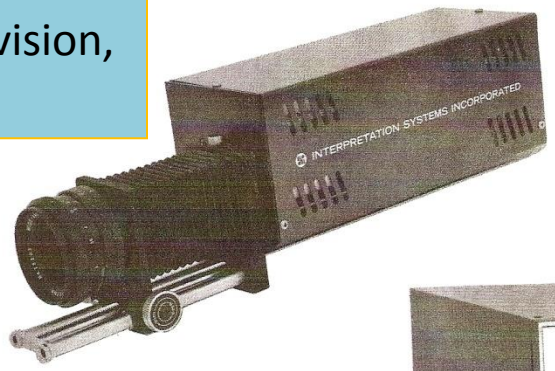
Camera and Lens Option, ad dated August 1977.

This camera was made by Cohu, Inc., Electronics Division, San Diego, CA, for ISI.

# CVC-1

## IMAGE ANALYSIS CAMERA




The CVC-1 Image Analysis Camera is a rugged two-piece vidicon camera designed for those applications requiring extremely uniform shading and high signal-to-noise characteristics. Applications include remote sensing data reduction, radiograph analysis, reconnaissance, weather satellite image studies, special applications, and laser beam profile analysis. These applications have typically depended upon slow scan, optical techniques for image analysis. However, the improved shading correction circuitry and state-of-the-art signal-to-noise performance of the CVC-1 have allowed these and other difficult problems to be solved using video equipment.

When included in U.S. systems, the CVC-1 operates at a 525 line per frame, 30 frame per second format. For European and selected other systems, the camera scans at 625 lines per frame, 25 frames per second. In all cases the output is interlaced 2:1. The camera is designed to accept ISI's Model BL-35 Bellows/Lens Assembly which provides a wide range of magnification *(1:50)* and no optically degrading effects. Other 35mm mount lenses with Pentax thread can be used, if required.

The CVC-1 Image Analysis Camera can be used in a simple closed circuit display system, as shown in *Figure 1* or it can be used in conjunction with one or more of ISI's image enhancement modules, such as the VP-8 Image Analyzer or the AP-3 Analog Encoder to form a complete image analysis system as shown in *Figure 2.*


*Figure 1*

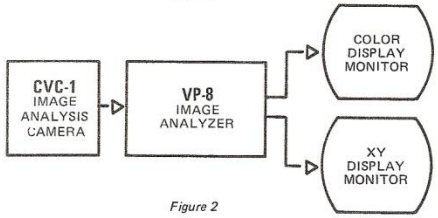
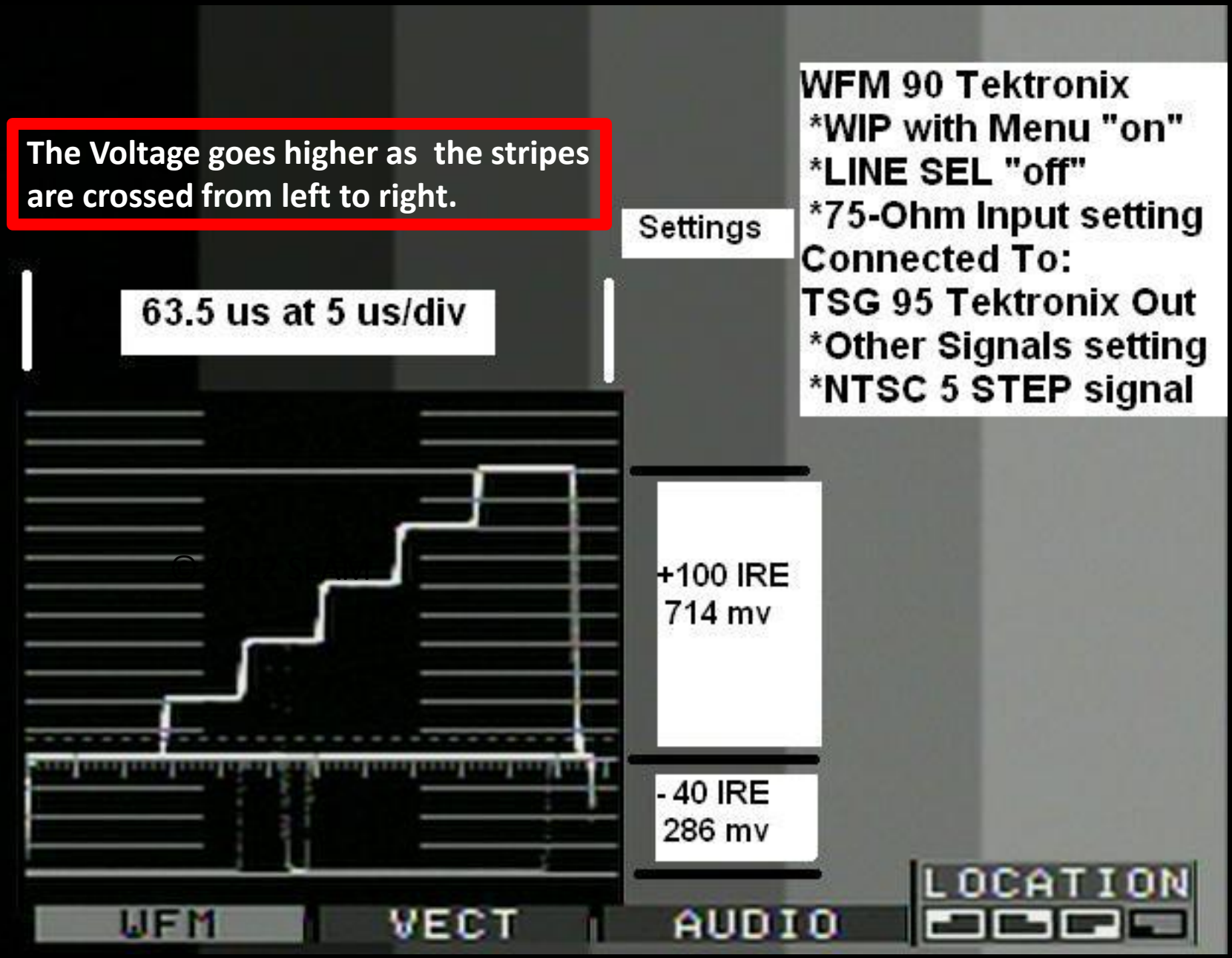


