Antonina Żaba

ILLUSSIONISTIC-ARCHITECTURAL VAULT PAINTINGS AS ANAMORPHIC PICTURES

Abstract

The paper includes discussion on the explicit classification of the illusionistic-architectural paintings called quadratures within the group of anamorphic pictures. The problems arise, inter alia, due to the lack of precise geometric definition of anamorphic transformation.

Keywords

Baroque, vault painting, anamorphic.

1 Introduction

In the works on the history of arts, architecture and historical monument preservation concerning the illusionistic-architectural paintings called quadratures, the relationship between such paintings and anaforms is noted. There is no explicit statement therein that quadratures are anamorphs. An interdisciplinary discussion on the subject, attended by geometricians would definitely allow to them achieve a common standpoint in the matter. From the geometric point of view, however, the question is not explicit, either. A solution of the issue satisfactory for the above mentioned specialists is not simple. In the authoress’ opinion, the problem is in the complexity of the artistic phenomena of quadratures and anamorphs.

2 Quadratures and anamorphs

After Ingrid SJÖSTRÖM [8/p.80] we assume that quadratures are only the paintings placed on the horizontal partitions of architectural interiors where the height of the architectural elements presented is equal to that of a full floor.

Anamorph (less frequently called anaform) is a picture obtained through geometrical transformations called anamorphoses. This group includes various transformations. Some of them are practically applied in engineering. For our considerations, restricted to the area related to art, it is significant that some anamorphs have some specific characteristics. Shakespeare already in “RICHARD II” wrote:

"There are paintings in which you see nothing looking at them straight,
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*but look slantwise and you’ll see some shapes*” (retranslation – mine [JKH]).

In mannerism and baroque, anamorphs used to be called *"odd perspectives"*[4/p.204].

This popular definition indicates the different character of anamorphs (or more precisely, anamorphous perspectives) compared to the “normal” perspectives. Perspective is the geometric method of building the images of existing or designed objects (the central projection method) as well as the images drawn up with the said method. The normality or oddness criterion refers to the result, effect of action, i.e. the picture, not the method. If a perspective picture corresponds to what is created in human eye then such picture is considered normal. Let us have a closer look on three identical vertically standing columns (fig.1).

![Figure 1: View end perspective of three columns.](image)

The columns, although identical and constructed under the same principles, their pictures significantly differ from one another. The picture of the column on the right side will certainly be considered odd, while the one on the left - normal. The picture f the central column may raise certain
doubts, but does not surprise us. We see that the odd picture arises in the area within the angle of view larger than the right angle. The perspective is often called lateral. Probably not everyone would acknowledge the odd column’s picture an anamorph. This is because it is commonly considered that an anamorph must be a „puzzle of art”, with solution only possible when the observer finds the appropriate point of the picture observation¹. Looking at fig. 1 from any point we have no doubt that all the three pictures are those of columns. Then we may acknowledge that the picture of the column on the right, although odd, is not an anamorph. Similar is the case of a quadrature. From any point in an architectonic interior we easily recognize the specific architectural elements painted on the vault (columns, beams). However, only then the observer’s eye is near the place the perspective² picture was constructed, the tall, vertical architectural elements presented in the picture will seem vertical. Some researchers think that a conditions necessary for the existence of an anamorph phenomenon is „forcing double perception” [6/p.193]. An anamorph should be displayed in such a way that at first the observer would see a mysterious shape, then, moving slowly in relation to it, he would reach the point in which the solution – „the proper shape” would appear. From the geometric point of view the point is in finding the projection center.

In case of quadratures, a point called punto stabile was marked on the floor. This is the position the observer should assume to that his eyes will be close to the projection center. This is where we are illusioned that the columns painted are vertical.

Andrea POZZO (1642-1709), master and popularizer of the architectural illusionism, did not analyze quadratures as anamorphs in his paper Perspectiva pictorum et architectorum... . However the proportions of an interior he suggests when planning the painting of a quadrature allow for the maintenance of the angle of view below the right angle (fig.2, 3).

Some domes constitute a particular case.

The angle of view is clearly larger here than the right angle. Then there will be deformations of the picture as shown in fig. 1 (on the right). Let us remind however that in our considerations we recognized the type of deformation insufficient to call such picture an anamorph.

¹ The considerations in this paper do not refer to reflexive anamorphs, i.e. ones to be read with the use of mirror only or ones read with the use of lenses (see [2]).
² Corresponding to the projection’s center.
Figure 2: Drawing 56 from *Perspectiva pictorum et architectorum* …
Andrea POZZO’s thesis
Figure 3: Drawing 100 from *Perspectiva pictorum et architectorum* …
Andea POZZO’s thesis

Figure 4: Cupola in S. Ignazio Church, Rome, A. POZZO
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In S. Ignazio Church, Rome, POZZO made a picture of such dome (fig.4). He was criticized both by POZZO (see [3/p.40]), and our contemporaries [5]. The picture was painted on canvass and hung on the crossing between the aisle and the transept. In the flat picture there are, no “column deformations” characteristic for the vault quadratures. The observer involved in the game of “distorting and straightening of columns” is here out of the question.

3 Conclusion

In the Lexicon, apart from the general description of anamorphs, there is information that in addition to flat anamorphs there are ones on cones, cylinders, spheres. Vaults are most frequently fragments of cylindrical surfaces. This is an additional argument confirming the thesis that vault quadratures are anamorphs.

References