The sides of the Great Pyramid once competed in brightness with the golde for the rough limestone blocks that comprise the bulk of the pyramid were with a fine surface of shiny, white tura limestone. Only a little of the original height remains, however, in the bottom course on the north side.

Sheer size qualifies the Great Pyramid as “great,” but its architectural details make it unique. First, whatever else may be hypothesized about the pyramid, there is no doubt that it is aligned astronomically, and with extreme precision, the four sides: immense base (covering more than 13 acres) running north, south, east, and west. The worst agreement of any side with exact cardinal orientation is on the east even there the misalignment from a true north-south line is but 5½ arcminutes; other three sides agree even better. Accuracy of this sort is possible, even with simple techniques, provided that care is taken in setting out the lines. Preserving accuracy on the monumental scale of the Great Pyramid, however, means not “guessing” the sides at higher levels, and the Egyptians’ success is impressive. The angles of the base are very nearly right angles, and the entire base is almost a perfect square. The greatest difference in length between any two sides is 7.8 inches. This accuracy emphasizes the concern the builders had for the four cardinal directions, what they called Pyramid Texts of the later Fifth and Sixth Dynasties call the “pillars” of the sky.

The internal details of the Great Pyramid are equally remarkable. A cross-section reveals a confusing collection of corridors, chambers, and shafts. Numerous claims have been made about the location of the pyramid’s “air shafts” and other features, but the most compelling evidence comes from the alignment of the pyramid with the stars. From his pyramid, the pharaoh Khufu departed for the sky. His two celestial deities were symbolized in the “air shafts” that emerge from the King’s Chamber. One point Thuban, the “north star” of the Old Kingdom, and the other was oriented toward the waist of Orion. (Griffith Observatory)