THE LARYNGOMAN: A MULTIADAPTIVE VISUAL AND AUDIO-VISUAL AID

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The Laryngoman is a small compact screen-reflector unit[1] especially designed and built to be used in conjunction with the, since the beginning of this year, available Laryngoscopic Manikin. Seeing that the Laryngoman has no function without the mother instrument, the latter will be discussed initially.

The idea of the Laryngoscopic Manikin grew out of the Voice Laboratory situation, in which students perform indirect laryngoscopy on each other. When, through the absence of a student, there was the lack of a laryngoscopic subject, I always felt the need for an examinee to be available in the Laboratory at all times. Also the general outcry of my students for a 'non-gaggy' subject made me build my first model of a laryngoscopic examinee. (Fig. 1).

This primitive but useable tincan-*cum*-plasticene instrument, which was operated with hand-drawn and -coloured opaque and transparent laryngeal pictures and a subglottal light bulb, was in use in my St. Louis University Voice Laboratory from 1964 until 1968. In 1967, Sherwood Medical Industries began shaping the Manikin prototype which, as a scientific exhibit, was first displayed at the Fourteenth World Congress of the I.A.L.P. in Paris, in 1968. (Fig. 2).

This instrument, plastically streamlined on the outside, is internally constructed with the precision derived from cadaver casts and numerous roentgenogrammes. The instrument's inside is furthermore made of a special composition intended to respond to the touch like living tissue. (Fig. 2).

The base of the Manikin contains an accessories compartment and a drawer for laryngoscopic pictures. (Fig. 3).

One set of pictures consists of opaque reproductions. This set is viewed exactly as the larynx is in a live patient. A duplicate set of laryngeal conditions is supplied in the form of photographic transparencies. These subjects are subluminated in the Manikin and require only the laryngoscopic mirror for viewing. (Fig. 4).

The selected slide cartridge or tray is inserted into the slot located in the neck of

[1] The final shape, which may well be of a fibre-optic type, has not been determined at this stage. For this reason the present optic prototype has not been photographed for slide-display.

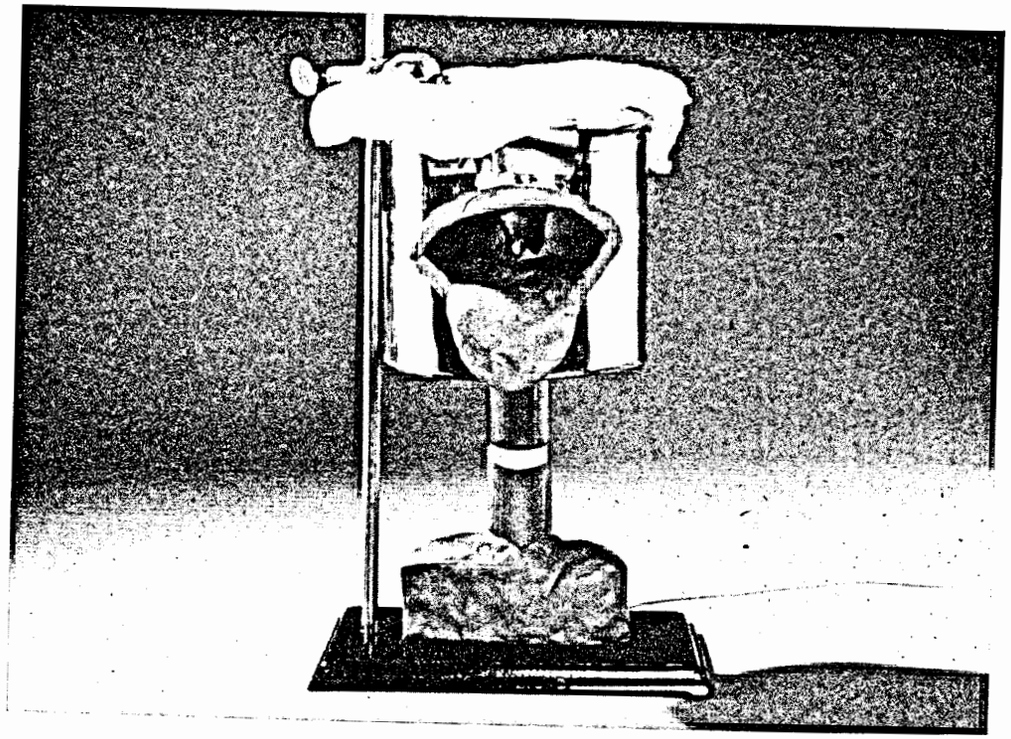
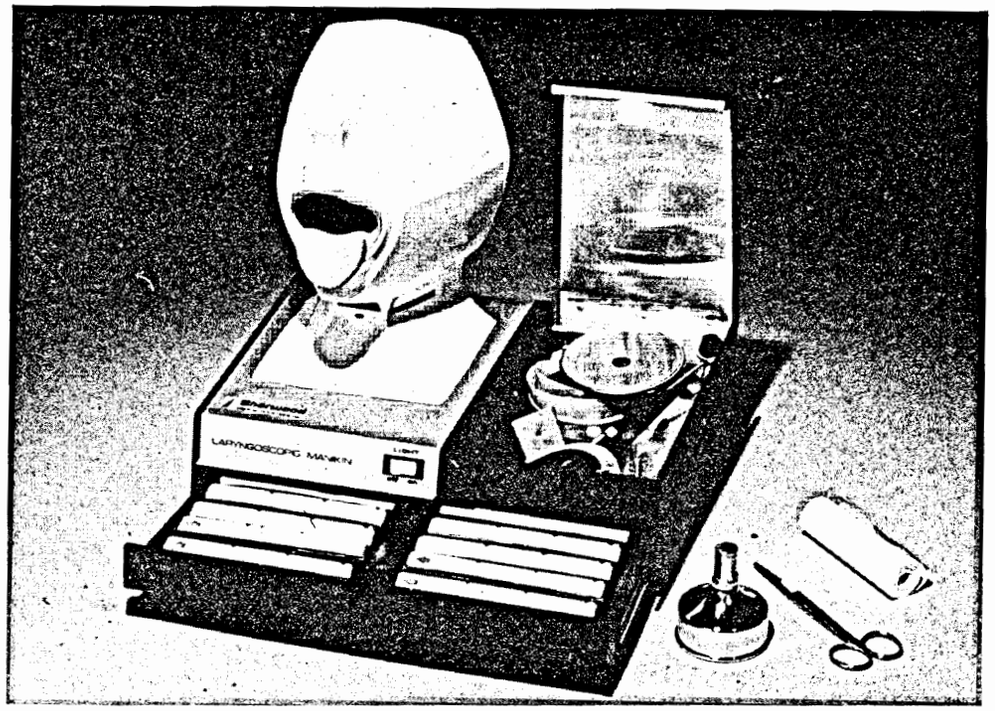