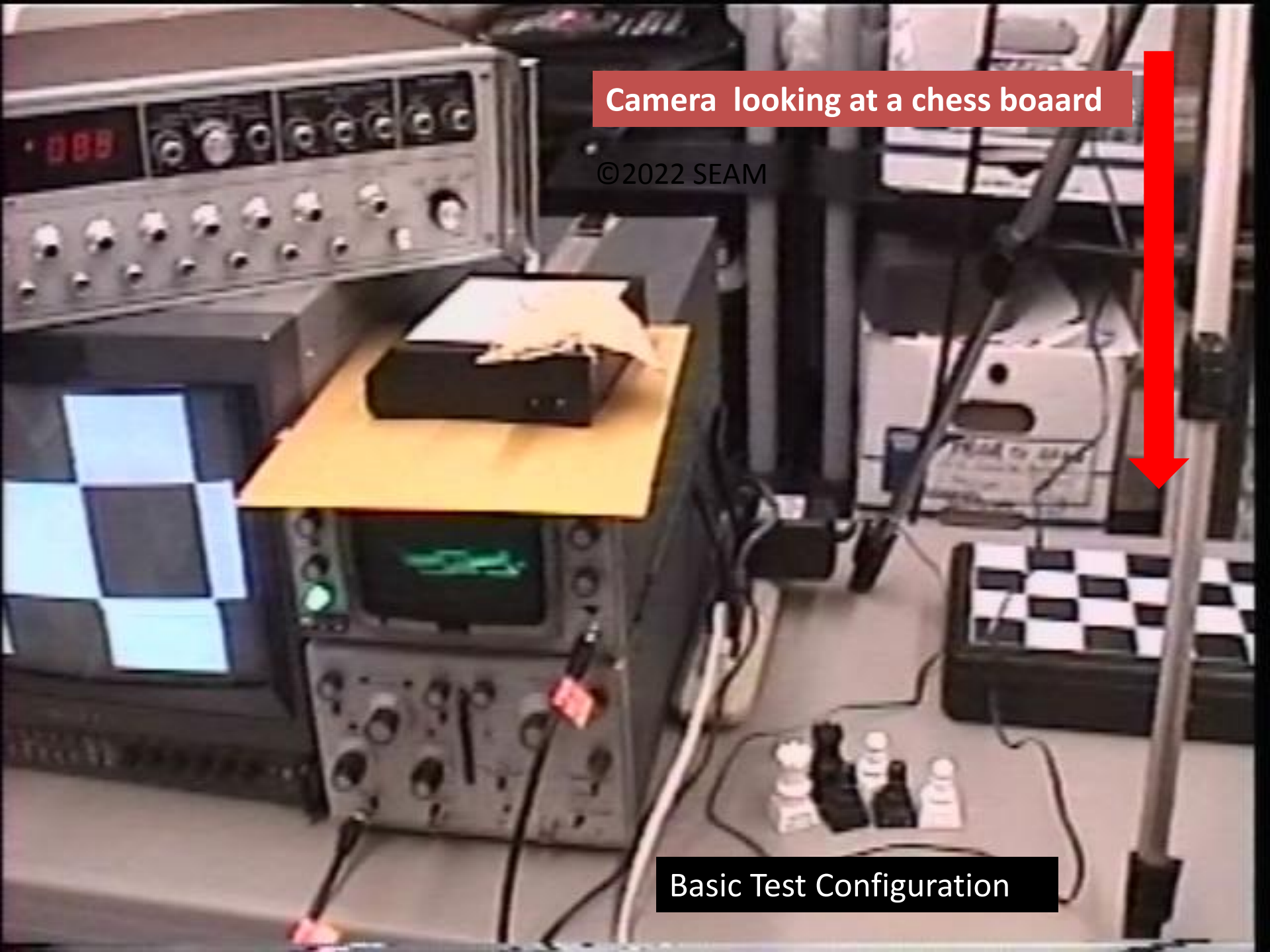

*Figure 2*

INTERPRETATION SYSTEMS INCORPORATED

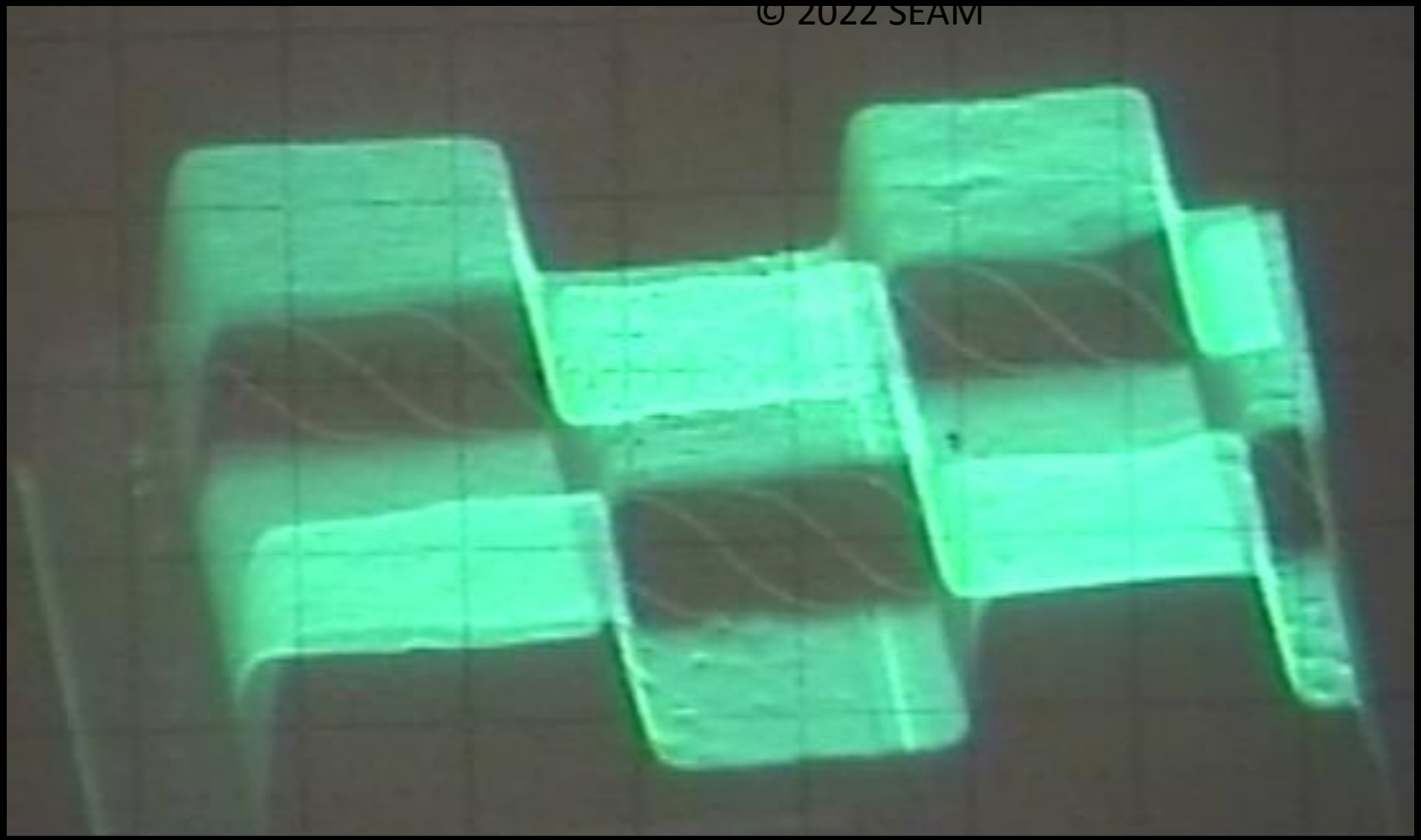
P. O. BOX 1007 • LAWRENCE, KANSAS 66044 • PHONE 913/842-5678

August 1977


The Voltage goes higher as the stripes are crossed from left to right.
WFM 90 Tektronix
*WIP with Menu "on"
*LINE SEL "off"
*75-Ohm Input setting
Connected To:
TSG 95 Tektronix Out
*Other Signals setting
*NTSC 5 STEP signal
Settings
63.5 us at 5 us/div
+100 IRE
714 mv
- 40 IRE
286 mv
WFM
VECT
AUDIO
LOCATION


