**Sura Headings**

**Illumination:** The *sūrah* headings (see illustration H1) are rectangular with a border band similar to that of the *ḥizb* and *juz‘* markers and the finials, but with the addition of another distinctive motif, though in this case not one unique to this manuscript. The motif in question is a type of globule or petal, sometimes round, sometimes more or less triangular, and sometimes more amorphous. It is shaded with a rich orange, red, brown or green at one end and fades to white at the other (see illustrations H2 and H3).

The motif is found in varying forms on other Mamluk Qur’āns and can be used as a diagnostic feature to help date the manuscript (see below for full discussion and comparisons). Inside the main border band is a narrow band of white squares with central black dots on a plain gold band.

The main feature of the central area of the *sūrah* heading is a sequence of five conjoined geometric devices, delineated by white edging and containing the words of the *sūrah* heading written in blue *thuluth* script. The wording is standard, consisting of the *sūrah* title followed by the number of verses and the origin of the *sūrah* (Meccan or Medinan).

The blue *thuluth* is written against a bed of gold vegetal motifs on red ground. The space around these devices is filled with gold vegetal motifs on green ground.

Extending from the outer edge of the main rectangular panel is a large trefoil device, the formalised descendant of the palmette that had featured as an accessory of *sūrah* headings for several centuries. In this case, the interior is filled with scrolling vegetal motifs in gold with thin white edging on a red ground.

**Geometry:** The five main geometric devices within the panel are once again based on the circle. Each consists of two small circles adjoining each other horizontally, with a pointed ovoid form in the central space, which is in turn made up of segments of much larger circles (see diagram H4). This pointed ovoid is a favourite geometric form and is essentially the same form as appears in the marginal palmette of the *sūrah* heading, the *ḥizb*/*juz‘* markers and the individual elements of the six-pointed star of the tenth verse markers and the six-, eight- and five-pointed stars of the finials (see below). The smaller circles are half the size of the larger ones, i.e. the radius of the larger circles is equal to the diameter of the smaller ones. The long axis of the rectangle is equal to six of these large overlapping circles. The height of the inner rectangle is exactly half that of the total height of the outer edge of the panel. Thus the height of the border band is half that of the inner panel, or quarter that of the total height.

Within the extending stylised palmette the geometric basis is again the circle. Here we
have three large overlapping circles, again similar to a Venn diagram, with a smaller circle at the base and a triangular protrusion at the tip. The overall effect is to make the whole device like a lobed leaf-form (see diagram H5). The smaller circle at the base is exactly half the size of the three larger ones, i.e. the diameter of the smaller one is equal to the radius of the larger ones.
THE FINISPIECES
The final pages of the manuscript are richly illuminated with a variety of designs.

FOLIO 29r
(see illustration 71)
Illumination: The final page of Qur’anic text, which contains a closing prayer, is written against a ground of scrolling vegetal motifs drawn in brown ink. This is surrounded by a border band of scrolling foliate forms in gold, blue and white, similar to the same feature of the sūra headings, the hizb/fat' and sajdā markers and including the same type of shaded globule. In the lower half of the page is an illuminated panel of vegetal illumination in gold, blue and white on an intricate and complex geometric framework. Between the inner panel and the outer border is a band of twisted cable in gold. In the outer margin adjacent to the panel are two illuminated roundels containing overlapping leaf forms and split palmettes. Between these is a central device of generally triangular form, filled with scrolling foliate tendrils on a ground of blue with small white motifs, whose convex and concave outlines point towards the outer edge of the margin.
Geometry: The main square area of illumination in the lower half appears relatively complex, and like most of the geometric aspects of the illumination in this manuscript is based on a series of overlapping circles of different sizes. Moving from the centre outwards, the basic feature is a series of eight large circles that overlap to form a ring (see diagram J2). These provide the central eight-pointed star as well as the basic proportions of the design. The interrelation within the philosophy of Islamic ornament between the vegetal and the geometric is here emphasised by the placing of an eight-petalled flower head at the centre of the eight-point star form, the two forms - one organic, the other abstract - thus echoing each other.

