seen in a different light. Icons in byzantine museums and churches

Gianna Stavroulaki and John Peponis
National Technical University of Athens, Greece, Georgia Institute of Technology, USA
gstav_1@otenet.gr, john.peponis@arch.gatech.edu

Abstract

We analyze the principles that govern the visibility of icons in churches and museums. We develop methods for enriching visibility analysis by taking into consideration not only the arrangement but also the illumination of space. Finally, we suggest that there are some important differences between the viewing principles that apply in churches, as sites of primary familiarization, and museums as sites of recontextualization of icons.

1. Introduction: The visual and spatial cultures in which icons are seen

Icons seen in churches and in museums in Greece are set in very different visual and spatial cultures. In the Byzantine Museum of Athens icons are hanged on the walls or on transparent panels suspended on a grid. The aim is to provide visitors entering the room with a panoramic overview and many alternative paths so that they can choose where to focus their attention. Consistent with this aim there is abundant and diffused light which works with the simple hanging arrangement to suggest a relatively homogeneous space. Within that space icons are serially arrayed as if in parataxis. The museum of Byzantine Culture in Thessaloniki presents a different visual regime. The hanging of icons on walls, niches and partitions does not conform to a clear overall grid. The room is rather dark and individual icons are illuminated mostly by spot lights. Thus, icons are arranged in multiple focal points suggesting a distributed collection. Evidently, the curators of the Museum of Byzantine Culture in Thessaloniki have sought to reproduce something of the atmosphere of the Byzantine Church, while the curators in Athens have adapted the atmosphere which is more common in the art gallery. The deliberate intent of the curators and exhibition designers is documented in the literature. Katsanika-Stefanou (2001), for example, recognizes the importance of relating one exhibit to another within an environment designed not only to convey information but also to suggest an appropriate “atmosphere”. The visual and spatial culture of the Byzantine Church, however, appears different from either of these models.

The Byzantine Church, often composed as a cross plan with side isles and central dome provides a more articulated space than the typical museum environment. While the overall form is easy to comprehend and subject to fairly canonical principles, the play of light and shade creates a sense of gradual discovery as the moving visitor traces the unfolding continuities and intersections of surfaces. Icons complement the iconography on the walls and are found hanged on walls, pillars or partitions, or placed on stands. Different icons stand out as one moves in the space, not merely because the undulations of shape create occluding edges to the visual fields, but also because the interplay of light and shade makes different icons visible from different places. The importance of light as a device that structures church space is amply acknowledged in the literature. On the basis of a study
of light in a sample of churches, for example, Potamianos (2000) has argued that light was deliberately manipulated by designers. The dome brings the image of the almighty, which is typically painted on it, into greater illumination; the intensity of light is gradually reduced as the gaze shifts downwards towards the depictions of episodes from the life of Christ, the evangelists and the saints. While the image of the almighty was illuminated consistently throughout the day other images were more transiently illuminated over the course of the day, and in some cases over the course of the year. The variation of lighting conditions and of consequent impressions according to one’s position in the church was also recognized and seen as consistent with the notion that god is revealed in different ways to different people.

Thus, in the church, icons are arranged in a configuration which emerges according to light and movement, they stand out and they recede into the background according to patterns which are the by product of the arrangement of space, they act as accentuations of space as well as objects of interest in their own right. This configurational pattern and its contrast to the principles of parataxis or collection mentioned earlier poses a number of methodological and theoretical questions which are the main topic of this paper.

1. Spatial fields and the structure of points of view

The primary question to be addressed is the relationship between a point of view and the spatial arrangement within which it is defined. Should we simply think of spatial arrangements as interrelated and interdependent points of view? From the perspective of space syntax it is tempting to give a positive answer. After all, when we take each node of a graph as a root and arrange other nodes along successive horizontal lines according to the number of transitions that are needed to reach them from the root (Hillier, 1996), a rather powerful theoretical idea is stated: a configuration can be defined as a set of different relations between part and whole, so that the configuration “looks different” depending on “where one stands”. In the standard practice of drawing “justified graphs” the expression “looks different” applies literally to the representation, and more metaphorically to the reality being represented. Thus, the connectivity between spaces is only locally a matter of visual relationships; hence it is commonly affirmed that space syntax deals with topological rather than visual patterns. But if we take the visibility polygon rather than the convex space or the line of movement as a starting point and if we analyze a visibility graph as a pattern of intersecting visibility polygons, can we not arrive at a more literal interpretation of a configuration as interdependent and differentiated points of view? We will suggest that such an approach would be only partially fruitful when we confront modes of spatial configuration such as the one presented in the relatively simple but interesting example of the Byzantine Church. Consequently, we propose ways to augment it.

