length the extent to which this form of inference might be carried. It is based largely on experience, but in cases where this is wanting habit may take its place. One result of this process is that different people may see the same image very differently when it approaches the limit of visibility. It was shown by diagrams that broken lines under certain conditions appeared continuous, that double lines may be seen as single, or as a group of which the observer could not give the number without closer inspection. A peculiarity near the two ends of a line affected the judgment throughout the whole length of the line.

Lowell's observations of Mars were very highly spoken of as superior to all others, both in the favorable conditions under which they were made and their careful and critical character; but the general conclusion reached was that his drawings of the canals could not be accepted as certainly correct without a more complete investigation of the possible effects of visual inference in influencing the perception of the observer.

R. L. FARIS,
Secretary

THE TORREY BOTANICAL CLUB

THE annual meeting was called to order at the American Museum of Natural History, at

8:30 p.m., with Vice-President Burgess in the chair.

Following the presentation and acceptance of annual reports from officers and committees, the annual election resulted as follows:

President—H. H. Rusby.

Vice-Presidents—E. S. Burgess and L. M. Underwood.

Corresponding Secretary—J. K. Small.

Recording Secretary—C. Stuart Gager.

Treasurer—C. C. Curtis.

Editor—J. H. Barnhart.

Associate Editors—Philip Dowell, A. W. Evans, T. E. Hazen, M. A. Howe, W. A. Murrill, H. M. Richards, Miss A. M. Vail.

JOHN HENDLEY BARNHART,
Secretary pro tem.

DISCUSSION AND CORRESPONDENCE

A SCIENCE TRUST

WITH the liberal appropriations by Congress for the study of the problems relating to scientific agriculture, there seems to be a growing tendency to form classes, and 'rings,' even as in the commercial and political activities of the nation. In too many cases the executive heads of the experiment stations take to themselves the credit of all that is done in their respective stations and, from the vantage ground of publicity, hamper and cripple, in many ways, the real workers in the respective fields. In many cases, of course, this injustice is unintentional; but it is none the less real. Often the true state of affairs is not realized by the offending directors; in other instances, naturally, it is not conceded.

Directors frequently assume the attitude of the political 'boss,' and attempt to 'pull the wires' in such a way that there can be no recourse for the workers except to humble themselves and 'pay court,' or to resign. They even go farther and deliberately plan to make it difficult for a worker to go from one field to a more congenial field, by throwing out insinuations as to obscure 'outs' that make a change very desirable. In other words, the 'political boss' director claims everything in sight, attempts to bully the workers into what he pleases to call 'respect for authority,' and aims to cut off any possible redress either from