Camera looking at a chess boaard
©2022 SEAM
Basic Test Configuration

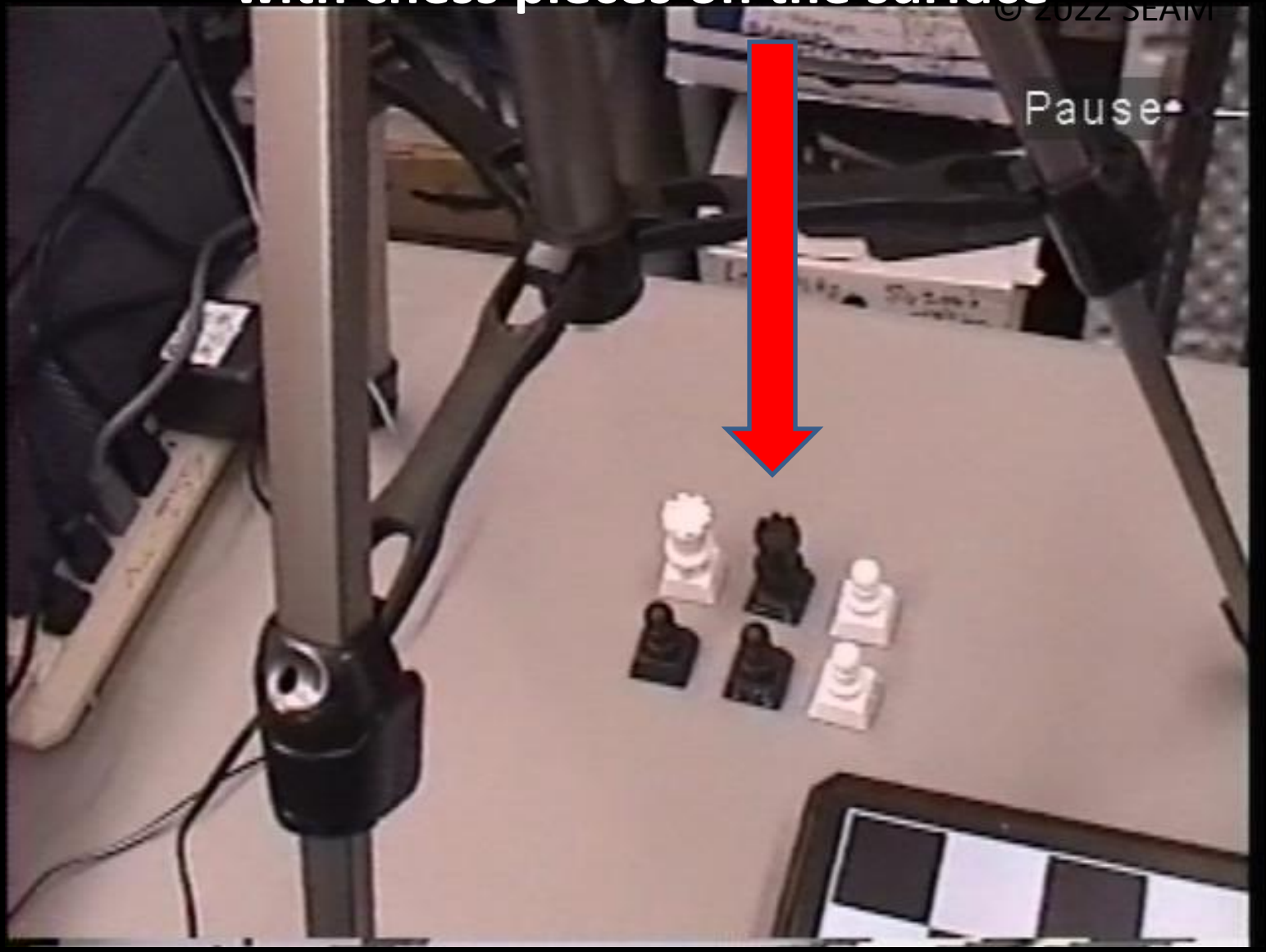
# Isometric Projection Mode (mathematical plot) of the Video Picture Voltage Values



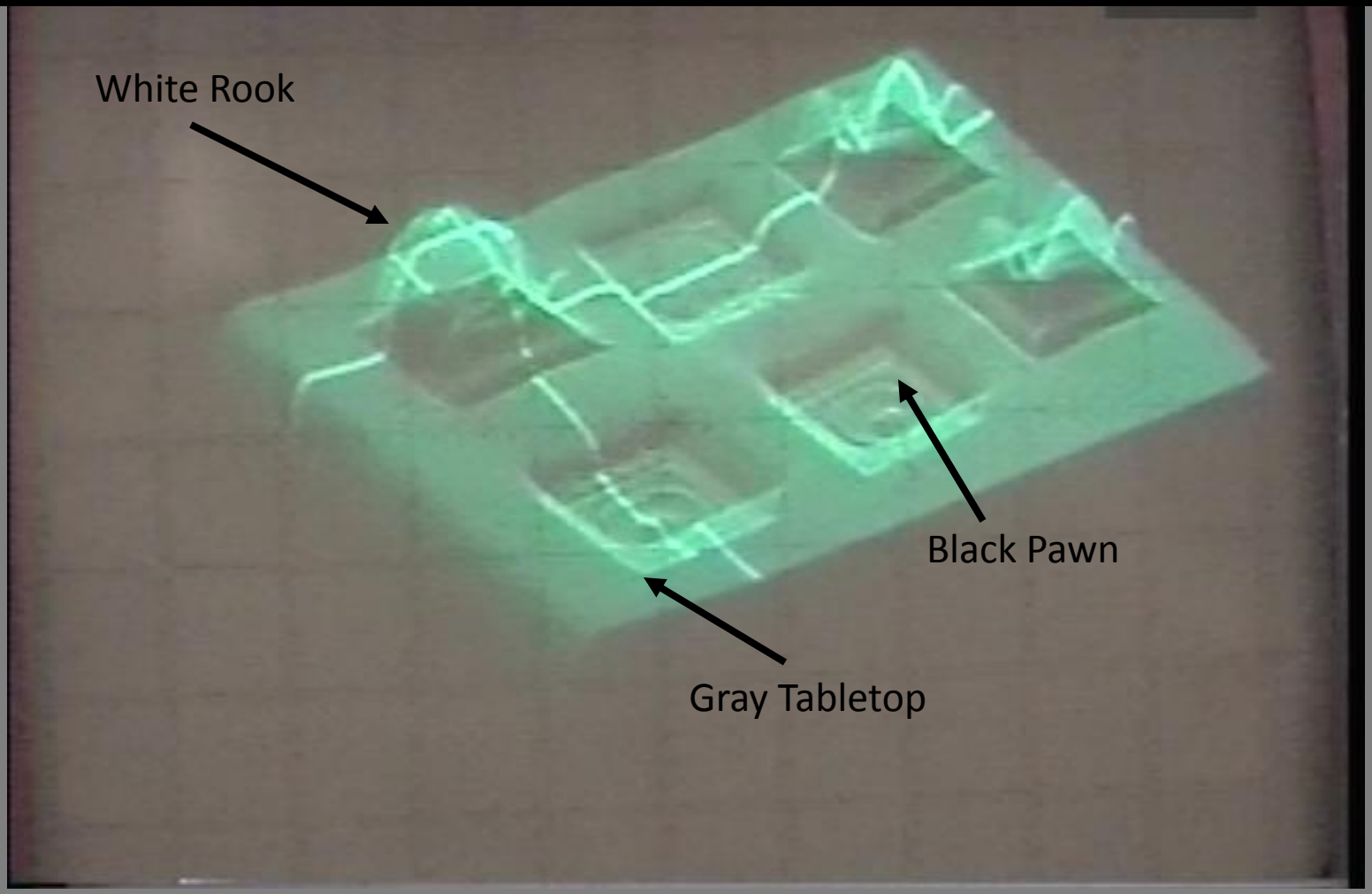

Brightness Map (Isometric Projection of Brightness Values)