Consistent with the arguments presented by Peponis, Karadima and Bafna (2003) and by Stavroulaki and Peponis (2003), we will suggest that we should take layered rather than simple descriptions as the starting point for dealing with the relationship between spatial configuration and point of view. In practical terms, what this means is that any representation of a point of view, such as a visibility polygon or a section of a visibility polygon representing a visual cone, has to be set against the background of several alternative representations of the spatial domain under consideration. It is not sufficient to represent how visibility polygons intersect each other within a spatial domain. We must also consider how they intersect any number of relevant and overlapping fields that are
Figure 105: Layers of spatial analysis of Capnicarea: a. Visual connectivity, b. Lighting levels, c. Visual integration, d. Intersecting gazes
G. Stavroulaki and J. Peponis

defined within the domain. We will introduce this proposition more fully by taking the Church of Capnikarea, built in the 11th century and located at the center of Athens, as an example.

For economy of presentation, we will introduce only the three layers of description that are fundamental to the subsequent argument. The church will be represented as: first, a field of inter-visible positions using Alasdair Turner’s visibility graph analysis software, Depth Map; second, a field of illumination levels using Dr Andrew March’s (Square1 research PTY LTD) lighting analysis software, Ecotect; third, a field of intersecting gazes projected from the dominant persons shown in each wall painting or icon. This triad corresponds to a deliberate theoretical choice. We want to look at the church as a set of generic spatial relationships arising from its shape (visibility graph analysis), as a set of generic perceptual relationships arising from the manner in which the church admits daylight (lighting analysis), and a set of intentional programmatic spatial relationships arising from the manner in which the church admits daylight (lighting analysis), and a set of intentional programmatic spatial relationships (the manner in which represented holy persons “look out” towards the space of congregation.)

The decision to map gazes is not arbitrary. The “face to face” reciprocity between the gaze emanating from the painting and the gaze of the visitor is seen as fundamental to the religious bond by a number of authors (Eudokimof, 1972; Giannis E, 1996). The relationship between iconography and light is also a frequent theme in the literature with authors discussing both the symbolic association between god and light (Brotherhood of Monastery of Prodromos in Careas, 2000) and the manner in which Byzantine painting styles emphasize light over shading (Skliris, 1991).

2. Visual fields, lighting fields, gazes

When we look at the church as a spatial field defined by built shape and as a spatial field resulting from the distribution of light a significant polarity emerges. The best illuminated areas (figure 105b) correspond to the outer-narthex, that is the transverse zone of space attached to the entrance; more limited areas of high illumination occur under the domes of the church and side chapel (the diagram is based on an analysis on a scale 0-300 lux, performed for lighting conditions prevailing on November 11, 11.30 am). The locations from which a greater part of the church would be directly visible had light been evenly distributed (greatest visibility polygon area) are mostly situated under the dome and extend outwards to the edge along a longitudinal and a transverse axis (figure 105a) - the visually more integrated locations (figure 1c) follow the same pattern. Thus the core of best lit space and the core of potentially more panoramic views do not coincide but reach towards each other from opposite poles. From the entrance, one senses the presence of greater space further in, but that space has to be discovered as it is veiled by darkness. Under the dome one is situated within a smaller node of light and surrounded by darker space, with glimpses of the well lit outer narthex in the background.

The gazes emanating from the wall paintings and the icons intersect to create a network that covers the whole church. Whether we consider only the gazes that emanate from eye level or slightly higher (fig 105d continuous lines) or also include the gazes descending from the higher zone of the church (including the dome and the apses) (fig 105d dotted lines), the denser web of intersections occurs just off the inner side of the narthex, as if to mediate between the zone of greater illumination and the zone of more panoramic views. We analyzed the network of intersecting gazes as if it was an axial map and observed an interesting difference according to whether the gazes emanating from the higher zone...
are excluded or included. When they are excluded, the connectivity and integration cores grow from the interface between the narthex and the main body if the church inward (figures 105a and b), along the side aisles; when they are included, the grow in a similar manner but predominantly along the central axis that runs under the main dome (figures 105c and d). Thus, if we assume the visitors to look up as well as around, the pattern of gazes would draw them from the edge towards the center and the main dome, where they would meet the gaze of the almighty; if we assume visitors looking around only, the pattern of gazes would draw them around but not through the center of the plan. In the former case, the gazes would connect the zone of abundant lateral light, by the entrance, to the zone of light coming from above, under the dome. In the latter, the gazes would lead visitors from the zone of abundant light to the zones of greater darkness.