Fig. 1 and 2.



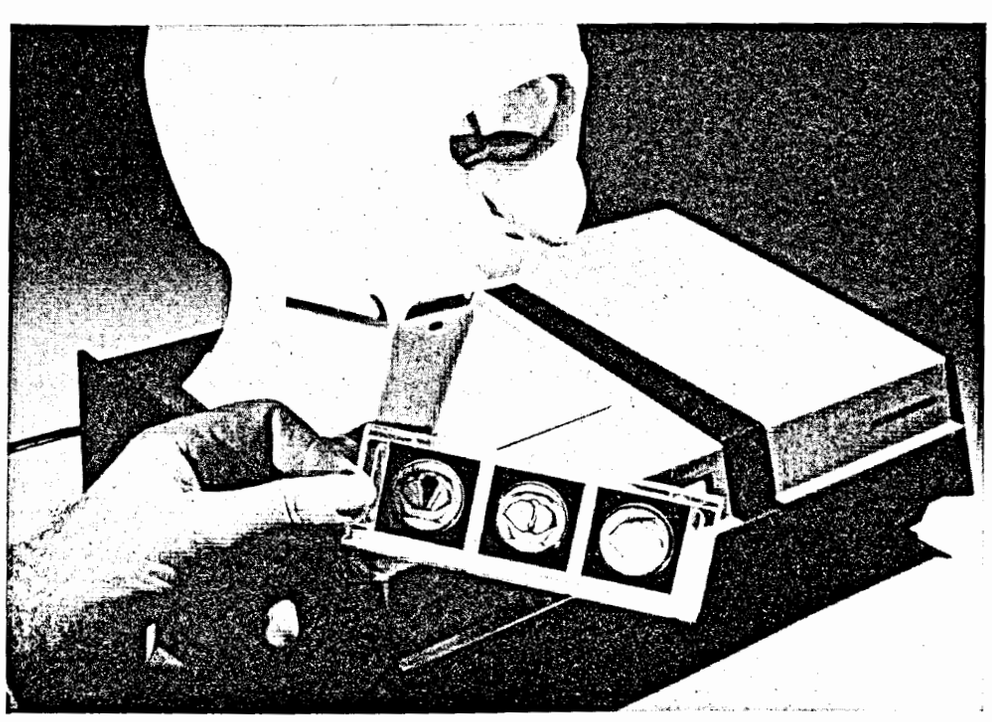


Fig. 3 and 4.

the instrument, where a centering notch automatically clicks into position each picture. (Fig. 5).

Indirect laryngoscopy, performed on the Manikin, is similar to the live examination except for the absence of articulatory and phonatory movement. (Fig. 6).

The Manikin has proved to be a particularly useful tool in the teaching of laryngoreflectoscopic examination techniques. (Fig. 7).

When the slide tray with colour prints is replaced by one with transparencies, the subglottic light within the model is needed. Indirect laryngoscopy is now performed with the greatest ease, even by a person unfamiliar with the examination procedure. (Fig. 8).

A special bracket, attached to the Manikin, holds a focussed laryngeal mirror in a fixed position. The subluminated laryngeal picture can now be viewed and/or demonstrated without anyone performing the actual examination. In this manner, viewing and reviewing of numerous laryngeal conditions is most time saving. (Fig. 8a).

