There are three main characteristics of Islamic architecture in general and of Nasrid architecture in particular.

**First characteristic.** All types of architecture use a set of basic shapes to design their elements. Nasrid architecture is an exercise in abstraction like no other. It uses primarily two basic shapes: the square and the circle. The square is the base. It is the recognizable unit among the multiplicity that exist in the grid made from the square, the grid that generates other shapes with which harmony is created between the whole and each of its parts.

![FIGURE 1 Decorative screens in the Court of Myrtles. Source. Base drawing: ALHAMBRA, MAP ARCHIVES. No. 2113, INV no. 2515. Geometric analysis by author.](image-url)
The basic ground plan of a palace consists of an elongated rectangle with a small square attached to one of its shorter sides. For there to be harmony between the spaces that these two shapes define, they must be related. Architects and art historians, such as M.S. Bulatov, after conducting exhaustive studies, agree that medieval Islamic architecture used the grid as a means to draw the planes of the building and as a method to establish balanced proportions for all its parts.

Taking the square as a unit, a grid that defines a rectangle can be formed. For example, a 7x5 rectangle.

FIGURE 2 Layout of sultan’s private quarters in Comares Palace. Rectangle 7x5 and O2.
Source. Base plan: ALHAMBRA. MAP ARCHIVES. No. 203. INV no. 2252. Geometric analysis by author.

1 M.S. Bulatov, Geometric harmonization in Central Asian architecture in the 9th-15th centuries, Historical-theoretic research Nauka (Moscow, 1988).
If the Throne Room, or the Hall of Comares, is placed on this grid, we can delimit the side alcoves, the hall leading to the Sala de la Barca, the Sala de la Barca itself and the porticoed gallery which, although it has no structural function, acts as an exterior membrane crossed by rays of sunlight to highlight the bas-reliefs found on the inside wall parallel to it and illuminate the entrance to the sultan's very private quarters that are located in the Comares tower.

The walls present rectangular shapes that delimit a parallelepiped. If it is sectioned orthogonally with a plane, the result is a rectangle, the upper side of which becomes a lintel. Repeating this procedure as often as necessary, a system of lintel beams is formed, which gives rigidity to the tower. These are the building's walls, which, in turn, are subdivided to create different layouts and new lintels with which to give stability to the structure.

**Second characteristic.** To create openings in the walls for doors, windows or porticoes, while maintaining the proportions, the scale of the rectangles defining the façade is reduced and the lintel structure is reproduced. This is when arches, characteristic of the concept represented by the mihrab, can be added, with two vertical mouldings and one horizontal moulding which, in turn, are surrounded by the alfiz, a moulding that frames each arch. The spaces between the alfiz and the arch are the spandrels (albanegas). In the case of porticoes, the spandrels often feature the decorative screens known as celosías, which make masterly use of light as an immaterial element of the Alhambra's architecture by highlighting the bas-relief plaster on the walls. The arches are supported by slender columns having a cylindrical shaft and capitals with two volumes, one of which is cylindrical and decorated with stripes while the other is cubic and decorated with ataurique, foliage motifs.

If the arch is rotated around the vertical axis, a ceiling can be formed, also merely decorative, to create a closed space. This is the base of the muqarnas domes seen in the Hall of Two Sisters and Hall of Abencerrajes in the Palace of the Lions.
Third characteristic. The ornamentation of each surface must be perceived no matter how far away it is or how intricate it is. This requires that the surfaces of the walls be divided into various layers of designs in which each one echoes elements of the others.
There are principal series of rectangles expressed in well-differentiated materials: ceramic, plaster and wood. The secondary series, also rectangular and contained within the principal series, establish the three decorative layers that characterize Islamic architectural decoration: geometric, plant-based and epigraphic. What do they respond to? How are they distributed?
Much has been written to explain the extreme ornateness of Islamic decoration. Specifically, the fact that Muslim artists tend to decorate what has already been decorated is often attributed to horror vacui – or fear of empty space. However, it may be closer to reality to interpret their decorative procedures as something based on the recurring reproduction of the beauty of the world, the work of Allah, in three dimensions – the Universe, Nature and the Human Being – which can only be represented on a flat surface by superimposing the shapes.

FIGURE 5 Wall with plant-based, epigraphic and geometric decoration.

Source. Photograph by author.
I believe this to be the reason for the appearance, and apparent intermingling, of the three architectural decorations of the Alhambra: geometric decoration, as a representation of the order of the Universe, plant-based decoration, as testimony of the beauty of the world in which we live, and epigraphic decoration, as a reference to the human being, the only living being in this world capable of feeling emotion.

Taking into account the foregoing, the decoration of the Alhambra's architecture presents chaos within a perfectly established order that invites several different approaches. The first approach supplies overall information about the architectural element being contemplated. This approach takes place at a certain distance and informs viewers of the basic geometric shapes comprising the element. The second approach is the one that allows contemplation of the three decorative layers. The third, which is much more profound and requires knowledge of geometry, is that which reveals the architect's work that makes each part occupy a distinguished space and have the dimensions necessary to attain the harmony of the whole.