The configuration of co-visibility of icons can only be understood when set against the background of these three descriptive layers. In the next section we will look at the manner in which individual visibility polygons intersect the three fields described here.

3. Visibility polygons from and visibility polygons towards icons

Two icons, marked “1” and “2” are selected as examples for the next stage of the analysis. Their position in space is first described according to the visibility polygon that has each of them as a root (figures 106a and b). These “icon-exposure” or “from-icon” polygons cover all the areas from which the icons are potentially visible, depending on actual lighting conditions. They are quite informative in their own right. For example, they are both characterized by several spokes extending in different directions; some of the spokes have long radii and penetrate far into the church - in the case of icon-1 the spokes reach all peripheral edges. Thus, each of the icons is potentially visible discontinuously as one moves about the church and from a variety of angles and distances.

The “icon-exposure” polygons do not fully capture the configurational dimensions of the manner in which icons become visible in their spatial context. A more complete analysis requires that we draw visibility polygons from various particular positions on the “exposure polygons”, to help us study the manner in which icons are seen. We will call
G. Stavroulaki and J. Peponis

Figure 107: Selected viewing positions (black, grey and white stand for distinct, indistinct and elusive visibility; a. icon 1, b. icon 2

These “icon-capture” or “to-icon” polygons. In order to draw them we have followed a set of conventions. First, we have taken the icon-exposure polygons and drawn radials from their centers at angle intervals of 30, 60, 90, 120 and 150 degrees. Second, we identified points along these radials at varying distances, near, far and interim. These, otherwise arbitrary conventions, allowed us to sample the variety of positions from which and conditions under which each of the icons is visible (figures 107a and b).

The effects of light are such that the two icons are not distinctly visible from all positions on the icon-exposure polygons. Positions of distinct visibility, meaning that the figure and face of the saint are recognizable, are marked as black circles or squares; positions of elusive visibility, meaning that one suspects the presence of an icon without being able to see a figure or a face, are marked as white circles or squares; positions of indistinct visibility, meaning that one sees a figure but not a face, are marked as grey circles or squares. Thus, icon 1, even though axially exposed, is only distinctly visible when one stands rather near it and elusively visible when directly faced from intermediate positions. This is due to the glare caused by the small window over it. Even more interestingly, a peripheral zone of elusive visibility mediates between the inner zone of distinct visibility and an outer zone of indistinct visibility. This means that from a perceptual point of view, the icon cannot be “approached directly”. On most direct paths of approach that might originate from an indistinct far view, the icon would fade due to glare before re-emerging towards the end of the path; even the apparent radial directional continuity of access is punctuated by a discontinuity of perceptual experience. The discontinuity of perception complements the more evident discontinuities of exposure that are revealed by looking at distinct spokes of the icon-exposure polygon.

The full effects of light, however, only come to the fore when we look at the co-visibility of icons and wall paintings as revealed by studying icon-capture visibility polygons. On each of these polygons we have marked other icons or paintings that are distinctly visible (thick black lines), indistinctly visible (thick grey lines) or elusively visible (light grey lines). We have also indicated the 60 degree cone of vision that encompasses the icon under study (icon 1 or icon 2) as well as the 180 degree horizon of view when the icon is at the focus of attention. From some positions (figure 108a) the icon of reference is
distinctly visible, while other icons or paintings fall into the cone of vision distinctly and indistinctly; at the same time there are many more icons visible within the visual horizon and some additional icons or paintings that are potentially visible if one rotates. There are other positions from which the icon of reference is elusively visible (figure 108b), but another painting is distinctly visible within the cone of vision, some additional paintings appear within the horizon, and many more become visible if one rotates. Finally, there are positions from which only the icon of reference is distinctly visible within the visual cone (figure 108c) while other icons or paintings appear only indistinctly; still, several other paintings or icons are distinctly visible within the horizon. A similar range of conditions prevail regarding icon 2 (figure 109). From viewing points in the narthex, icon two appears prominently with other icons remaining indistinctly or elusively visible. The only other distinctly visible icons are on a higher level and attract the gaze upwards. One of the icons situated at the threshold between the narthex and the main church is usually distinctly visible when visible at all, as if to encourage the visitor to move inwards. In short, icon 2 seems to play a role in preparing visitors for entering the main church.
Figure 109: Icon-capture polygons to icon 2 (black, grey and light grey lines stand for distinct, indistinct and elusive icons and wall-paintings)
4. The spatial structure of a visual regime