The Manikin can be employed to teach the technique of laryngoendoscopy. In order to simulate the real examination situation, the model should be loaded with opaque prints; but, if desired, the unlit endoscope can be used to examine subluminated transparencies. (Fig. 9).

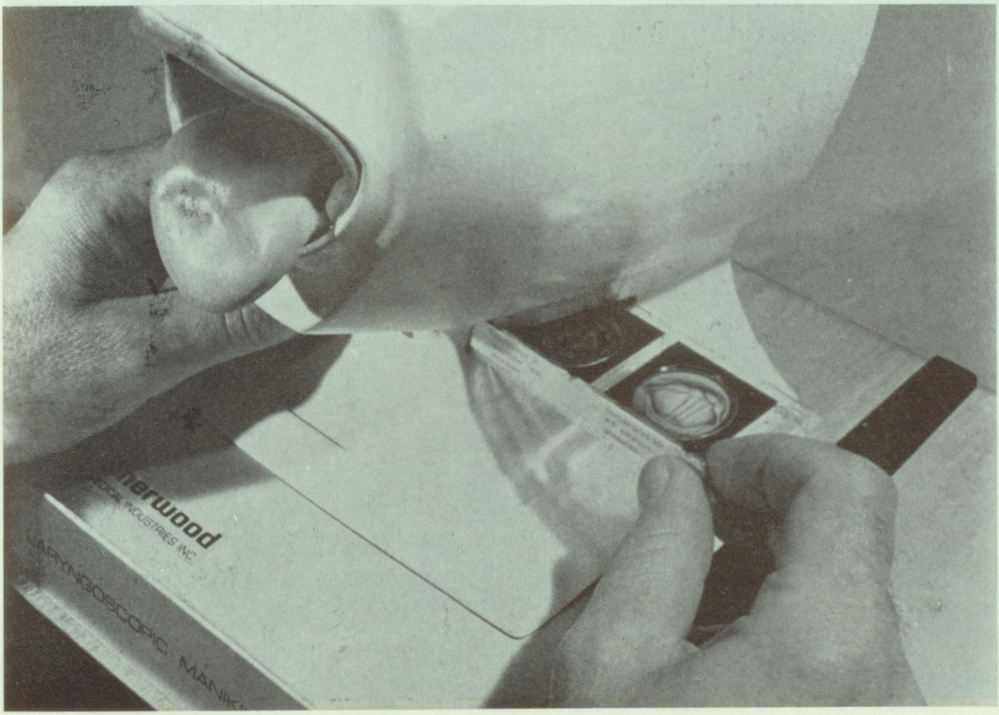
A special bracket has been designed to hold the laryngoendoscope in position so that prints or transparencies can be viewed without the least examination effort. (Fig. 9a).

At the present time, the Laryngoscopic Manikin is supplied with a selection of 24 laryngeal conditions. These include normalities and pathologies which have been chosen for their teaching and training values. These unretouched original photographs were obtained from the archives of Dr. Paul H. Holinger, Chicago. The scientist who wishes to display his own laryngoscopic material in the Manikin can adapt his own photographs and frame them in empty slide trays which are available. Those who own projector equipment for still or cinematographic laryngeal material and wish to use it in conjunction with the Manikin should consider the attachment of the Laryngoman, an adaptor especially made for this purpose.

The Laryngoman is a small compact screen-reflector unit which is inserted posteriorly and subglottally into the Manikin. This unit makes it possible to use almost any type of projector to feed laryngeal material into the Manikin.

The recently patented Technicolor Instant Movie Projector (510, 8mm), a relatively small and handy cassette-operating device, has proved particularly suitable as a feed-in for the Laryngoman set-up. It is this Technicolor cassette projector which we put on display with our scientific exhibit at the present Congress. (Fig. 10).

At the end of this paper, this projector was used to show on the film screen some of the cinematographic laryngoscopic material which was kindly loaned to us for this occasion by Dr. von Leden of Los Angeles and Dr. Moore of Gainesville. A brief film show of this kind allows the visitor of the exhibit an unbiased comparison of the identical material projected onto the screen and into the Manikin.



