Justification about the existence and location of Chartres’ cathedral labyrinth based on astronomy and geometry

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Abstract: We present a geometric-astronomical correlation between the rose window on the main façade and the labyrinth of Chartres cathedral. This correlation existed throughout the building’s construction—epoch J1200. Since classical mythology relates the labyrinth to the Taurus constellation, we will project the daily orbits of the stars of this constellation through the center of the rose window, thus finding their paths on the cathedral’s floor plan. We will show that Elthor—“the bull” at the center of the constellation—was projected on the center of the labyrinth. We will consider possible mythological motivations to purposely create this alignment.

Subjects: Geometry; Theory of Architecture; Architectural Design, Drawing and Presentation

Keywords: Chartres’ Cathedral; rose window; labyrinth; archaeoastronomy

1. Introduction

It is hard to say when drawings and engravings of labyrinths began to appear or which civilization was the first to use them. The earliest known depictions date from the late Neolithic period and the early Bronze Age (approximately in the second millennium B.C.) (Reed, 1992). Labyrinths began to be used in churches and cathedrals during the Roman period. The first known labyrinth within a Christian context was built in Algeria in the Basilica of Reparatus in Orleansville (324 A.D.)

ABOUT THE AUTHORS

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PUBLIC INTEREST STATEMENT

Nobody knows for sure why a labyrinth was built on the floor plan of Chartres cathedral, or why it was positioned at that precise location. This paper shows that a geometric-astronomical alignment existed during the period when Chartres cathedral was built, 1200 CE. We show the existence of the alignment Elthor – O – L, where Elthor is the central star of the Taurus constellation, O is the center of the cathedral’s main rose window, and L is the center of the labyrinth. At the end of the paper, we suggest a possible mythological motivation. Despite this, it is not our intention to claim or deny in this paper that the medieval master builders intentionally took this alignment into account when designing the building. We simply intend to show the geometric existence of such an alignment.