days was twice that of the controls and thrice that of the controls for the first seven days, so that this stimulation appears to be well established.

There is not yet anything known as to the mechanism of this stimulation, but it seems of interest that the inorganic sulfamate causes here similar increases in growth as they were described recently by Lamanna[5] for low concentrations of sulfanilamide on bacteria.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A COOL LIGHT FOR DISSECTING MICROSCOPES

INVESTIGATORS who find the use of dissecting microscopes essential to their work are usually confronted with the problem of satisfactory illumination. After three years of extensive use, lights of the type described have proven superior to all others which we have tried.

The principle is simple and the parts are inexpensive. An automobile headlight bulb mounted in a small metal can (35 mm bulk load film can or a deep salve box) in which ventilating louvres have been cut serves as the source. This may be mounted on any convenient stand or on the microscope itself. Power is furnished by a transformer which delivers six volts and will carry up to two and one-half amperes of current. If intensity control is desired, a rheostat may be inserted in series with the primary coil of the transformer (in the input—110 volt—line). The important feature of the light is the lens system. It is composed of a rod of methyl methacrylate polymer (du Pont Lucite) $\frac{5}{8}$″ by 3″ or larger upon the ends of which a lens combination has been ground. The rod is mounted in the lamp housing so that the filament of the light is centered and thus serves to focus the source and at the same time to filter out nearly all the heat. Small pieces of Lucite may be obtained in the form of utility lights from drug and department stores or in rods from the manufacturer.

In order to concentrate the source of light upon the object, a bi-convex lens system can be ground upon the two ends of the rod. Grinding a curved surface is in reality easier than a plane surface and can be done by clamping the rod at the desired radius of curvature in a flexible support and working the surface into a curve by moving the end in an irregular manner over a plane surface covered with a fine abrasive. Final polishing should be done with rouge or Tripoli powder. The lens can be ground and polished in about thirty minutes. The radii of curvature may be calculated from the common formula for a thick lens which can be obtained from handbooks of physics and chemistry. Details of the assembly are apparent in Fig. 1.

For work on living material or material immersed in a saline solution, water or a solvent this light has proved most satisfactory since very little heat is transmitted to the object. Physiological processes are not upset, salines and solvents are not evaporated rapidly, and an intense spot of light is directed to the object. When water or saline solutions are used to cover the object, undesirable surface reflections can be avoided by immersing the end of the rod. These features are unique with this light.

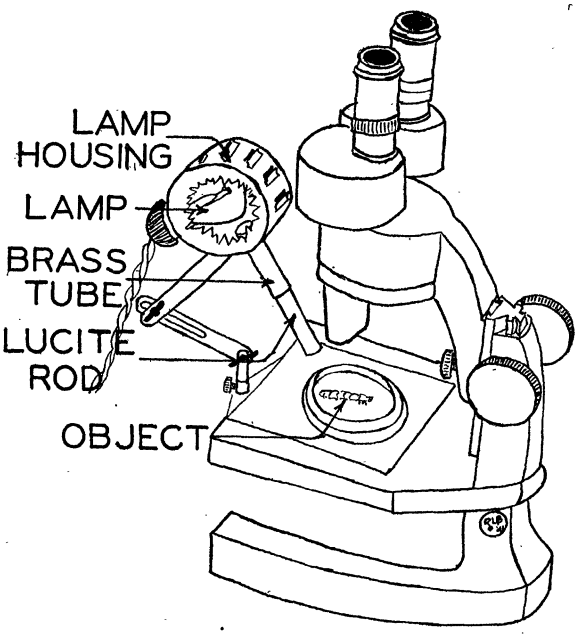

FIG. 1

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[5] Lamanna, SCIENCE, 95: 304, 1942.

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