The most fundamental effect of light is that it enables us to distinguish between potential co-visibility, comparative co-visibility, relative visual prominence and relative visual attenuation, in relation to an object—in this case an icon—of reference. Potential co-visibility is associated with lying on the edge of the same visibility polygon, better still, on the same side of the horizon of an oriented visibility polygon, or better still within the visual cone of an oriented visibility polygon. Comparative co-visibility arises when icons in addition to the reference icon become distinctly visible within the cone of vision, or the horizon of a visibility polygon. Relative prominence arises when the icon of reference is more distinctly visible than other icons within the visual cone or the visual horizon of a visibility polygon. Relative attenuation arises when the icon of reference is indistinctly or elusively visible within the cone of vision, but other icons become distinctly visible within the visual horizon or the cone itself. The point, at this stage of development of our methodology, is not to immediately decide whether this list is exhaustive, or whether it appropriately captures significant conditions. Rather, the point is that these distinctions cannot be drawn by considering polygons of exposure and of capture, without also considering the underlying fields not only of shaped space but also of illuminated space.

We can now summarize the visual regime that applies to the icon’s exposure. As one moves about church space, icons come into varied relationships of potential co-visibility, comparative co-visibility, relative prominence and relative attenuation. Changes of condition occur not only as one crosses thresholds of exposure (the appearance and disappearance of objects behind occluding edges), but also as one crosses perceptual thresholds arising due to the distribution of light that punctuate otherwise uninterrupted space and otherwise unaffected relations of potential visibility. The changes are distributed over the entire interior space. More importantly, they are unexpected and appear random. The space is invested with iconography in such a way that even though its architectural composition is simple and easily intelligible, its experiential elaboration is complex and invites discovery. The actual exposure of icons is clearly subordinate to the interplay of shape, space and light. In turn, the experientially relevant structure of space results from the presence of icons, wall paintings and the gazes that emanate from them. Museums of Byzantine art do not seek, or do not succeed in reproducing this underlying structure of experience.

5. Fields, thresholds, marks

The visual regime described above arises from the superimposition and enmeshing of the three fields identified earlier, the field of spatial relationships arising from built shape, the field of illuminated space and the field of intersecting gazes. The interplay of these fields in the church can be perhaps be further understood by drawing a comparison to exhibition patterns at Castelvecchio which were analyzed in similar, but methodologically more primitive ways (Stavroulaki and Peponis, 2003). The pattern of co-visibility of statues and their intersecting gazes are as important to the spatial experience of Castelvecchio as the corresponding patterns associated with icons are to Capnicarea. At Castelvecchio, however, the gazes of statues interest so as to identify a relatively small set of significant positions, which act as counterpoint to the main axes of movement and the positions from which more panoramic views are afforded. The effect is to punctuate a space which would otherwise be simply linear (from room to room) and simply hierarchical (from central axis
to perimeter) by adding some “invisible local thresholds” of special intensity. At Capnicarea, by contrast, thresholds are more entropically distributed. The overriding effect is not to emphasize the significance of the thresholds, but rather to make visitors aware of the continuous interplay of the three underlying spatial fields. In this regard, Castelvecchio and Capnicarea offer an interesting, if perhaps highly eclectic, contrast. We might intuitively say that Castelvecchio stages the viewing subjects in relation to the art, while Capnicarea immerses them. Staging would imply the coming to occupy prominent positions, the coming into focus with respect to definite and special relationships. Immersing would imply a continuous movement in a field of continuous transformations, as described here.

The staging and immersing of subjects would be varieties of highly embodied experience, entailing an engagement of movement, seeing and feeling. This bears on a fundamental characteristic which the two settings have in common. No attempt is made to mark, to architecturally underscore, any of the experiential and perceptual thresholds in question. The thresholds only become apparent as subjects become attentive to the relevant properties of spatial fields and as they come to occupy particular positions. In fact, the primacy of embodied experience arises precisely because of the non-correspondence between two kinds of thresholds: first, the thresholds which are overtly defined by the building (for example, the transition between rooms in Castelvecchio, the definition of the main part of the church under the dome in Capnicarea); and second, the thresholds created by the interplay of spatial relationships of potential co-visibility, lighting and intersecting gazes.