Note: The Actual Chess board is Flat - - - Not Bumpy

Camera looking at  grey table top with chess pieces on the surface



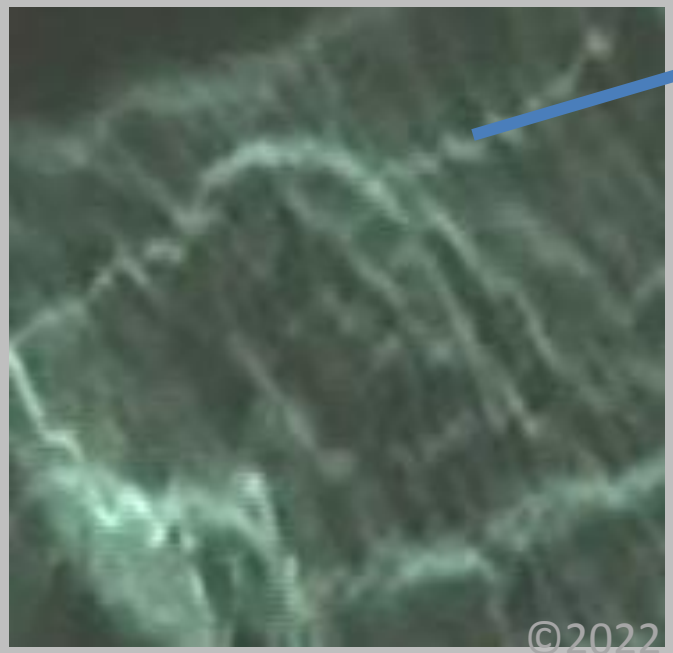
**Bright lines highlight individual scan lines.**
**The actual chess pieces are on the top of the table.**
**Isometric 3-D plots are not contours of true elevations.**
**They do not relate to real heights and depths.**

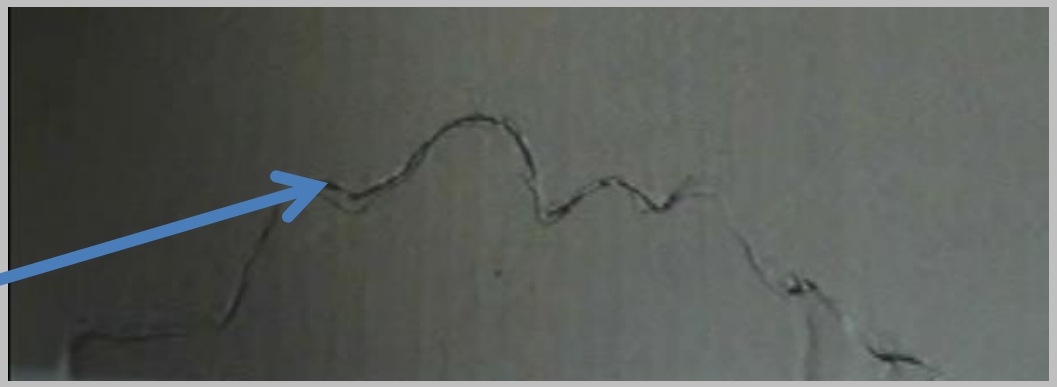



©
"In 1976, I was handed a picture and asked to demonstrate the Isometric Display Mode."
(Quote: Peter Schumacher)

**The Isometric Plot was 3-D in relationship to the contour of a body. The previous slides show this does not happen with other images.**

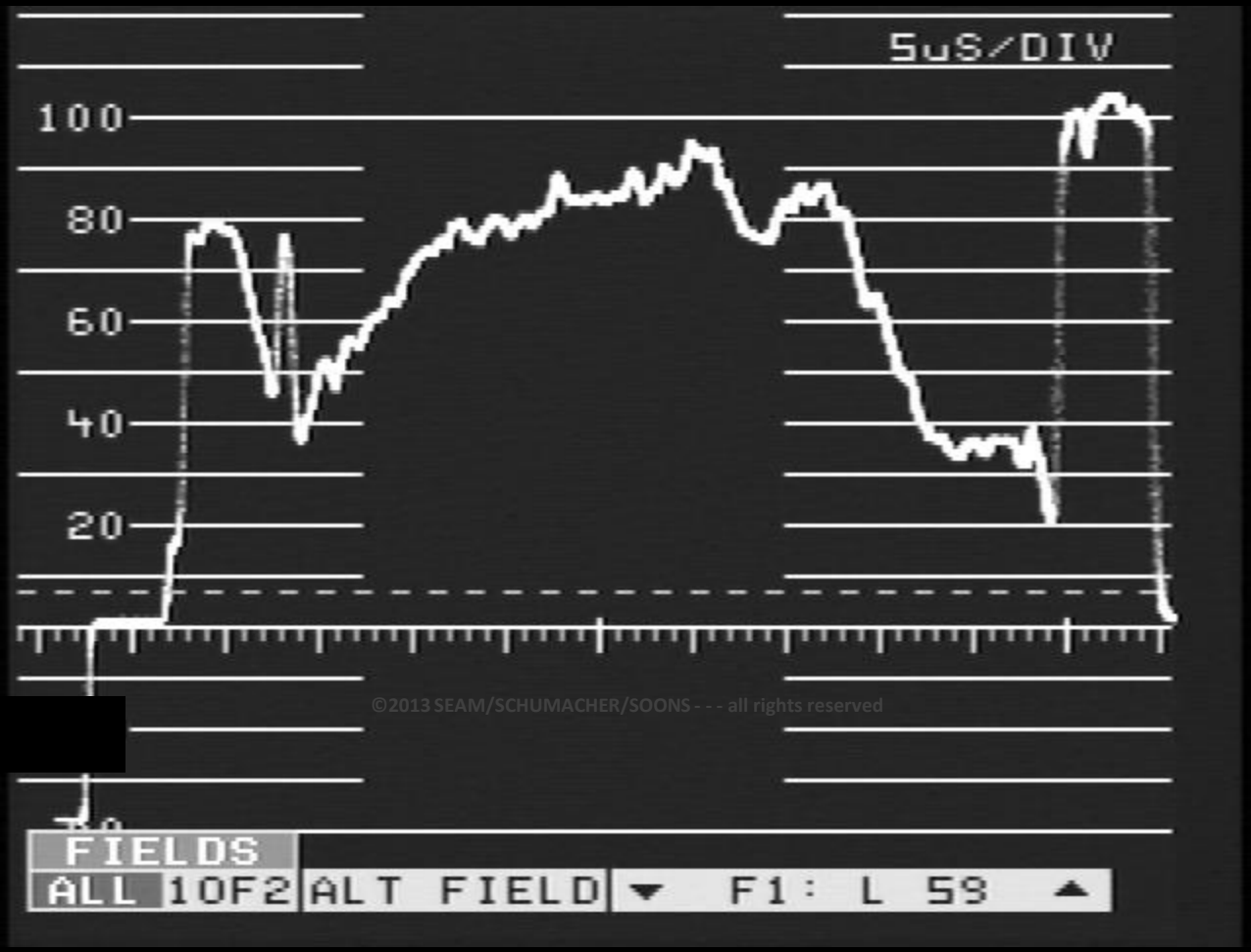
**Jackson and Jumper worked with others to produce a 3-D model using the brightness variations of the Shroud image.**





Their model as on display in 1988 in the Air Force Academy Chapel is proof the VP-8 plot was not an anomaly.