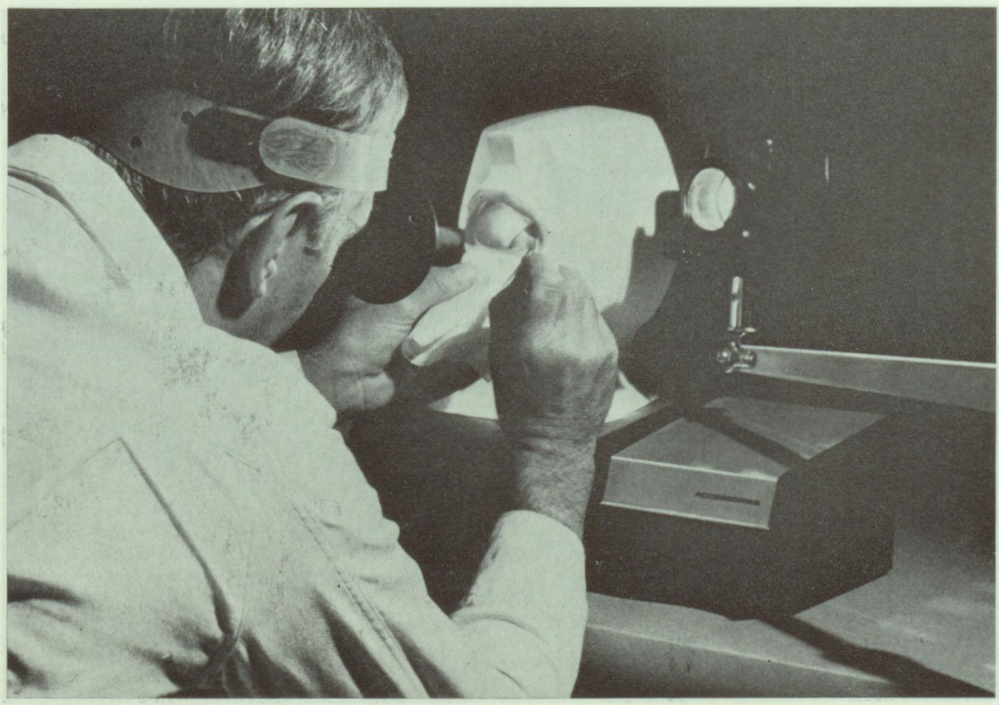
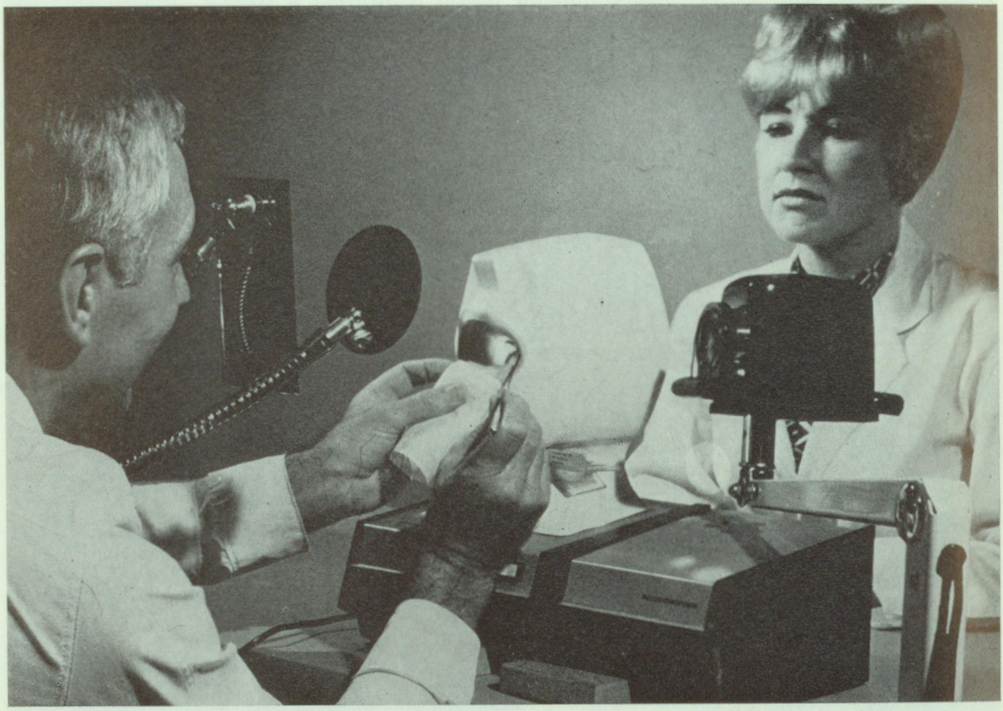


Fig. 5 and 6.



