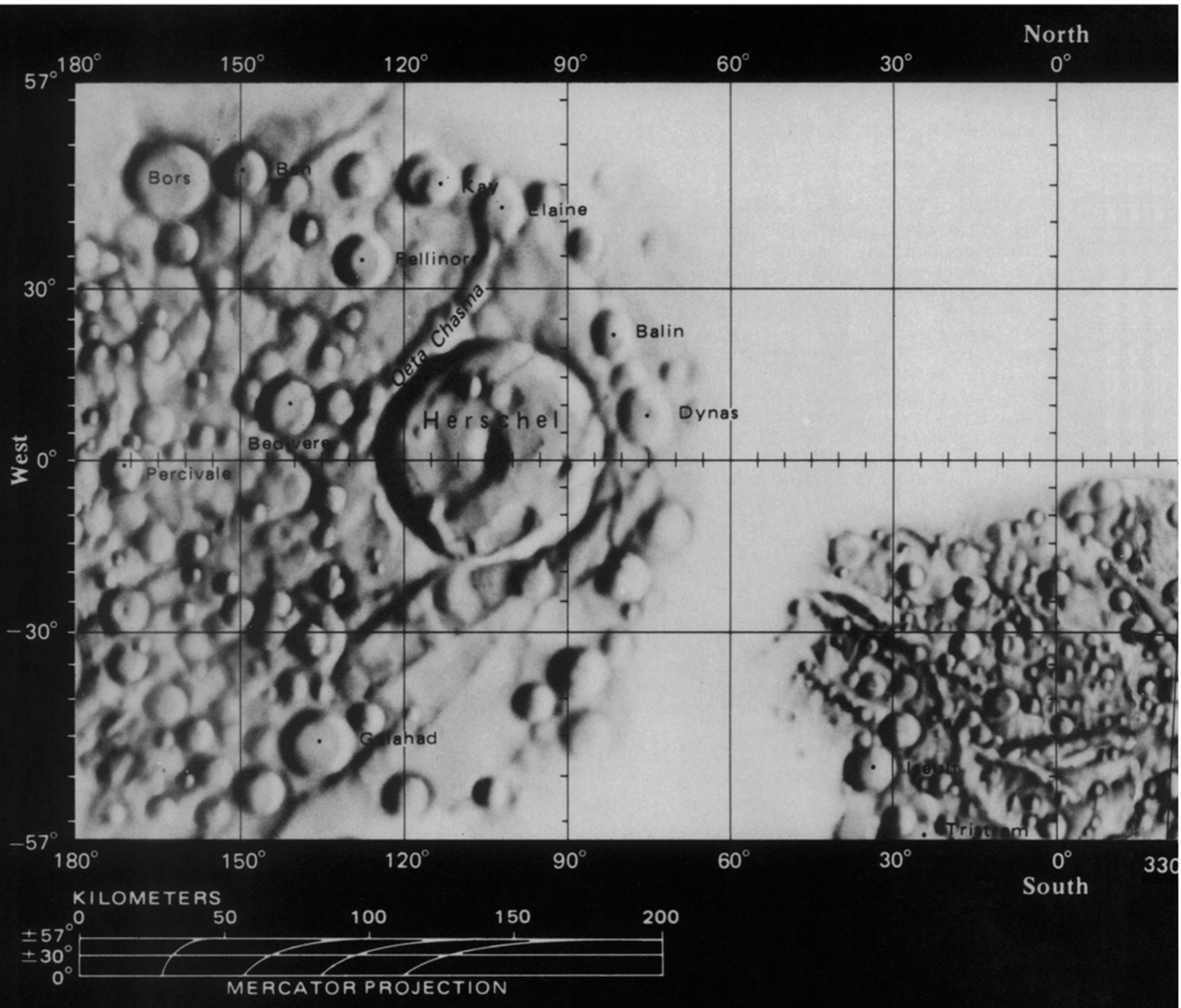


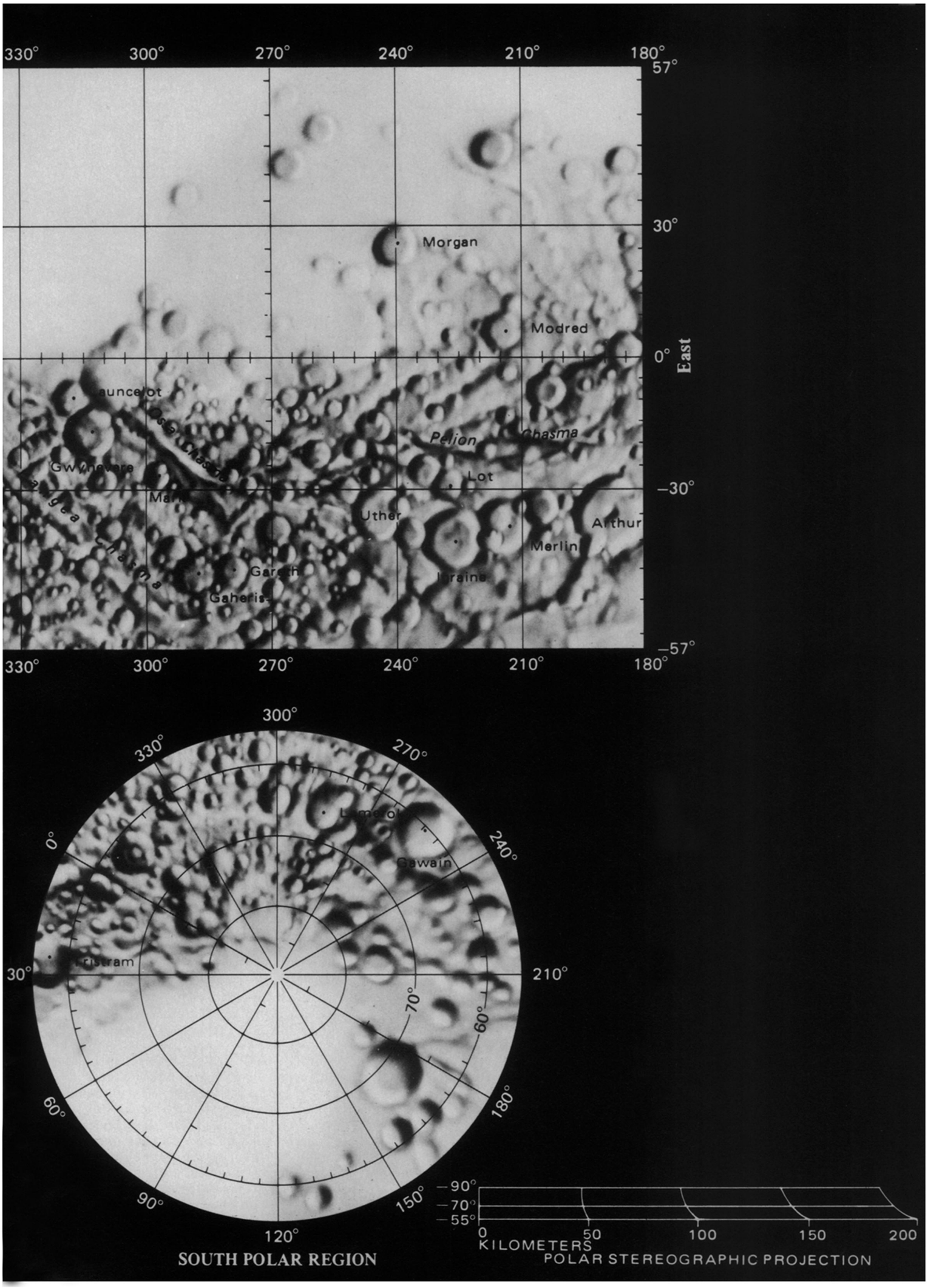
MAPPING THE MOONS OF SATURN

PART SIX

MIMAS

Map of Mimas, innermost of Saturn's major satellites (diameter 392 km), was prepared from photos taken by the Voyager 1 and 2 spacecraft. Drawn at 1:5,000,000 scale by Jay L. Inge of the U.S. Geological Survey's Branch of Astrogeologic Studies, it is reproduced here at 1:3,750,000 (1 cm = 37.5 km at the equator). The 0° meridian of longitude always faces Saturn, and the left half of the map shows the side of Mimas that faces ahead as it moves around the planet. The placement of surface features shown (still being refined) is estimated to be accurate to within ±20 km over 66 percent of the mapped area. The photos used in preparing the map range in resolution from about 2 to 40 km per line pair, with lower-resolution and unphotographed areas left blank.

The huge impact crater on the leading hemisphere is notable not only because it is so big—about a third the diameter of Mimas itself—but also because the next-largest ones are so much smaller. According to some researchers, the size mixture of early meteorites that would presumably have produced most of the now-visible craters ought to have included a greater number of large objects. One hypothesis is that among those early impacts there might have been one large enough to shatter the whole satellite; most of the resulting debris then reaccreted into a single object, but after the original meteorite bombardment had ended, leaving the remaining rubble to crater its surface. (Map nomenclature is provisional, pending International Astronomical Union approval.) —JONATHAN EBERHART


330°
300°
270°
240°
210°
180°
57°
30°
0°
East
−30°
−57°
Morgan
Modred
Launcelot
Peljon
Chasma
Lot
Uther
Arthur
Merlin
Garath
Gaheris
Gawain
Tristram
300°
330°
270°
0°
240°
30°
210°
60°
70°
90°
150°
180°
120°
−90°
−70°
−55°
0
50
100
150
200
KILOMETERS
SOUTH POLAR REGION
POLAR STEREOGRAPHIC PROJECTION