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Guest editorial essay

Flagging early examples of ambiguity II

Designs on flags and in other heraldic figures have not been accorded the recognition in the history of visual science that they warrant. In this second part of our editorial essay, we wish to draw attention to the ambiguity of the vase/faces type evident in another flag also hanging in the Chiesa dei Cavalieri di Santo Stefano (see figure 1, left). It is likely that the flag was captured near Elba on the second ship (the 'Padrona') of the Ottoman fleet from Bizerta (Tunisia) on 20th July 1675 by the knights' fleet commanded by Admiral Camillo Guidi of Volterra (1635–1717; see Guarnieri 1960;



Figure 1. Left, a large banner $(7.20 \times 2.74 \text{ metres})$ from the second ship of the Ottoman fleet from Bizerta, in the collection of the Chiesa dei Cavalieri di Santo Stefano. Right, detail of the facial ambiguity and various symbolic motifs at the top of the flag. The central image, between the two facial profiles, can be identified as an inverted Ottoman mosque (symbolising the Islamic religious faith) with the top ending with the 'ayyildiz' (crescent and star) typical of Turkish (and Ottoman) symbolism. It also suggests a helmet, which signifies the union of faith and war in the Islamic army. Although not apparent in the black-and-white reproduction, in addition to the figure/background complementarity there is also a chromatic complementarity in the ayyildiz motif between the central (and inferior) element (the top of the mosque) and the two lateral elements (which would correspond to the ears of the faces); the crescent and the star are represented either in red or in a turquoise-blue colour. A similar strategy is also used elsewhere in the flag. Other symbols that can be identified on the banner are daggers and canons which, in addition to the sword, stand for the military characters of the flag, as well as the stars and candles; they refer to the light and the enlightening power of the faith. The two crossed leaves inside the inverted mosque (laurel or palm) may stand for peace and victory. The wavy, coloured motifs visible toward the bottom of the flag can signify (red) flames, meaning faith, or (turquoise-blue) waves, signifying the sea (see Martykan 1999). (Reproduced by courtesy of the Soprintendenza ai Monumenti of Pisa[®].) Colour versions of the flag can be found at http://www.perceptionweb.com/misc/p3508ed/.

Ciano 1985).⁽¹⁾ In this flag, based on a stylised representation of the forked sword (an important Islamic emblem), the visage appearances are obtained through a skilful use of decorative elements. This applies particularly to the anchor motif and to the combination of three Islamic crescents typical of Tunisian flags. The facial ambiguity is surprising because the unknown artist has flown in the face of the Islamic prohibition on representing human figures in religious decorations; this would certainly have applied to flags of the Islamic army and navy. However, the restrictions were not absolute, particularly in profane art, as long as the images did not represent God or the Prophet (Burckhardt 2001).

These are not the only surprising aspects of the figurative symbolism on the Islamic flags of the Chiesa dei Cavalieri. The overall image appearing inside the chequered border in the Bizerta flag is highly suggestive of the forked sword, the $dh\hat{u}$ -l-fikar. This was the 'perfect sword' of divine origin and of religious symbolic value, donated, according to legend, by the prophet Mohammed to his son-in-law, Alî, the perfect knight of Islam and the first of all Imams. The figurative representation of the forked sword is not the same in all Islamic flags, as is evident from another standard also belonging to the Pisa collection, said to have been captured from the flagship of Alexandria in 1602. In this second version, the sword bears some similarity with a geometrical instrument—the compass (see figure 3 in Piccolino and Wade 2006). An analogous similarity is portrayed in other flags captured by the Cavalieri, and is particularly evident in the Bizerta flag, in the two symmetric elements below the face appearances on the top of the flag (see figure 1, right).

There is undoubtedly a symbolic meaning in this resemblance of a sword with a compass because the latter was becoming an instrument of great military importance. At that time, battles were becoming less dependent on the individual courage of proud knights fighting with their swords and more on a series of geometrical calculations of which the military compass was an emblem. This applied to measurements of the distance and position of the enemies, ballistic estimates of the range of canon fire, planimetric prospecting, cartographic surveys, and navigation. This trend in military technology was not restricted to the Islamic Army and Navy. On the Christian side an analogous transformation is documented in a somewhat metaphorical way which also drew on pictorial ambiguity. Military compasses were becoming indispensable tools for the captains of modern armies, and a gradual transition in the representations of the dagger and the military compass can be discerned (see figure 2).

