of the station from doing some teaching in soil chemistry for example, or the professor of botany of the college from taking advantage of the work and, so far as possible, sharing the interests of the botanist of the experiment station.

The main necessities then for the increased efficiency of our agricultural experiment stations would seem to be:

1. A centralized management, with the direction and distribution of all experimental work left to a single board of control, preferably to be connected with the United States Department of Agriculture.

2. A system of civil service appointments to positions in all Federal stations, and an elasticity in the organization of the different staffs, making possible the transfer of scientific workers from one station to another according to the judgment of the governing board.

3. The complete separation of the experimental research work of the station investigators and the pedagogical work of the college teachers of science in localities where the experiment station is located on the grounds of a state institution. This would necessitate an increased salary roll in both the college and station, but would increase the working efficiency of both in a far greater ratio.

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INJURIES TO THE EYE, CAUSED BY INTENSE LIGHT.

MR. FRANK ALLEN'S observations in these columns (January 17, 1902, p. 109) suggests an experience of my own which is worth recording in some detail.

Last April I ran the projection lantern one evening for a friend, the exercise lasting nearly two hours. The lantern is an arc lamp, hand feed, and the current was giving some trouble. The arc had to be kept rather short, and it was necessary to look in at the arc very often. To guard my eyes from the glare, I had three thicknesses of blue glass in front of the arc. Yet I noticed that my eyes were being injured. At the close of the lecture there was a distinct dimness in the center of my field of vision. This has often happened after looking at a bright light, and I thought nothing of it. Next morning, however, my neighbor at breakfast wore a bright yellow rose, and I noticed a distinct spot of pink on it, yet on examining it closely there was no pink, or at least only a trace of pink in the center of vision. At a distance of six feet the whole rose was pink.

On the street that morning, an orange peel on the walk at a distance of twelve feet was bright red; on a nearer view only a central spot was red. And every yellow house had a pink spot, and every orange surface a red one from that time on. Then I saw that in reading there was a gray area on the page in the center of vision.

It was plain that focusing so long on the arc through the blue glass had paralyzed or killed the cones in the *fovea centralis* and its immediate vicinity—that is, such cones as normally respond to the short waves at the blue end of the spectrum. So my eyes in that area of the retina responded only to the longer or red waves from the rose or the orange, and in ordinary vision I was deprived of just that much illumination.

This condition persisted in a very striking way all summer, but gradually disappeared in the autumn, and now, at the end of ten months, I can discover no trace of the dimness in the center of vision, nor can I see any trace of pink in a yellow surface. So whatever the disability was, it has been overcome. If the cones were destroyed, they have been replaced; and if only paralyzed, they have resumed their normal function.

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A GEOGRAPHICAL SOCIETY OF NORTH AMERICA.

TO THE EDITOR OF SCIENCE: Referring to the very interesting letter from Professor W. M. Davis (SCIENCE, XV., No. 373, p. 313, February 21, 1902), there seems to be no reason why the aims of the professional geographer should exclude any non-professional who is anxious to keep in touch with the latest advances in geographical knowledge.

Their need is apparently mutual. The pro-