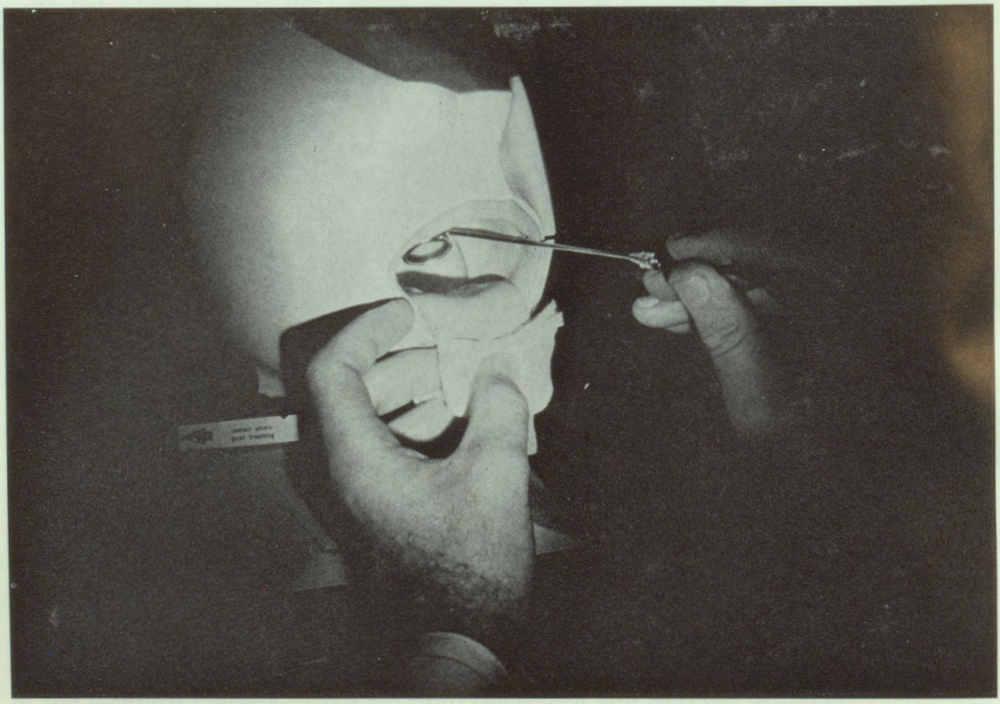
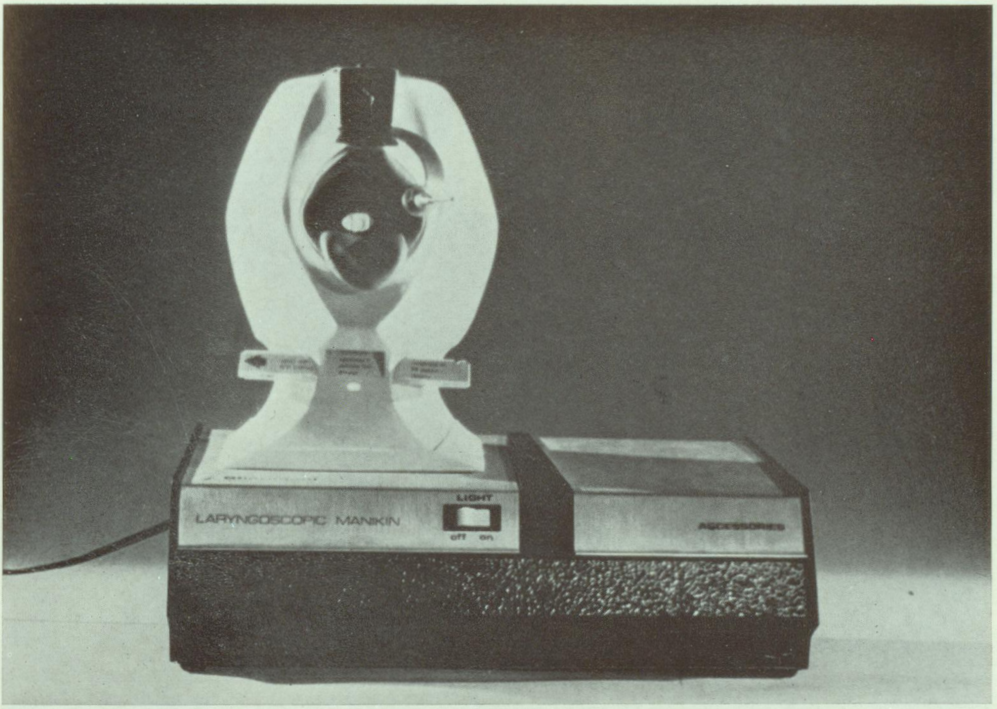


Fig. 7 and 8.



