to spread out again. Glycerine was tried for the mounting medium, but the appearances were more natural in the acetate potash medium. More than a hundred specimens were treated in various ways, too long to enumerate here, the preference being given to the plans fully detailed.

III.—*On the Employment of Coloured Glass in Microscopy.*

By M. MOUCHET.

I BELIEVE that the use of coloured glasses in microscopical studies may facilitate the examination of many objects which would otherwise remain drowned in a flood of light; I believe also that the use of them must remarkably spare the eyesight. It is many years since Ch. Chevalier first employed tinted glasses, which he placed above his lenses in order to temper the intensity of the light. By the use of those glasses, or of silvered glass, sunlight may be made use of, and may thus replace all the other systems of illumination which are intended to supply the brightness that powerful objectives tend to destroy. Now, what position should these different glasses occupy? We can count four: before the mirror; under the object; between the objective and the eye-piece; finally, above the eye-piece itself. To place them before the mirror necessitates the employment of glasses of a certain size; to place them under the object increases the thickness of the plate and prevents a very oblique light from passing through; to fix them in the body of the instrument causes trouble and a loss of time, for the microscope must be taken asunder. Above the eye-piece appears to me the most suitable place. For this purpose, I have constructed an apparatus, consisting of a kind of revolving diaphragm pierced by nine openings, each one centimètre in diameter, and placed exactly opposite the eye-piece. Seven of these openings are fitted with coloured glasses corresponding to the colours of the solar spectrum; another with a silvered glass, according to Foucault's process; and the ninth with a very finely roughed glass, which may be removed at will, and thus leave one opening free. This revolving diaphragm is attached to a ring placed on the tube which receives the eye-piece, and is fixed to the tube by means of a *vis de serrage*, as in certain "*chambres claires*" (*cameræ lucidæ*?). The apparatus has some analogy to that which Mr. Collins calls "light corrector," and which he places on the stage of the microscope.

It is evident that when coloured glass, as, for example, cobalt blue glass, is used, we have not a pure monochromatic light; but this glass replaces, if not with advantage, at least without in-

convenience, the vessel of ammoniacal sulphate of copper patronized by Count Castracane.

At first, I wished to construct, without any modification, Mr. Collins's accessory plate, which for the optical effect may be placed in the microscope more advantageously than my apparatus; but to keep the chief plate of the least possible thickness is so powerful a consideration, that I decided on adopting the plan which I have just described.

In order to substitute one glass for another when examining an object, I have no need, as with Mr. Collins's arrangement, to change my position; and I can observe, without losing sight of the object, what is the most favourable colour for the perception of certain details peculiar to it.

However, I am not yet sufficiently acquainted with the advantages to be derived from those glasses. They will, perhaps, become useful auxiliaries to micrographists, by enabling them to make more frequent use of solar light, without experiencing the least fatigue.

IV.—*Note on Silicious Incrustations from the Geysers of the Yellowstone River, Wyoming Territory.*

By Prof. ARTHUR MEAD EDWARDS, U.S.A.

THE specimens are of two characters. First, we have a mass of white stony material, arborescent in appearance and looking as if it were some species of vegetation, as a moss, converted into a mineral. The others are rounded masses, smooth on the exterior, white, and evidently consisting of the same substance as the arborescent specimen. These were given to me by Mr. P. T. Austen, of the School of Mines, who has made a chemical analysis of them with the following result:—

Si O ₂	..	..	..	..	..	..	..	87.23
Fe ₂ O ₃ and Al ₂ O ₃	..	..	..	..	..	..	..	1.13
Ca O	..	..	..	..	..	..	..	.55
Mg O	..	..	..	..	..	..	..	.46
P O ₅	..	..	..	..	..	..	..	1.48
H O	..	..	..	..	..	..	..	9.09
								<hr/> 99.94

For my own part, being interested in the subject of the mode of formation of concretions of the character of these rounded masses, I determined to sectionize one of them and examine it by means of the microscope, to ascertain, if possible, what kind of nucleus it had. This matter is one of importance on account of its bearing upon the