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The Healing Buddha

Korean, Eighth Century

Gift of Edward Jackson Holmes in Memory of his Mother,
Mrs. W. Scott Fitz

PUBLISHED BIMONTHLY

SUBSCRIPTION ONE DOLLAR

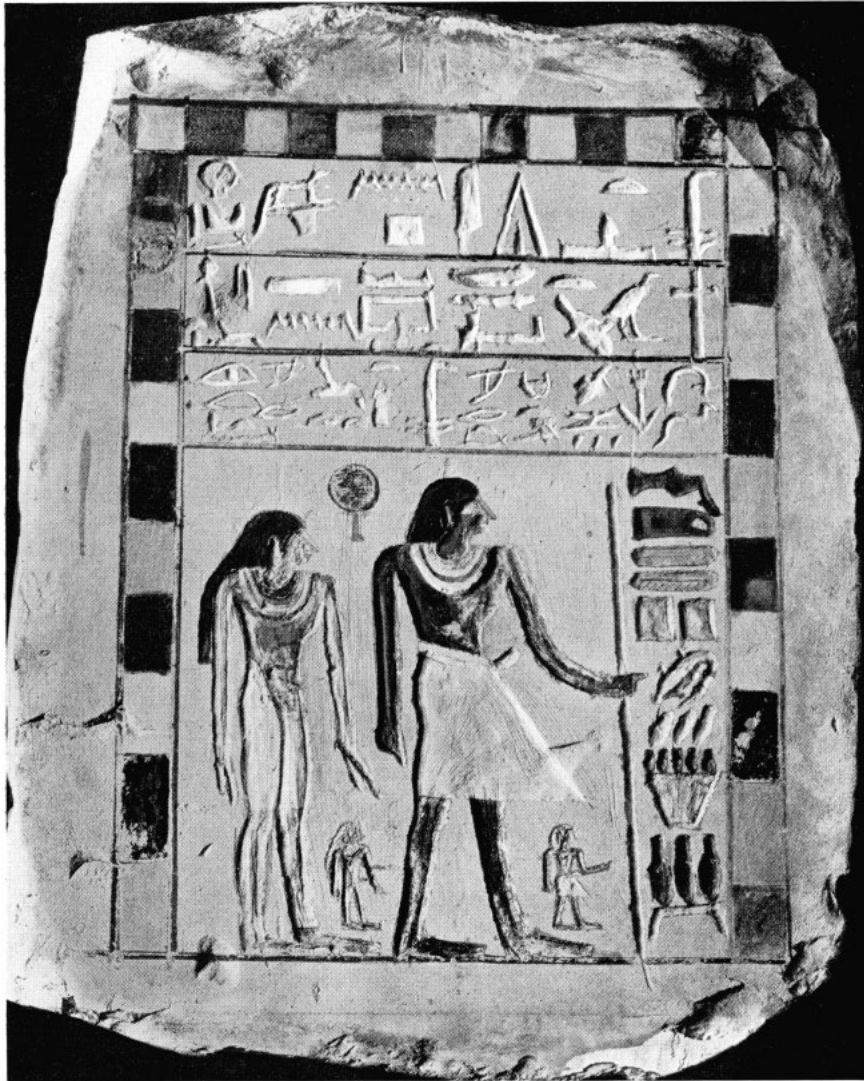


Fig. 1. *Egyptian Painted Limestone Stela* First Intermediate Period, ca. 2300 B. C.
From the Museum's Excavations at Mesheikh

Experiments with Photography in Ultra-violet Light

THE Department of Egyptian Art has recently been making a study of a group of stelæ of the First Intermediate Period in the Museum's collection. These limestone grave monuments bear a short funerary inscription together with representations of the owner of the tomb, often accompanied by members of his family, and offerings of food and drink for his sustenance in the next world. As works of art they are generally extremely crude, reflecting the state of poverty and anarchy under which Egypt suffered from the close of the Old Kingdom to the Eleventh Dynasty. They are, however, of no little archaeological importance, being among the very scanty sources of information at our disposal for this obscure period in Egyptian

history. Among other things these stelæ supply us with the personal names in use in various localities during the period, and such groups of names are often valuable not only for philological reasons, but for dating and fixing the provenance of inscribed objects which do not come from known sources.

