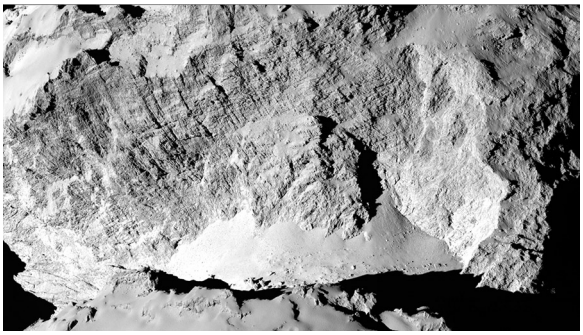
PROGRESS 2020-B: CONSTANT-SCALE NATURAL BOUNDARY MAPPING TO DEPICT MATERIAL TRANSPORT ON COMET 67P/C-G. C. S. Clark[1] and P. E. Clark[2], [1]Chuck Clark architect, 1100 Alta Avenue, Atlanta GA, rightbasicbuilding@gmail.com, [2]JPL, California Institute of Technology, pamela.e.clark@jpl.nasa.gov.

Results: We present a pair of constant-scale natural boundary global maps showing complementary perspectives on 67P's south-to-north semi-orbital material transport (see Figures 2 and 3). For introductory information, background and method, further discussion, etcetera, as well as our photomosaic source, see Progress 2020-A (submitted). Here we note that these experimental CSNB maps are the first global maps of 67P to show the full extent of Hathor, proportionally the universe's most extreme known overhanging cliff.

Interim status: These maps lack Hathor imagery (see figure 1). The maps on our poster will not.

Figure 1: Hathor (image courtesy J.-B. Vincent)



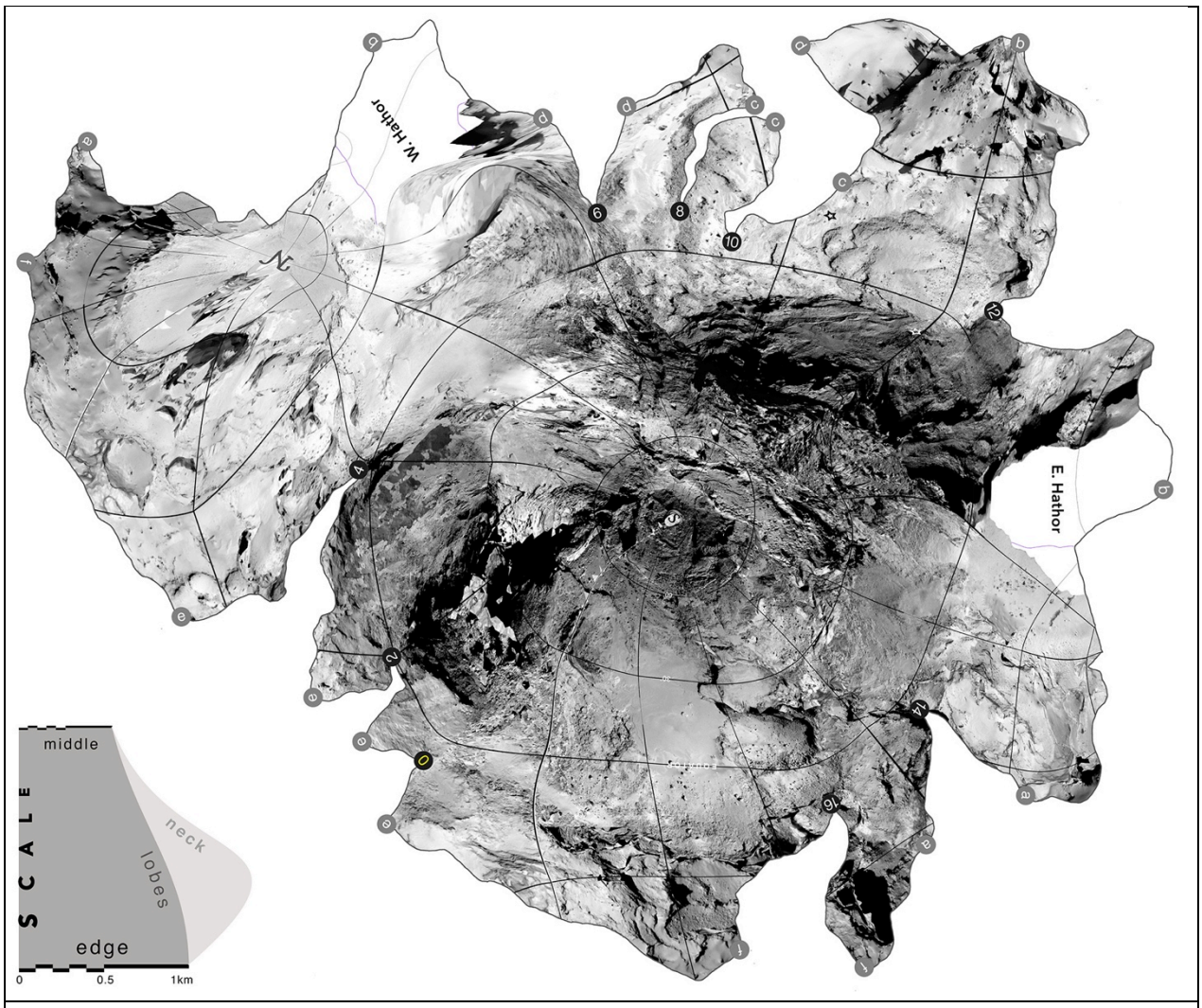


Figure 2: A constant-scale natural boundary global map of comet 67P/Churyumov-Gerasimenko composed to show dust transport *outward*, relative to the map's midregions. Note that the map shows the full extent of Hathor.

