Metron-Vectograph

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A 3-D vectograph[1–13] is a picture consisting of two stereoscopic positive prints containing self-polarization overlaid in such a manner that when viewed with polarized glasses the information content appears in three dimensional form. It is quite similar to an anaglyph except that the right and left eye images are separated by polarization instead of color filtering.

The metron-vectograph is a further extension of this three dimensional presentation. It consists of a vectograph print prepared in an unconventional manner and a shadow box type frame. Because of its unusual aspects it allows for easier measurement of its three dimensional characteristics since the *total* stereo information becomes visible above the stereo window or film plane, and thus can be physically explored; e.g., a calibrated scale may be inserted into the picture for direct measurement.

To make a metron-vectograph the stereoscopic masters are prepared as for a conventional vectograph.[5,13] These are then superposed so that the *background* or *infinity points* coincide rather than the middle or foreground points as in a regular vectograph or anaglyph. By doing this the eyes are always converged on every point in the picture. Although this has been done in the past with limited success (vis. the familiar vectograph picture of the housefly on a sugar cube) it could not be used for pictures containing information any place other than in the center. A vectograph print is then made from these masters. Following this, an inwardly slanting frame is made from cardboard strips and attached to the print to provide a physical reference for the points of the nearest objects visible in the picture.

Figure 1 shows schematically the appearance of the metron vectograph as seen with and without the polarized analyzers. Notice that all the stereo information appears above the film plane. Also in Figure 1 (a) note that the background points are superimposed while foreground points are shifted. Figure 2 shows an actual sample unit. The picture is a 5×7 inch three-dimensional vectograph.

The same method of course can be utilized

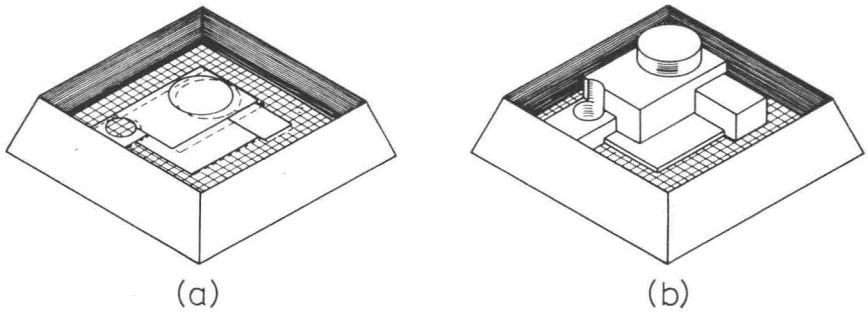

FIG. 1. Metron vectograph as seen by the unaided eye and with polarized analyzers.
(a) The solid line represents that stereo component seen by the right eye and the dotted line represents the component seen by the left eye.
(b) The three dimensional aspect of the metron vectograph showing how the information appears in front of the stereo window or film plane which is the bottom of the shadow box enclosure.

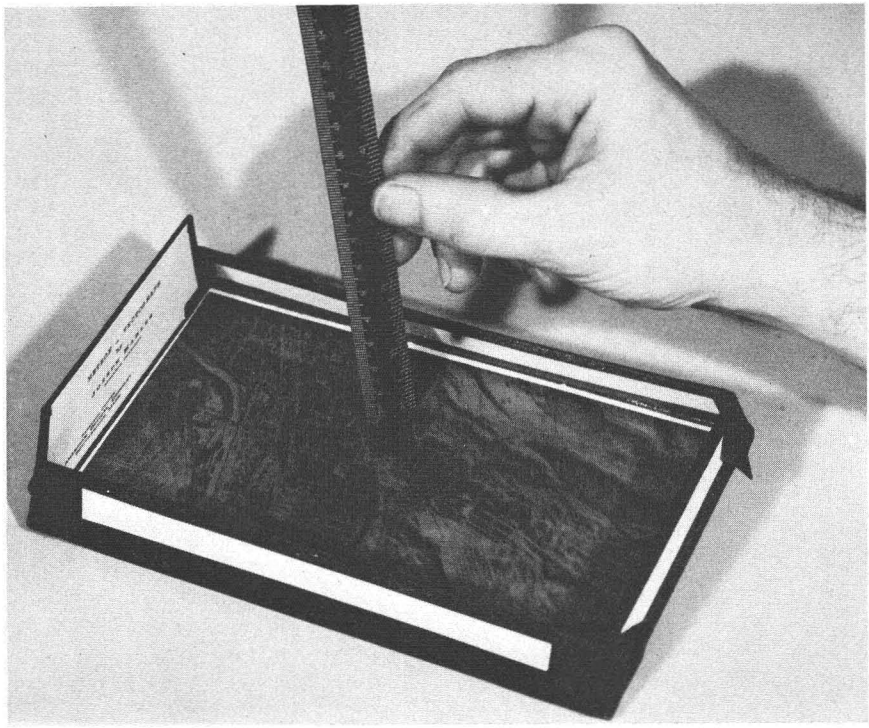

FIG. 2. Metron vectograph of an aerial photograph. The picture is a 5×7 inch 3-D Vectograph, the frame depth is 1 inch and slanted 15° from the vertical.

for a projected stereo pair (rear projection). Then the shadow-box type frame would become a "stage screen."

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