The inscriptions and figures on these monuments are often merely painted without having been carved in the stone, and the combination of poor initial workmanship, time, and the accidents of preservation often renders them extremely difficult to make out. The Museum, therefore, has called to its aid the resources of modern science, and has been making experiments with ultra-violet light, in the hope of rendering more visible painting which has faded beyond the point of normal visibility.

Ultra-violet rays are those beyond the normal range of vision at the violet end of the spectrum.



Fig. 2. Detail, Lower Part of Stela, Ultra-violet Light



Fig. 3. Detail, Lower Part of Stela, Normal Light

They are a component of the light given off by a mercury-vapor lamp, and are separated from the other rays by a special filter-glass which stops all except the violet and ultra-violet light from passing. One of the properties of ultra-violet light is that it renders various substances fluorescent, and the colors which they assume to the eye under its influence often bear no resemblance to their normal colors. Thus the gold case of a watch appears to be a dark reddish purple, while the white enamel face comes out a dirty buff color. Two substances, such as ordinary library paste and tooth paste, both looking alike under normal light, will react quite differently to ultra-violet rays, and will appear as different shades of blue or violet. In the case of the limestone surfaces with which the Museum has

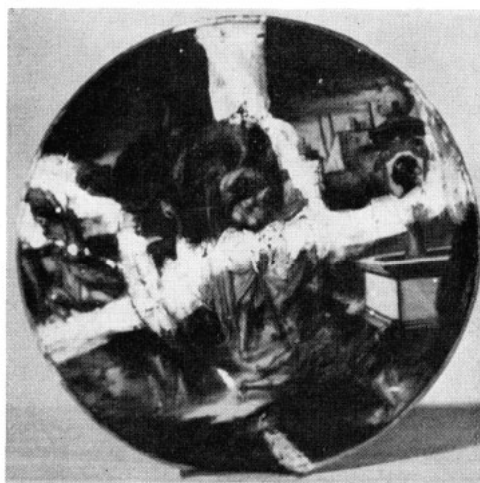
Museum's public may be interested to see an illustration of the result of one of these experiments. In publishing the accompanying photographs it should be noted that the equipment at our disposal does not permit the illumination of more than a small area, and therefore only a section of the stela dealt with can be shown.

The two smaller photographs (Figs. 2 and 3) are from the lower part of a limestone stela (Fig. 1, No. 12.1479) found in the cemetery of Mesheikh (Naga-ed-Dêr), dated to the Sixth-Tenth Dynasties. The entire stone is illustrated in a normal photograph (on page 39) to show the location of the area dealt with. The three-line inscription at the top gives an offering formula and the names and titles of the owner and his wife,



Italian Plate

Normal Light



Italian Plate

Ultra-violet Light

been dealing, the paints used in the inscriptions and figures have in some cases faded so as to be invisible. Yet sufficient traces of the paint remain impregnated in the surface of the stone to react to the rays, and this reaction is different to that of the bare limestone. The result is that the painted surface becomes visible by its variation in color. Egyptian green paint, which has a copper base, is especially strong in its reaction to ultra-violet light, and this is also one of the colors which fades most easily and is most difficult to trace under poor conditions of preservation. But other colors, especially yellow, also react favorably under the rays, and in every instance where one of these stelæ has been examined under the lamp, certain details which were formerly invisible have become apparent.

Our experiments have so far been tentative, and many more objects must be studied before we can arrive at any very definite results. The best way of recording the reactions by photography must be further studied, and experiments be made with plates and filters of different types. It is, however, already clear that the ultra-violet ray lamp is a valuable tool for certain kinds of work, and the

whose figures appear in the field below. The two smaller figures represent the son (right) and the daughter (left), and the names of the two children are painted in front of them in green. In the photograph taken in ultra-violet light (Fig. 2) these names are clearly legible, as also are the anklets on the figure of the wife, which are green and not noticeable in the other pictures. The boy's name reads *Yen-Yenheret*, which probably means "Gift of Yenheret" (a god). The girl's name reads *Ibuw*.

The large illustration (Fig. 1) and the small detail (Fig. 3) are photographs in normal light on panchromatic plates. The detail (Fig. 2) was taken by ultra-violet light on the same type of plate, with an exposure of thirty minutes at full aperture (F 7), and using a K 2 filter in the camera.

DOWS DUNHAM.

TWO additional illustrations show one result of some investigations under ultra-violet light in another Department of the Museum. The illustration at the left shows in photographic black and white a plate of majolica ware in polychrome which