6. Museum recontextualization

In contrast to the church, the main room of the Byzantine museum in Athens which is devoted to icons is a simple large rectangle with no internal subdivisions, other than those produced by hanging the icons themselves. Most of the icons exhibited are taken from the chancel screen of the church; thus they have two rather special characteristics. First, the gazes emanating from them are usually, even though not exclusively frontal as is the tendency in icons specifically intended for that particular location. Second, icons are often double sided. In figure 110a we show the field of visible area and in figure 110b we show the field of gazes. There is no need to show the light field as lighting is artificial and illumination uniformly bright.

The room is organized so as to echo the aspects of the zoning of space of the church. There is a layer of space immediately adjacent to the entrance, similar to the outer narthex, and a second parallel layer similar to the inner narthex, followed by a larger and more compact area, analogous to the main church. Furthermore, there is a central axis of longitudinal symmetry. This, however, is where similarities end. The most panoramic views are afforded at the threshold between the second layer and the inner space. Gazes intersect more densely within the second layer itself. Thus, the larger area of the inner space emphasizes the potential importance of the relatively fewer icons displayed towards it. In this instance, greater space works to imply greater importance without enabling a more intricate pattern of exploration. While church space seems to be implicitly didactic by explicitly creating a field of immersion, museum space seems explicitly didactic by expressing, in the uneven distribution of area, an implicit hierarchy of value. This seems to be simultaneously artistic and symbolic. All icons are artistically significant, the last pair, which is emphasized by the arrangement, shows Jesus and the Virgin Mary.
Figure 110: Layers of spatial analysis of the main room of icons in Byzantine Museum of Athens; a. Visual connectivity, b. Intersecting gazes.
There is an even more important difference which becomes clearer when we consider the polygons of exposure and capture that correspond to two icons (figure 111). The arrangement of icons is such that any two icons which are co-visible are facing the same way. The closer one approaches an icon, the greater the likelihood that other icons near the 60 degree cone of vision will appear deeper into the layered space, as if inviting the visitor to move forward. The more one steps back from an icon, while still remaining in its vicinity, the greater the chances that it can be compared to adjacent co-planar icons. Thus, the entire arrangement works to invite comparisons as well as the careful examination of individual icons; movement is encouraged not only in the interests of exhaustive viewing of the collection but also in the interests of comparative viewing. Icons are alternatively seen in patterns of simultaneity and as single objects. However, as the comparative field is cultivated by the curators and designers, so the possibilities of relative prominence and relative attenuation are eliminated. In simple language, the mode of seeing has to do more with the examination of displays and less with positioning the subject. This is consistent with the shift in the underlying cultural program: icons are now being presented primarily as works of art. Their nature as objects of devotion is relegated to the interpretative context of explanation; it is no longer presented in the arrangement of approaches and views.
7. Concluding comments

The preceding analysis introduces, rather than resolves, the methodological issues raised by the comparison between museums of Byzantine art, as sites of re-contextualization of icons, and Byzantine churches as sites of original formation of the visual regime for viewing icons. We have not addressed the question of the impact that these properties have on visitors, nor have we sought to interpret the significance of these properties from the point of view of a cultural, theological, art historical or museological interpretation. Regarding both the impact of these properties upon visitors and the possible extensions of the argument towards interpretation, we have limited ourselves to offering hints. Our main emphasis has been upon showing how certain properties can be defined and systematically represented. Our argument depends upon distinguishing different spatial fields in order to study the pattern of their overlap and intersection; also upon distinguishing “exposure” and “capture” visibility polygons associated with individual displays. We are still in the process of developing possible measures of some of the properties that have introduced above. It seems clear to us, however, that the morphological analysis of museum settings is open to continuing extensions that help us describe modes of seeing rather than field of visibility alone; also the projection of specific seeing subjects rather than the mere definition of viewing positions. These issues are exciting precisely because they help us make a transition which remains fundamental to much of the theory of space syntax: from a description of spatial arrangement to an account of spatial culture.¹

Literature


¹ This research has been supported by a Scholarship provided to the first author by the Greek State Scholarship Foundation.