Hinge and node annotations—as well as Hathor's callout—are oriented in model space, i.e., north is "up."

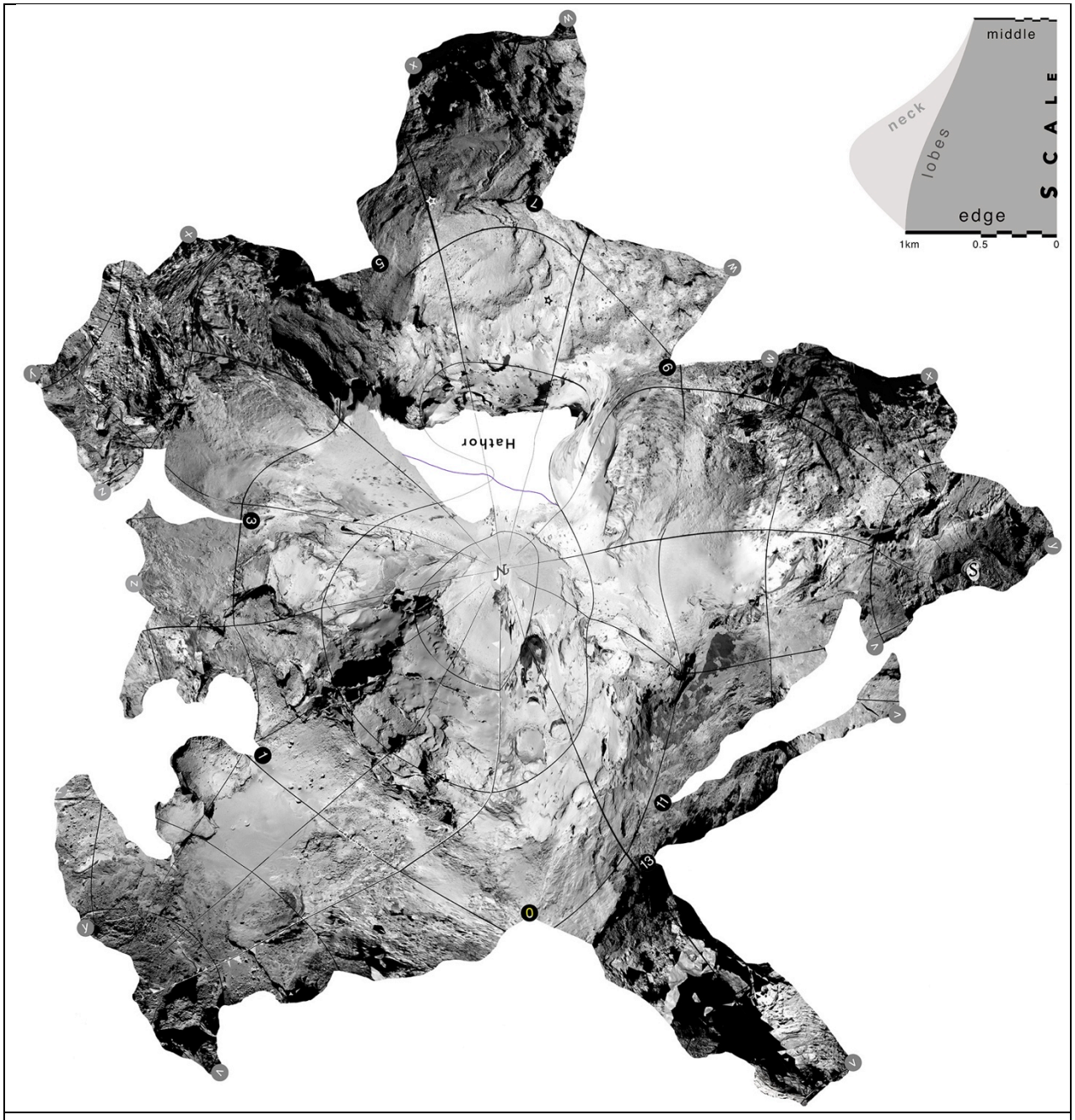


Figure 3: A constant-scale natural boundary global map of comet 67P/Churyumov-Gerasimenko composed to show dust transport *inward*, relative to the map's midregions. Note that the maps the full extent of full extent of Hathor.

Hinge and node annotations—as well as Hathor's callout—are oriented in model space, i.e., north is "up."

Compare with Figure 2's map, in which the light-toned material—the dust and grains transported from the opposite hemisphere—appears unevenly distributed around the perimeter, weighted to the upper left (in page space). This is contrary to our expectations. This is likely an artifact of an overly coarse tree, fixable by "growing branches" into Seth and then redistributing its parts in accord with the logic of the design précis.

However, it could indicate (a) a preferential drift in the semi-orbital material transport, and/or (b) a consequence of Seth's planar tilt relative to the axis of rotation. Note that these speculations may also be assessed on the above, complementary map, without the mental bother of focusing one's attention near the map edge.