# Newer Instrumentation common to video waveform measurements.


5uS/DIV
100
80
60
40
20
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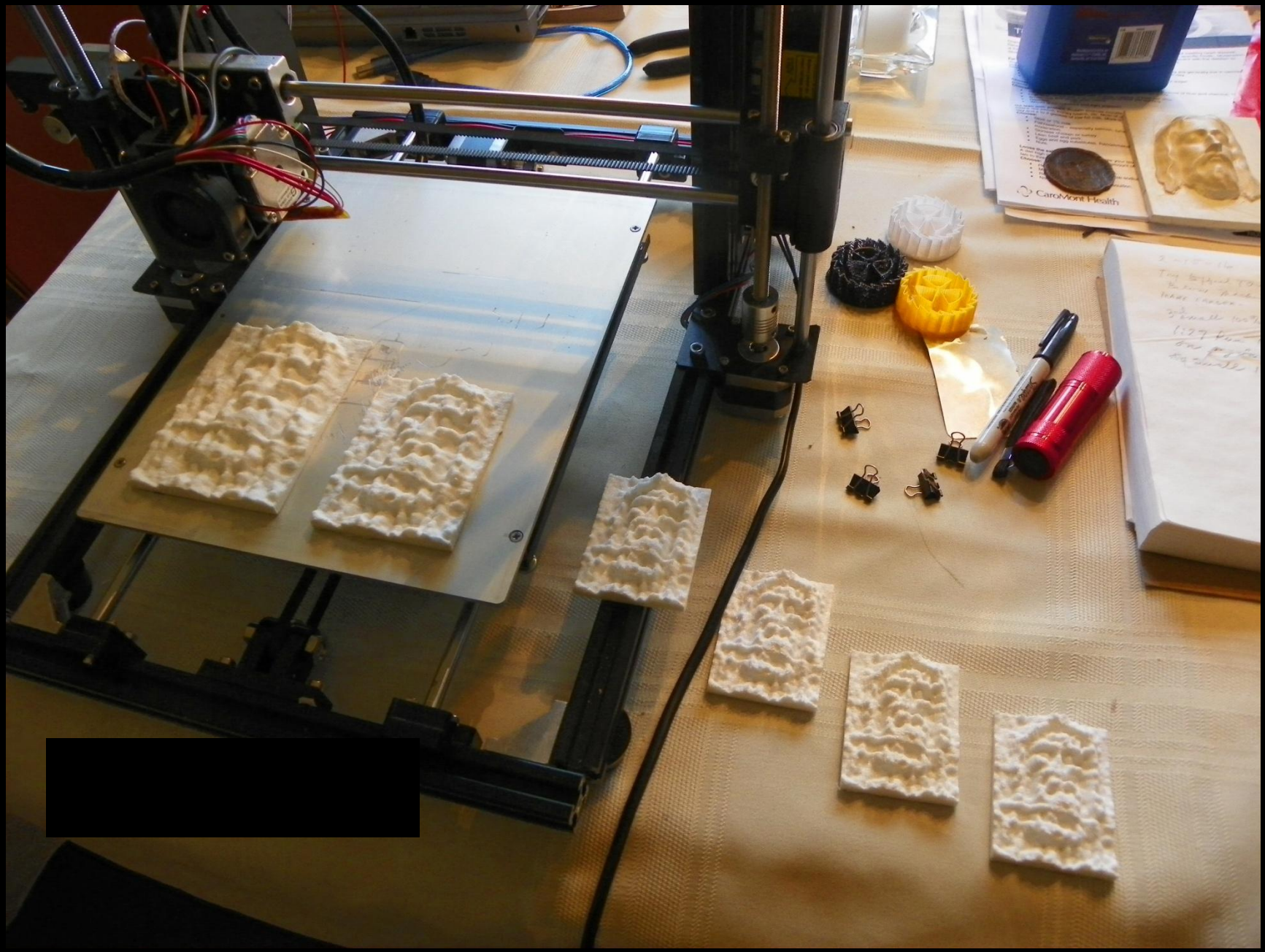
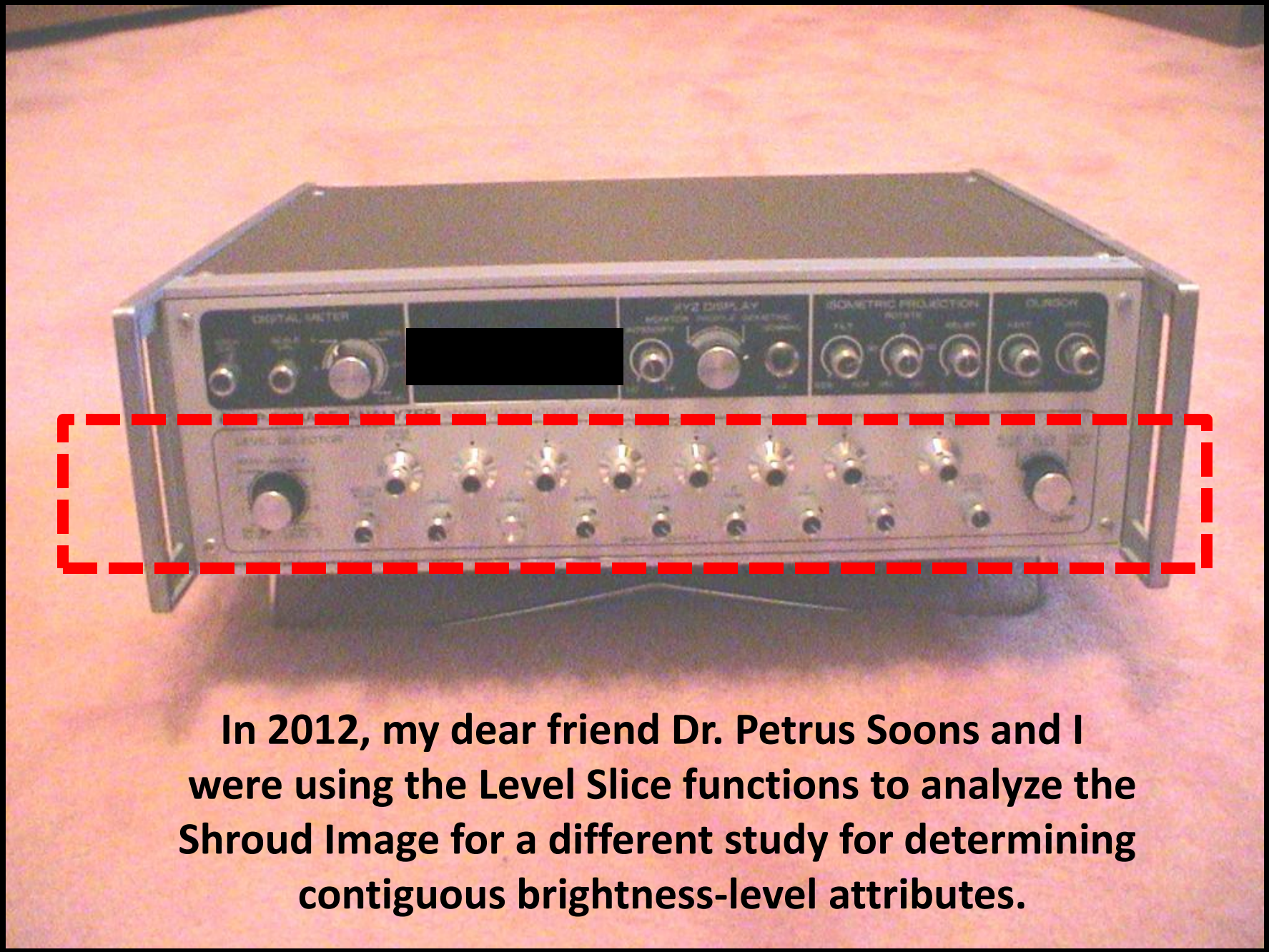
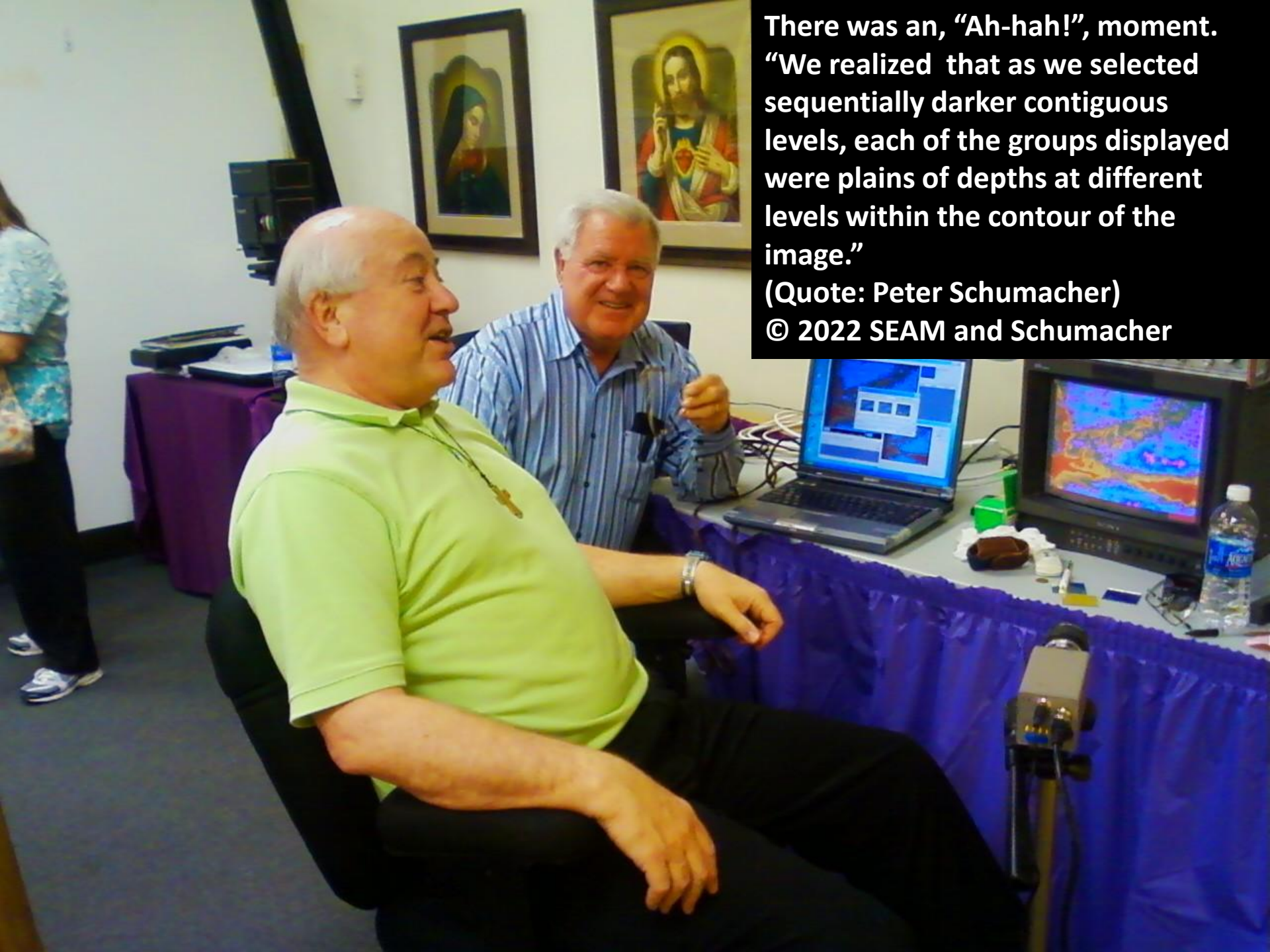
FIELDS
ALL
1OF2
ALT FIELD
F1: L 59

