Vaults at St. Etienne, Auxerre

Numbering system and Introduction

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Beginning in 2001, thanks to a generous grant from the Kress Foundation and additional funding from Wake Forest University, I began a project with PROGEO in Avallon on a photogrammatic survey of the Auxerre Cathedral vaults. Three dimensional contour drawings were produced for every high vault, every side aisle vault, and those chapel vaults that were accessible to us. The vaults range in date from ca. 1220 to ca. 1520. The initial goals were to establish vault profile norms and ranges of deviation from those norms. Drawings in CAD format were made of each vaults showing altitudes at 10 cm intervals. In CAD, the drawings can be rotated to show each elevation. An overview of the program can be found in the Ashgate volume *New Approaches to Medieval Architecture*, 2011, Chapter 13. Each phase of vault construction will have its own discussion on this site.

As a point of departure for discussion of vaulting issues, I selected the sixth north side aisle vault (6n, see plan, and illustration below) as my "normative" vault at the cathedral. This vault was erected in the 1340s, about midway through the cathedral program. I chose this vault because it is relatively square in plan and because it is bounded by a mixture of piers and arches that play various functions in the cathedral. Since it abuts the crossing area, its piers are varied in section. At Auxerre, "normative" means at least slightly irregular, as one will see in the discussions of groups of vaults.

The *voutains* (as I will term the sections of the vaults, sometimes called in English severies, singular severy) are not uniform due the varied cross sections of its surrounding arches. The coursing of the voutains does not consist of standardized masonry blocks. As the masonry bocks approach the crown lines of the vaults, a series of *ad hoc* adjustments in individual blocks were made to close the vault. The vaults do not follow the curvature of the bounding arches in most cases.

Below is the contour drawing of vault 6n.
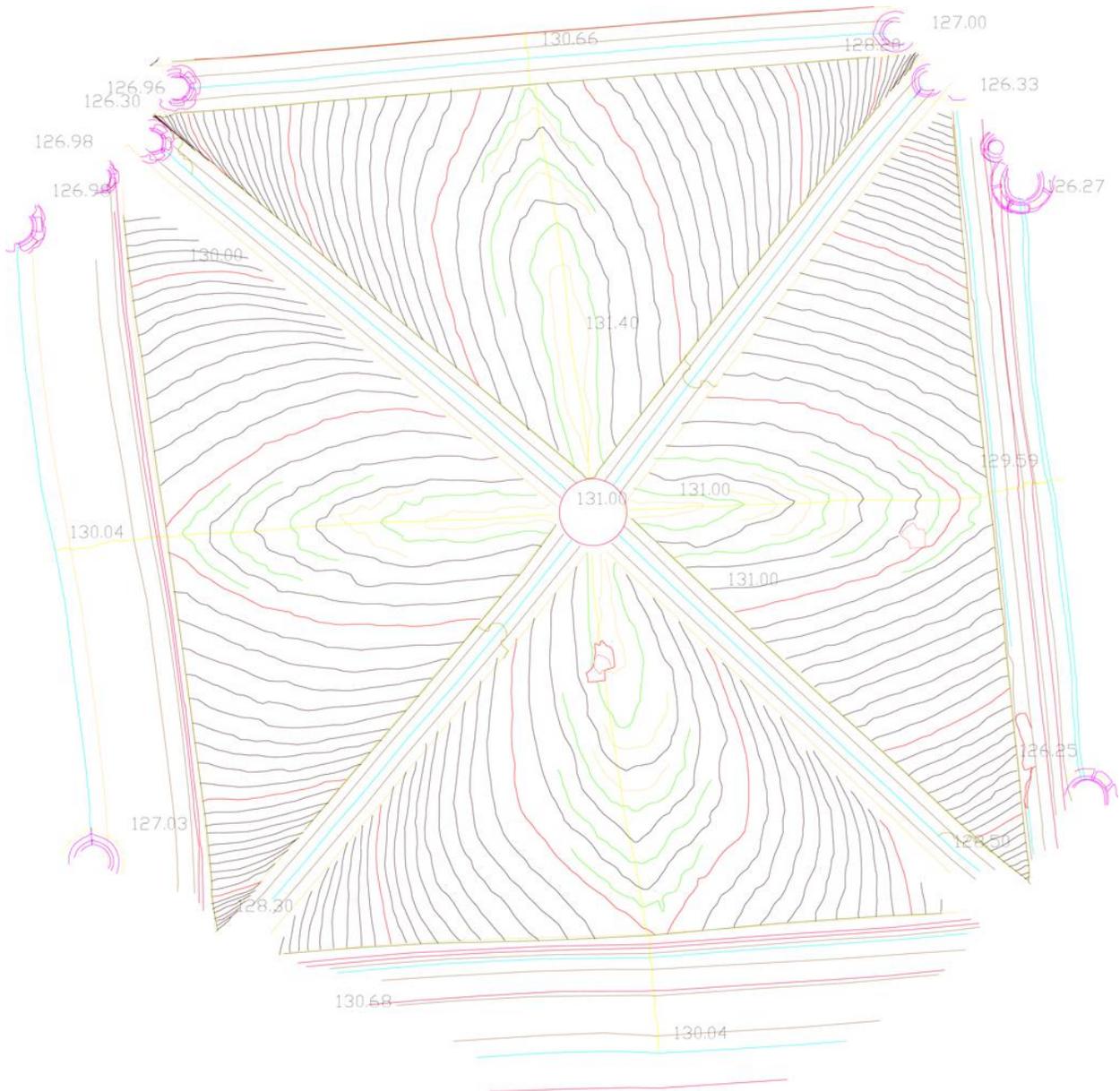
The contour lines show 10 cm intervals. Toward the summit the lines indicate 5 cm intervals. Numbers are GPS altitudes. The voutains rise steeply and then level out in the upper third of the vault. The crowns of the vault are not always aligned with the summits of the bounding arches.

The highest point in this vault falls in the eastern voutain. Vault contours are broadly regular, but each section has its distinctive details. Vault 6n consists of about 1000 masonry pieces that average 25 cm in length.