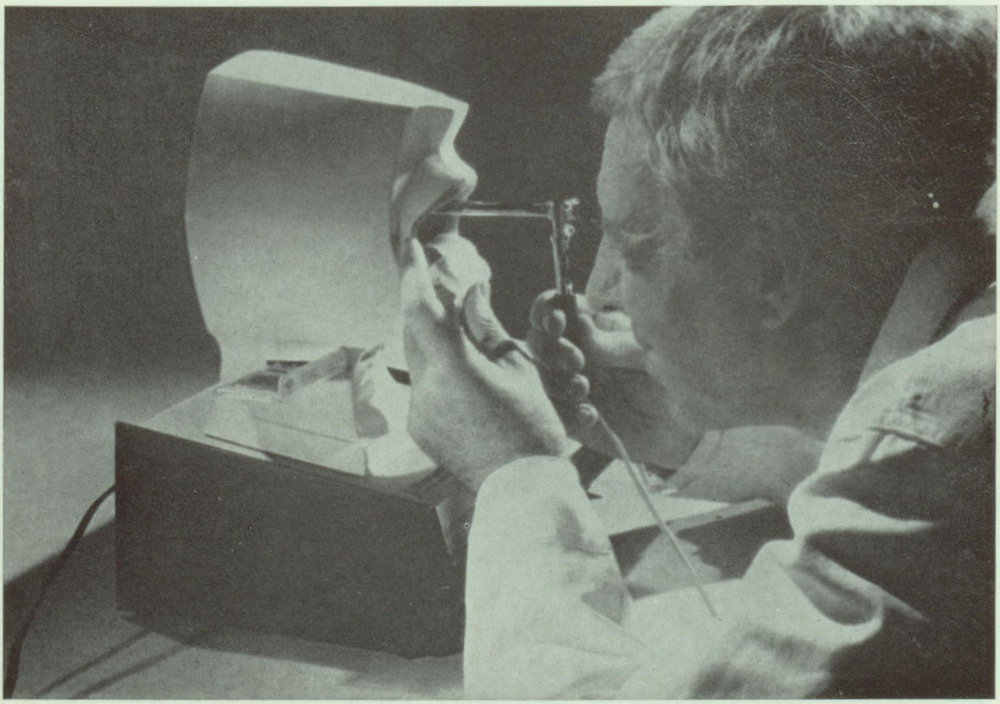
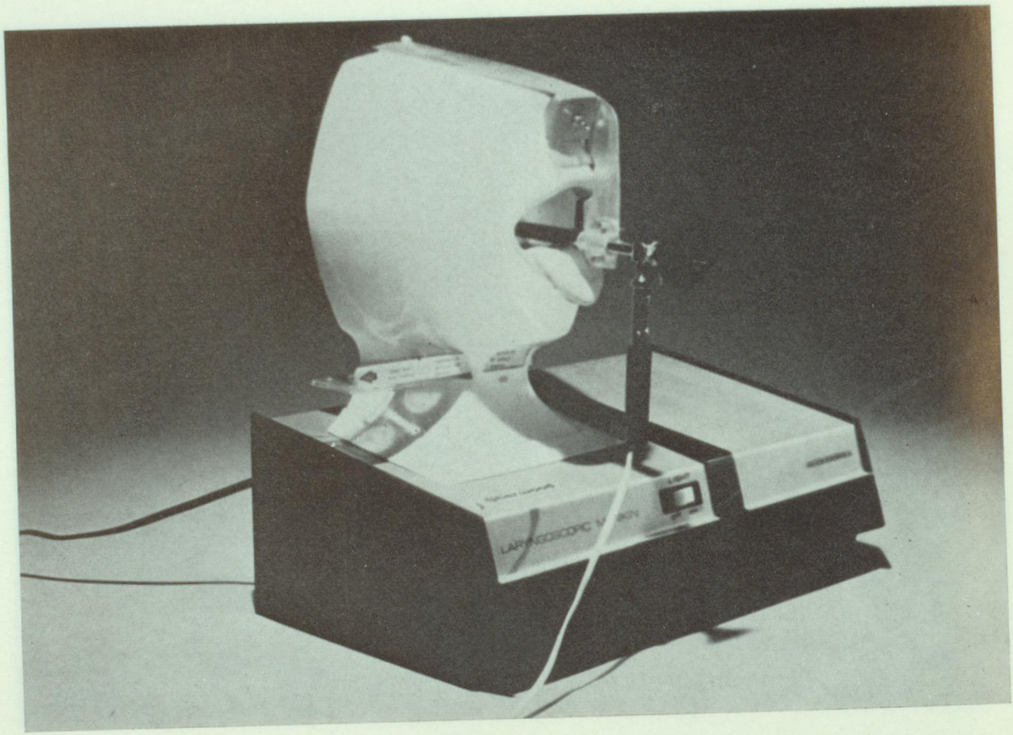


Fig. 8a and 9.