Another series of overlapping circles make up the white-edged five-pointed cusped devices that form a linked ring around the central star feature (see diagram J3).
The convex curves are provided by a series of five small circles within each device (see diagram J3). Inherent within this framework is a series of octagons, triangles and pentagons (see diagram J4). The two central octagons are formed around the opposing nodes of the central eight-pointed star, and then expand through the triangles and pentagons to form a sixteen-sided polygon, which in turn leads potentially to other octagons, and so on ad infinitum.

Two more circles provide the form of the two marginal roundels (see diagram J5). The diameter of the inner circle here is two-thirds that of the outer circle. At the outer edge of this device is a small trefoil motif made up of a cluster of three small circles.
**FOLIO 30v**  
*(see illustration K1)*  

**Illumination:** The final folio of the manuscript was probably originally the penultimate page, being the right half of a double-page finispiece. The main panel of illumination is again composed of vegetal motifs in gold and red-brown within a geometric framework delineated in blue and white. This is surrounded by an inner border of gold-plated cable and an outer border of scrolling split palmettes in gold on a blue ground with small white foliate elements. This is similar to the border bands of several other devices in the manuscript, and also features the shaded globules described above. Along the edges of the bands are six circles (two each on the long edges and one each on the short), as well as four double circles in the corners. All of the circles are filled with vegetal interlace in gold on a red-brown ground. The outer edge is adorned with a central projecting roundel framed by two pointed curved projecting arms, all filled with a variety of vegetal motifs in gold on red-brown ground.  

**Geometry:** The geometric framework of this panel is related to that of f. 29r, but the circles are arranged in a subtly different manner. In this case the arrangement depends on rings of six circles, producing a six-pointed star at its centre (see diagram K2). Although the overlapping circles form the points of the star, also inherent in its design are two equilateral triangles placed on top of each other (see diagram K3). Within the six-pointed star devices are six additional very small internal circles, which produce the star’s cusped outline (see diagram K3). The basic formula of six large circles and six small ones is repeated to form each of the outlying six-pointed devices. Another set of circles, which describe larger segments of the pattern, is inherent in the design (see diagram K4). This, when coupled with the first and second sets of circles, can be repeated to produce the potentially infinite trellis pattern that we see here. Also inherent in this design are overlapping hexagons, which again repeat potentially
\textit{ad infinitum} (see diagram K4) and whose sides and corners also describe the core six-pointed star motif of this design, which has already been described by both the overlapping circles and the confronting equilateral triangles (see diagrams K2 and K3). This multi-layered aspect of the geometry is, of course, an inherent feature of the mathematical nature of geometry, but its existence is subtly exploited by the illuminator, who allows the forms to be hidden and exposed by the use of different colours for different geometric forms and the infilling of the forms with delicate vegetal scrolling.\textsuperscript{13} The diameter of the hexagons is identical to the diameter of the large circles and the corners of the hexagons are described by the intersecting of the first set of large overlapping circles (see diagram K2). The overlapping of the hexagons produces smaller secondary hexagons and equilateral triangles.\textsuperscript{14} The triangles are also described by the second large set of overlapping circles described above, although with curved sides (see diagram K4). As on £ 29r, the interrelation between the vegetal and the geometric is emphasised by the placing of a six-petalled flower head at the centre of each six-pointed star form. This harmonious combination of geometric and floral motifs finds further resonance in the resemblance of the six-pointed cusped star device to a stylised flower and the placing of the six-petalled flower amidst a bed of scrolling gold foliage.

The devices projecting from the outer edge of the panel into the margin are also based on the interrelation of different circles (see diagram K5). The largest circle, which describes the inner edges of the curved bi-cuspid pincers, is the same size as the circle that joins the corners of the hexagon. Within this is the illuminated roundel, whose main outer circle is exactly half the diameter of the large encircling one.