

should be placed first in solution B 2 to obtain the best results. In cases where the use of the B. fluids would be objectionable, on account of their highly poisonous nature, a fourth dilution of solution A 1, corresponding in strength with B 1, but without the arseniate of potassa, may be substituted, and in many cases will do nearly as well, if the weather be not very hot, but the specimens in this case should be carefully watched and transferred to the stronger solutions as soon as possible, so as to avoid incipient decomposition while in the first fluids.—*Silliman's Journal*.

New Haven, Feb. 12, 1866.

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ILLUMINATION UNDER THE MICROSCOPE.—At the late *soirée* at University College, two forms of Mr. Smith's (of the United States) illumination for opaque objects under high microscopic powers were exhibited. One was constructed by Messrs. Smith and Beck, Cornhill, and the other by Messrs. Powell and Lealand. The first form closely resembles the American contrivance—so closely, indeed, that it is difficult to know in what the difference between the two consists. A brass box intervenes between the end of the microscope tube and the objective. This is pierced at the side by an aperture opposite which a table lamp is placed; within the box is a small silvered mirror, which receives the light from the lamp, and throws it down through the objective upon the object. This contrivance, though it works admirably with such a power as the one-fifth inch, is objectionable, from the fact that it cuts off half the pencil of rays proceeding to the eye of the observer. The second form—that exhibited by Messrs. Powell and Lealand—is superior to that of Smith and Beck, and differs from the American plan in having a reflector of plain glass. The result of this alteration of the original plan is that whilst sufficient light is thrown down to illuminate the object, the rays proceeding from the latter are not partially cut off. This modification applied to the one-twelfth inch gave splendid results, and the makers allege that it may be used with one-twenty-fifth or one-fiftieth inch glasses with equal advantage.—*Reader*, Dec. 23.

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THE BIRDS OF NORTH AMERICA.—D. G. Elliot of New York (27, W. 23d st.) proposes to publish a work to contain all the new and unfigured birds of America, to be issued in Parts, 19 × 24 inches in size, containing each five plates colored by