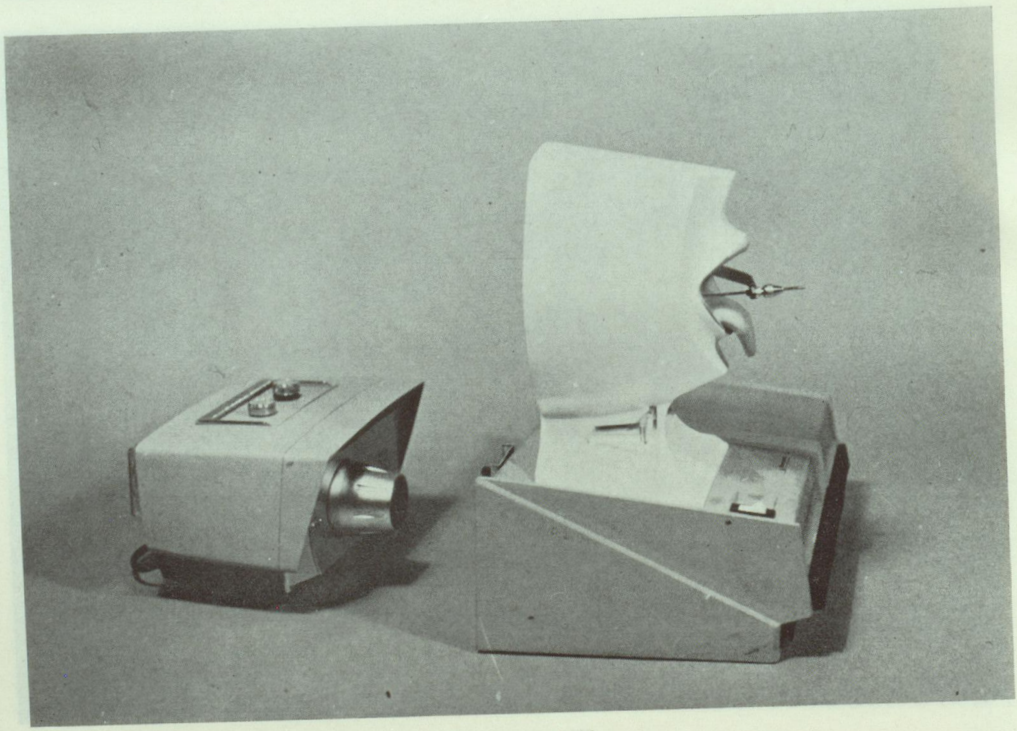
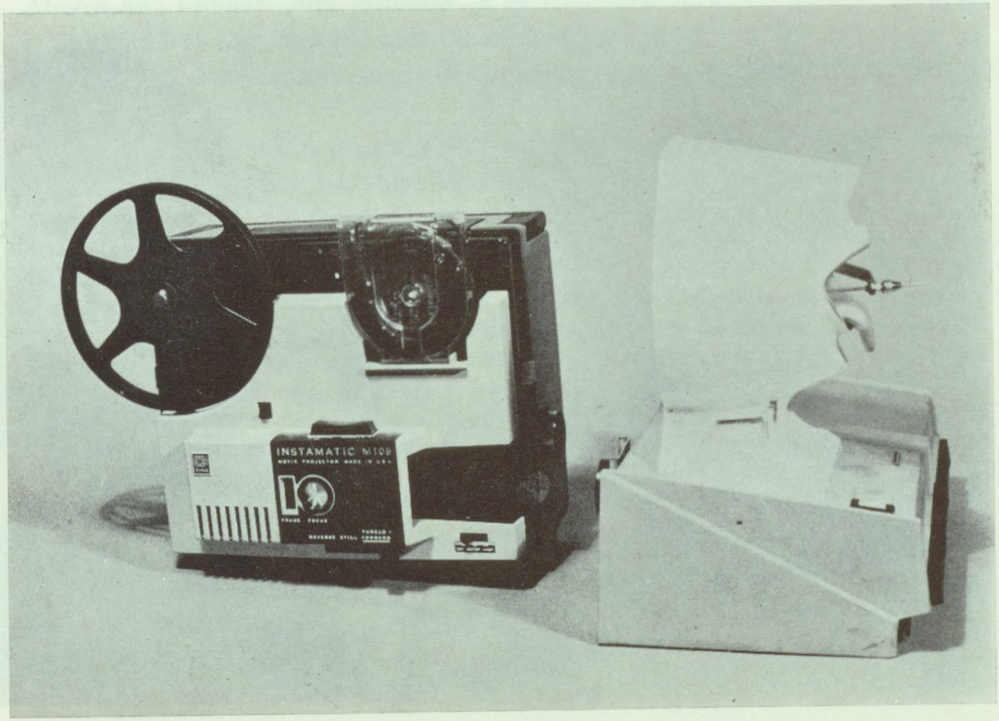


Fig. 9a and 10.



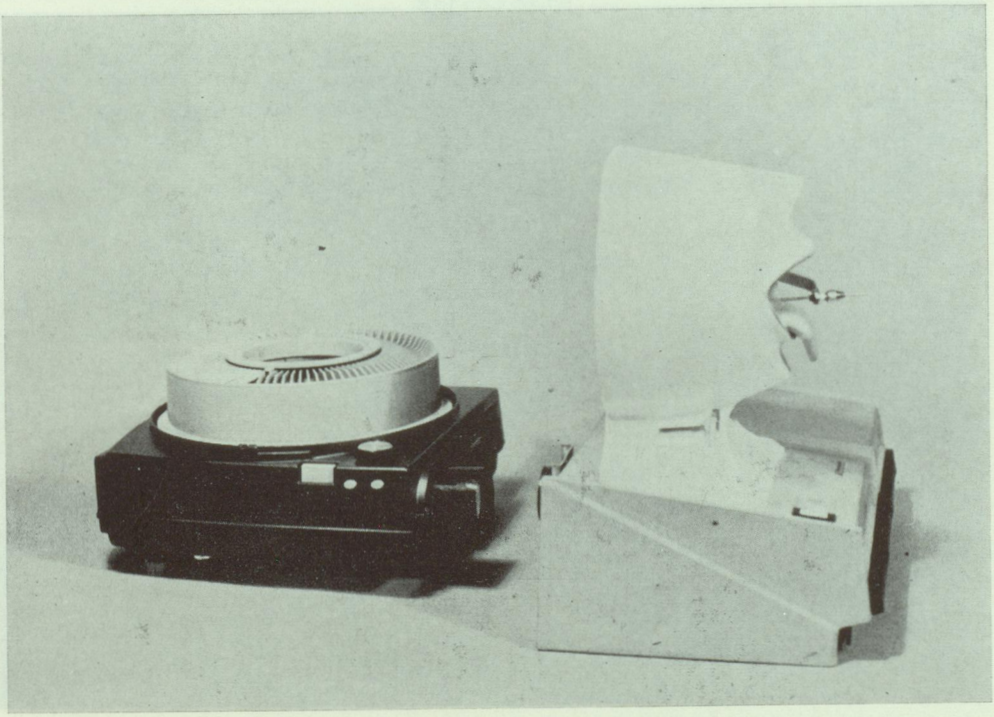


Fig. 11 and 12.