My dear friend Kevin Moran  produced 3-D printed models.

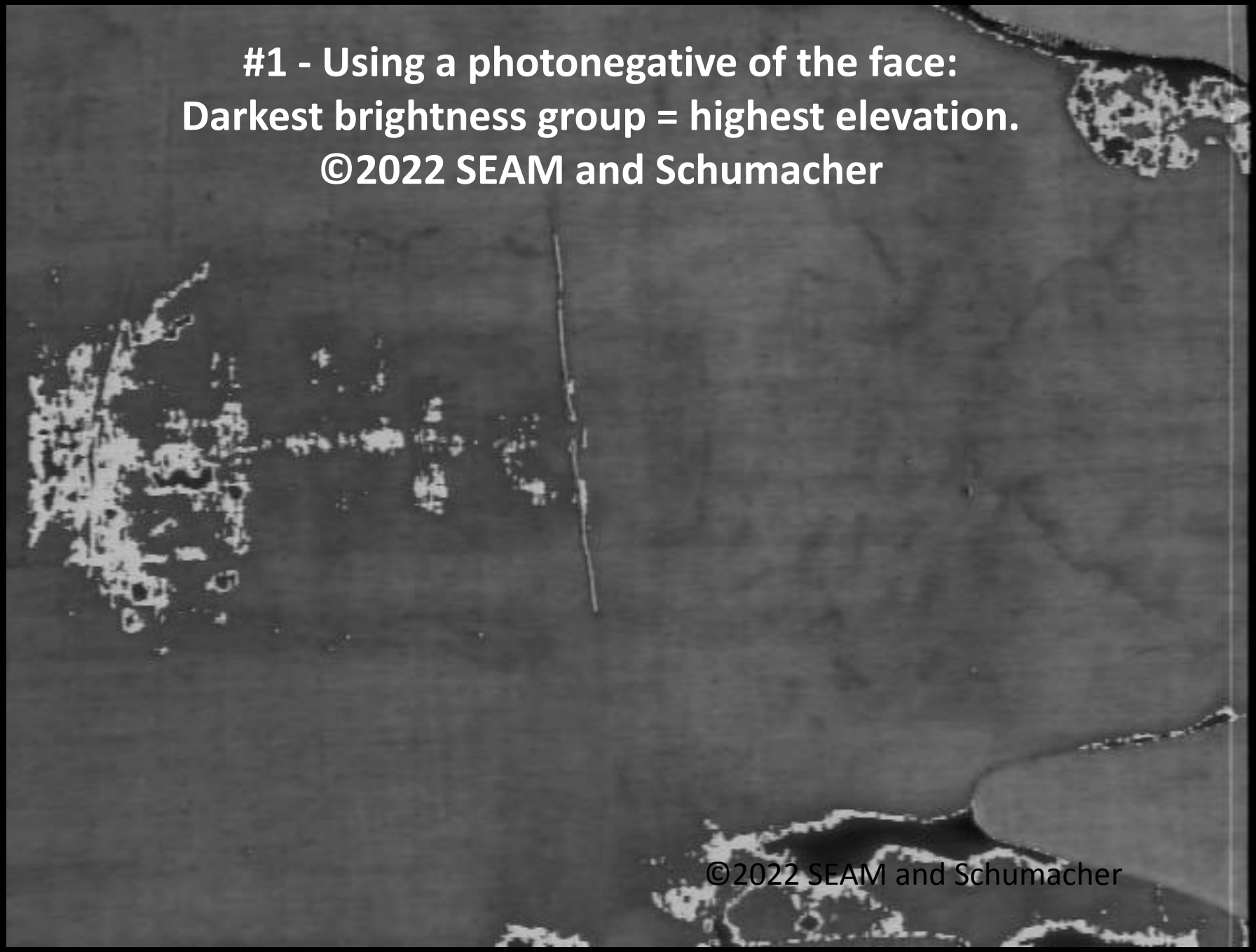

CaroMont Health

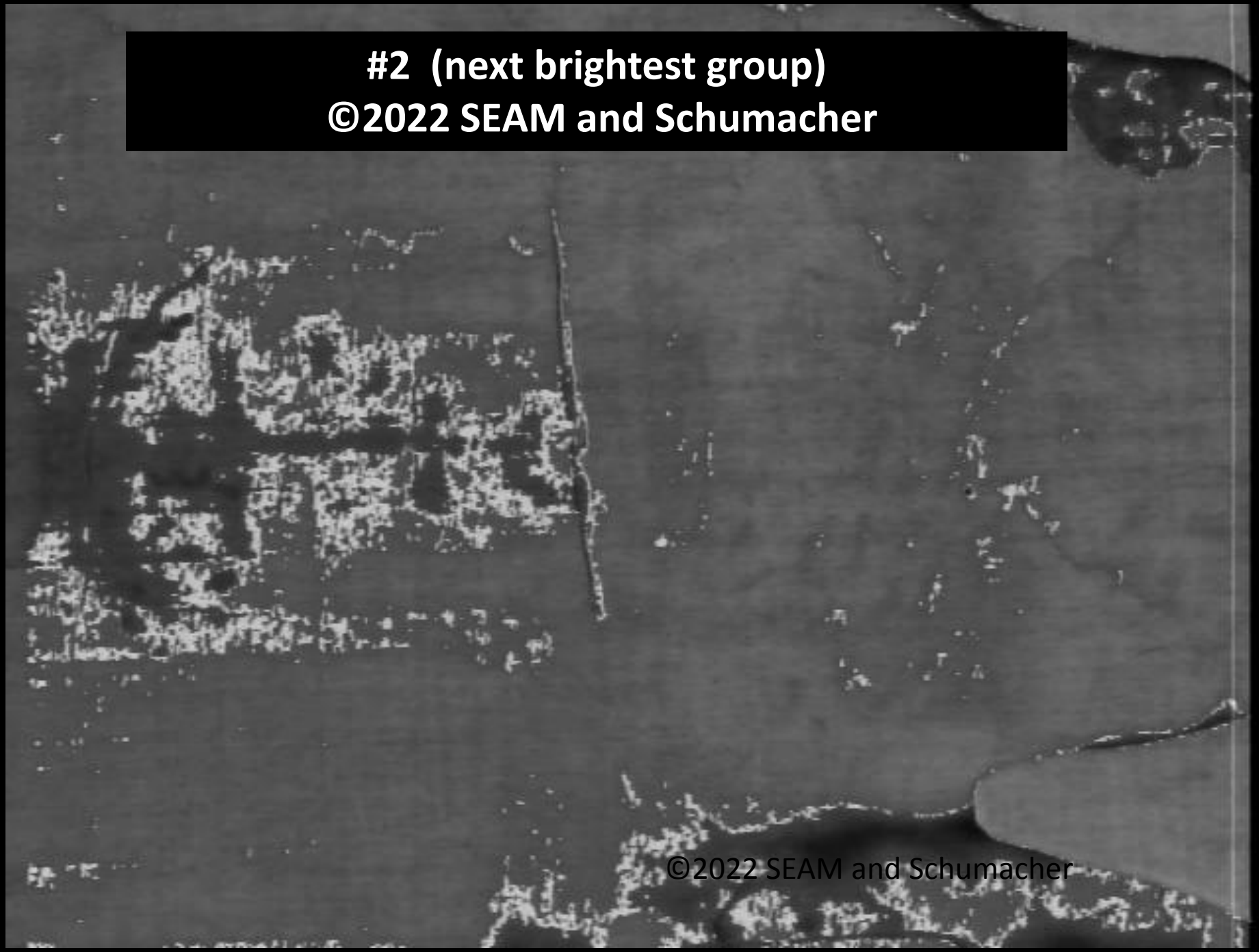


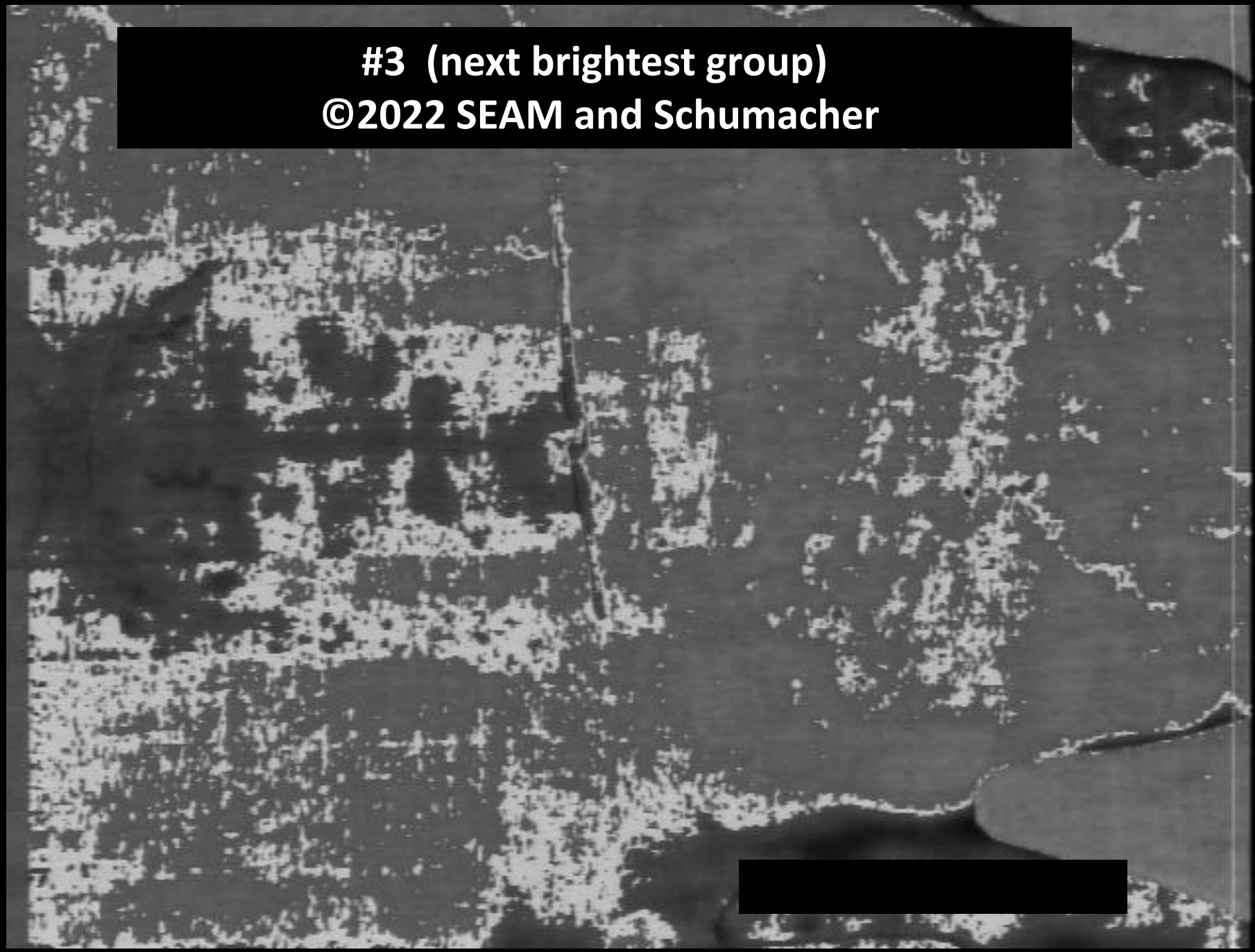

**In 2012, my dear friend Dr. Petrus Soons and I were using the Level Slice functions to analyze the Shroud Image for a different study for determining contiguous brightness-level attributes.**

