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A PERISCOPE FOR BEHAVIOR OBSERVATION

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Observation of severely disturbed and highly distractible human subjects in an automatically controlled experimental enclosure poses problems of concealment, indestructibility, clarity and brightness of image detail, angle of view, relative lighting, and initial and maintenance costs. Since the wide angle war surplus scanning lenses used in Lindsley's (1956) periscope system are no longer available, other inexpensive commercially available optical observation devices are needed.

A relatively inexpensive, durable, reliable periscopic system (Behavior-scope) has been designed as an aid in analyzing severely retarded and disturbed behavior. It permits detailed observation of behavior, including facial expressions and manual gestures, in any location within a 6 by 6 ft. room. As no reverse light leakage occurs, it is unnecessary to darken the observation area. This is a major advantage for the investigator who wishes to have ready access to both the observation system and the controlling and programming equipment in a well lighted apparatus area.

A rigid 16 gauge aluminum unit (a in Fig. 1) houses object components consisting of a wide angle lens system (b) and a precision mirror (c) mounted near the ceiling of the experimental chamber in a metal box slanted to provide a view angle of 60° or more. Light flux reflected by the mirror (c) travels through a rigid metal image duct (d) to an observation unit (e) containing a precision mirror (f) and a telescopic lens system (g). The latter are enclosed in an aluminum box mounted on the outside wall of the chamber.

The angle of view may be adapted to other room dimensions and other focus requirements by precision adjustment of the optical system and the length of the image duct. After installation and initial adjustment, the system requires only occasional cleaning of mirrors, for which access is provided. Other than minor focus adjustment of the eyepiece, no technical tuning is necessary. Once focused to the individual observer's requirements, the complete room can be scanned in one glance without lens adjustment.

The object lens diameter of 45 mm is small enough to be easily concealed. In our application, 16 gauge perforated steel screening with a hole drilled to the lens size protects the lens and conceals other equipment such as speakers and microphones.

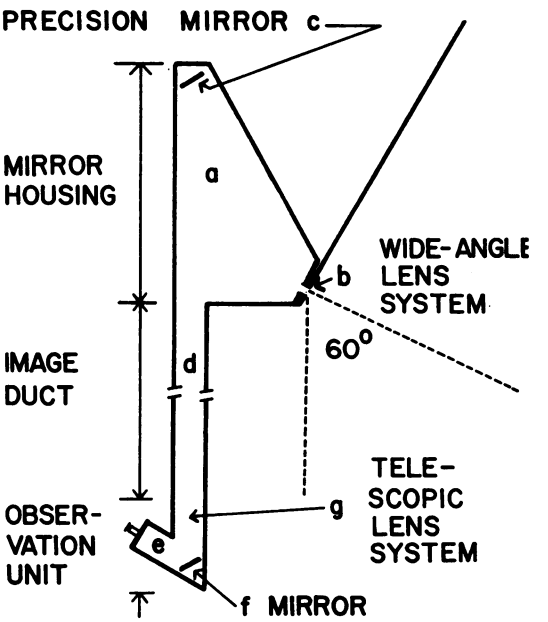

Fig. 1. Diagram of periscopic system for observation of behavior.

REFERENCE

Lindsley, O. R. Operant conditioning methods applied to research in chronic schizophrenia. *Psychiat. Res. Rep.*, 1956, 5, 118-139.

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[2]Additional information may be obtained from Shintron Company, 1 Main Street, Cambridge, Mass. 02142.