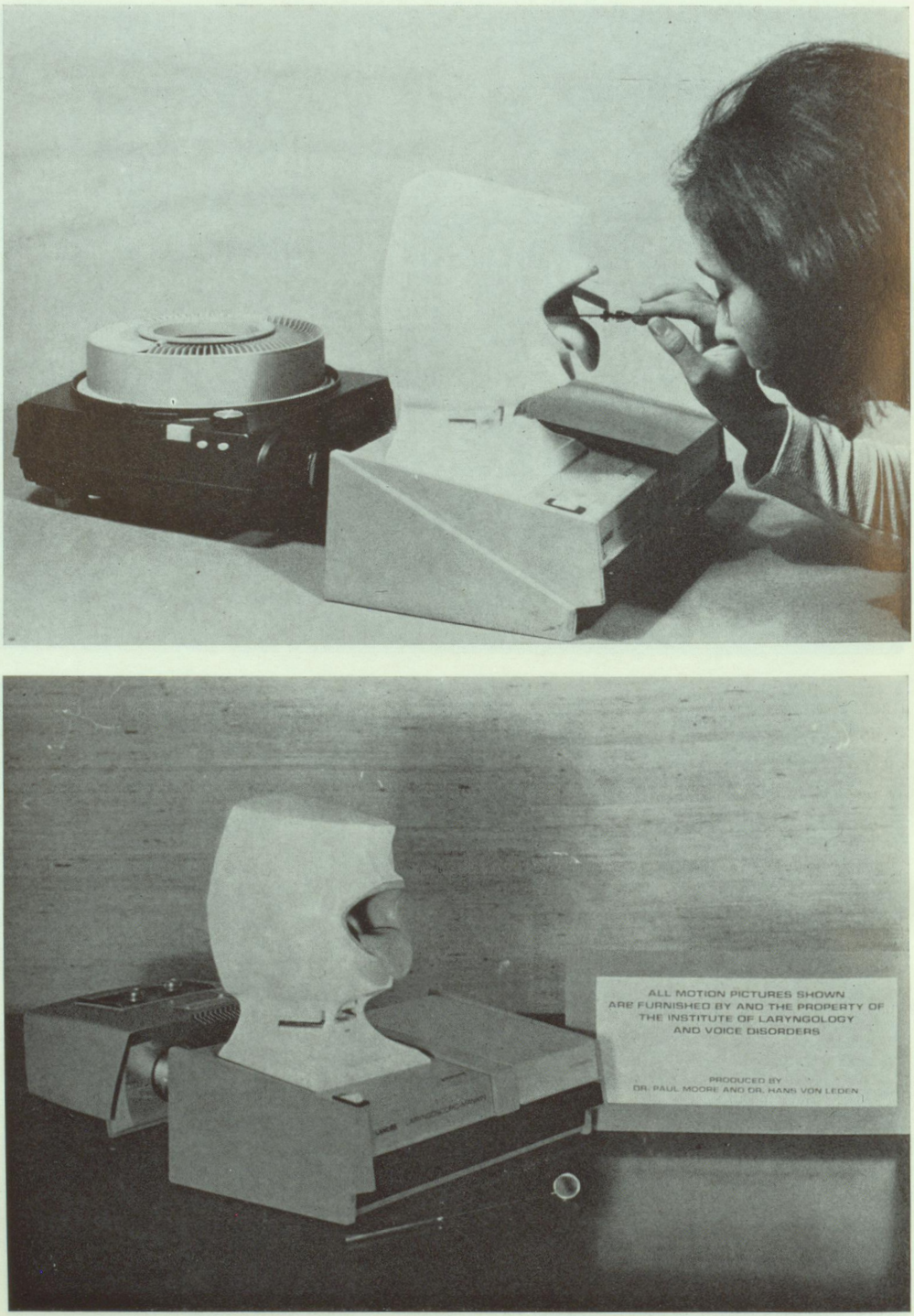


Fig. 12a and 13.

Almost any ordinary film projector, if correctly spaced from the Laryngoman, can be utilized to feed material into the Manikin (Fig. 11).

Carousel projectors or any other slide projectors can be successfully employed as feed-in devices (Fig. 12).

In this picture we see a person who is viewing in the Manikin her own colour slides arranged in a carousel projector. She is as intrigued with her experience as was one of my voice laboratory students who, after his first active contact with the Laryngoscopic Manikin, commented (Fig. 12a):

With film-screen and TV-tube most people are immediately conditioned to passiveness' popcorn and sleepiness. The picture looks as much at them as they look at it. Quite differently the laryngoscopic picture "in situ" within the Manikin has to be worked at to be fully and clearly visible and understood. It keeps the examiner active and searching and constitutes a unique happening. Therefore it also has a much profounder memory value than any screen or tube picture.

(The contents of one of the two cassettes of material, on view at our scientific exhibit, was projected on the film screen).

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"The Pathological Larynx" (Film), 16mm, color, 24 minutes, sound: ± 1960.