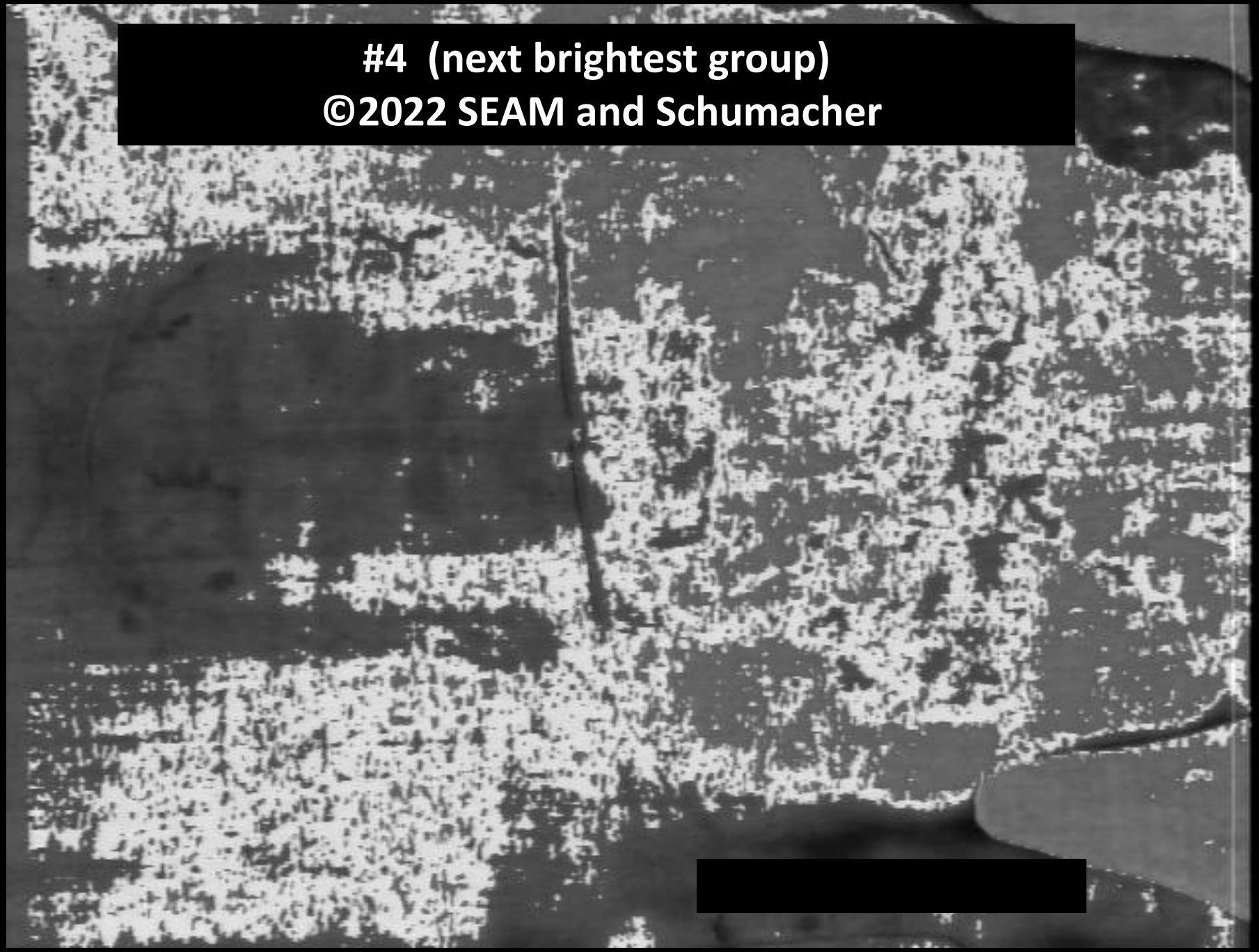


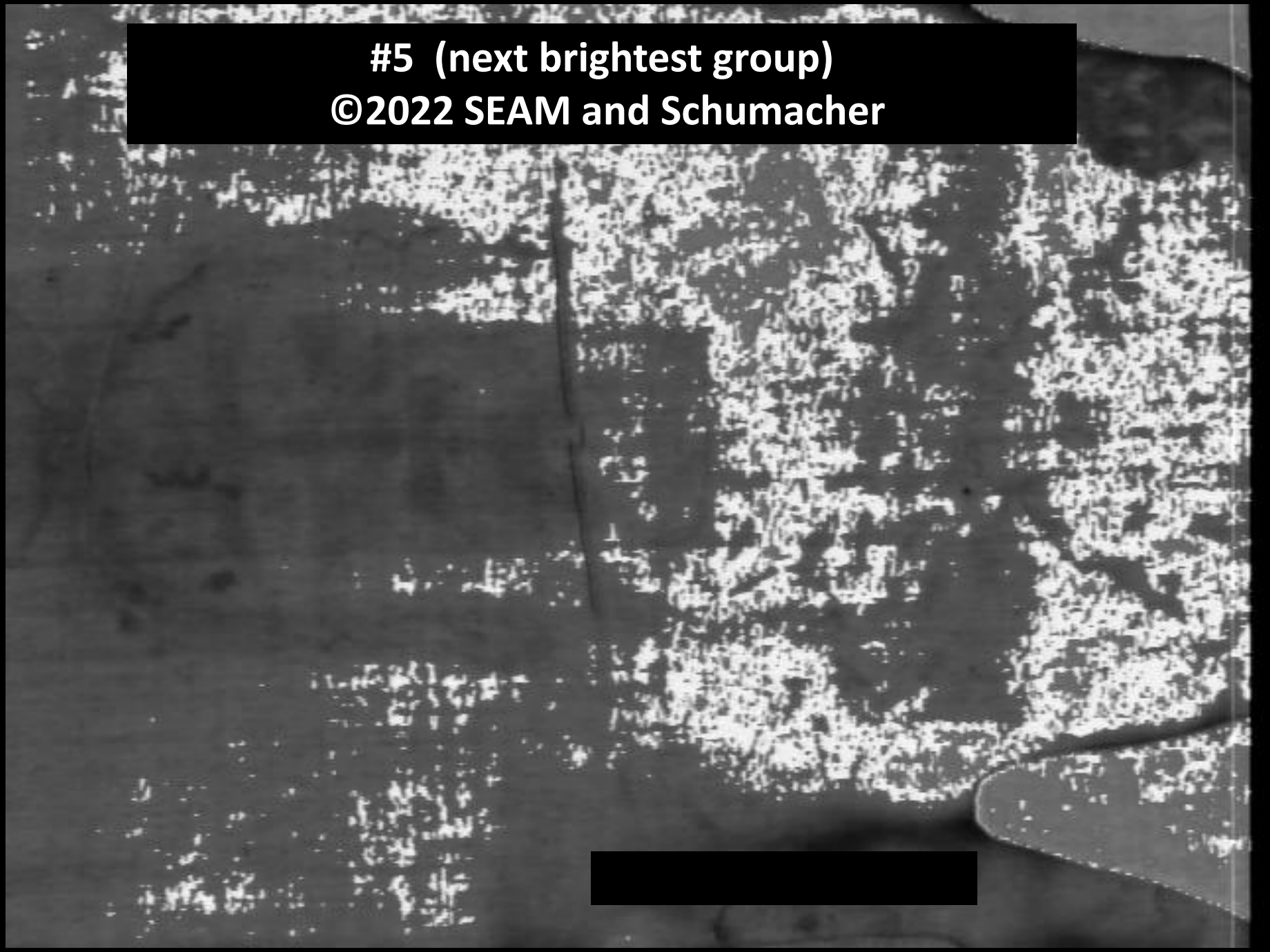
There was an, “Ah-hah!”, moment. “We realized that as we selected sequentially darker contiguous levels, each of the groups displayed were plains of depths at different levels within the contour of the image.”
(Quote: Peter Schumacher)


#1 - Using a photonegative of the face:
Darkest brightness group = highest elevation.
©2022 SEAM and Schumacher
©2022 SEAM and Schumacher


#2 (next brightest group)
©2022 SEAM and Schumacher
©2022 SEAM and Schumacher


#3 (next brightest group)
©2022 SEAM and Schumacher


#4 (next brightest group)
©2022 SEAM and Schumacher


#5 (next brightest group)
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# A Short “VP-8” 3-D Tutorial Skimming Over 46 Years In Less Than 10 Minutes



Shroud Exhibit and Museum (SEAM)
By Deacon Peter Schumacher