This was brought to our attention by Filippo Camerota of the Science Museum of Florence (see Camerota 2000, 2004, 2005). In a particularly emblematic way, this transformation can be followed by comparing four different and chronologically ordered devices: the double dagger, the 'radio latino', the 'proteo militare', and Galileo's

⁽¹⁾ "Una fiamma grande d'ermisino entroui 3: mezze lune interzate, et rabesco intorno, interzato di color turchino, bianco, rosso, giallo, e verde et' alcune rosette simili" (A great flame of Hormuz fabric, inside of which are three tierced crescents, and arabesque around, tierced of deep blue, white, red, yellow and green and some similar rosettes) (Archivio di Stato di Pisa, Ordine dei Cavalieri di Santo Stefano, N. 3689, Filza 5^a, inserto n. 93 verso). This description, however, corresponds only partially to the flag as it now appears in the Chiesa dei Cavalieri. According to other sources, the flag was captured in 1628, during a sea battle near Lampedusa, from the flagship (the 'Capitana') of Bizerta by the knights' fleet commanded by Guido Barbolani di Montauto (c1585–1641; see Giusiani 1933, 1940; Baracchini 1996). However, there is no indication of a similar flag in the list of those captured in 1628, contained in the "Nota delle bandiere mandate dall'Ill.mo Gen.e questo di 18 novembre 1628" (Archivio di Stato di Pisa, Ordine di Santo Stefano, 3686, Filza 2^a, inserto 113). The main difficulties in identifying the flags are due to the brief nature of the reports on the capture of spoils during naval battles. The uncertainty is based on the loss of the original "Libro delle Prede, Bandiere e Schiavi" (Book of the Spoils, Flags and Slaves) of the Knights; there only remains a transcription made by Gino Guarnieri which was published in Bernardini (1997).



Figure 2. Four examples of military compasses: upper left, the primitive double-dagger compass; upper right, the complex and multipurpose 'radio latino' of Latino Orsini; lower left, the 'proteo militare' of Bartolomeo Romano; lower right, Galileo's 'geometric and military compass'. (Reproduced by courtesy of the Institute and Museum of the History of Science of Florence[©].)

'geometrical and military compass' (figure 2). The double dagger compass of Benvenuto della Volpaia (1486-1532), a member of a famous family of instrument makers of Florence, was a simple geometrical tool while still preserving the function of an offensive weapon (figure 2, upper left). It was used in 1529 during the siege of the Florentine Republic conducted by the armies of the Emperor and Pope to draw a plan of the town for the use of the assailants. The 'radio latino' was a prospecting and measuring instrument invented by the military architect and diplomat Latino Orsini (c1530-1580); a magnetic compass and a plumb line were incorporated in its handle which, once closed and in its scabbard, resembled a dagger in its form and size (figure 2, upper right). A similar transformation also occurred to the 'proteo militare' (figure 2, lower left), a multipurpose tri-legged compass invented in 1595 by Bartolomeo Romano. It incorporated the functions of the radio latino and extended it to military, astronomical, civil, and artistic applications so that it fully deserved its name. Galileo's geometrical and military compass (figure 2, lower right) was a computing tool which facilitated a variety of operations (including determining square and cubic roots, calculating surface areas and volumes, as well as drawing various polygons). It could assist in military calculations in various ways, like determining the proper amount of charge for any size of cannon, measuring calibres, making territorial and architectural surveys, and it could be used in civil affairs, like computing compound interest and monetary exchange rates. It is in many respects the predecessor of the modern slide rule, retaining little resemblance to its dagger ancestor other than its name.

On the one hand, the visual (and material) ambiguity present in an instrument that could be both a geometrical and military tool is perhaps an illustration of the potential ambiguity present in any human progress. On the other hand, the beautiful, but neglected, examples of perceptual ambiguity evident in the Islamic flags might be taken to reflect a certain arrogance in visual science. Phenomena disclosed to the scientist's eye are considered as discoveries. In many cases, those practitioners of vision, artists, have discovered and manipulated the same phenomena often centuries before they came under scientific scrutiny, and often with greater subtlety.

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