

Background less Geometric Calligraphy

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The history of repetitive tightly packed ornamental designs is very old and dates back thousands of years. There are many examples where ancient (BC) and medieval implements and architecture were gilded by ornamental designs, composed of **tightly packed geometrical figures**, such as triangles, quadrangles etc. (Fig. 1 and 2). Also in Fig. 3 and 4 shown two new geometrical ornaments.

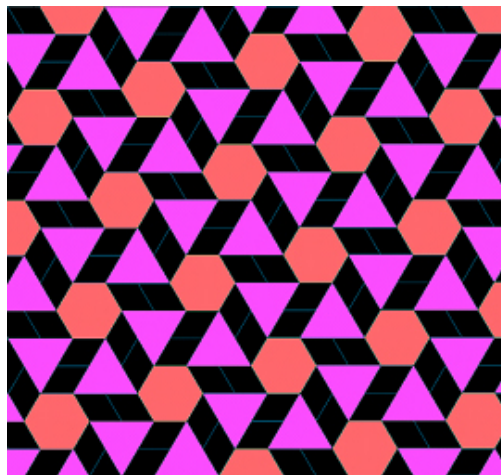


Fig. 1. Decoration of mosque, 1094 year (period of ruling Fatimids), Egypt

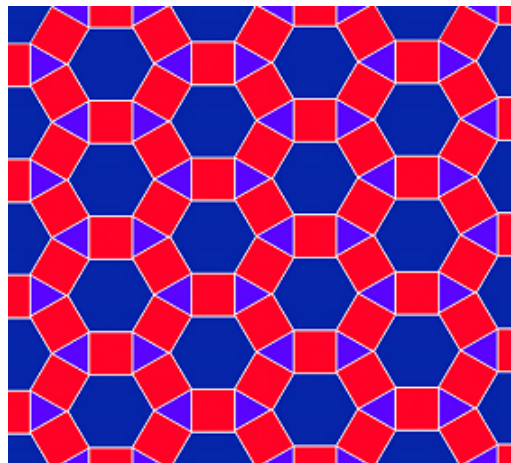


Fig. 2. Decoration of mausoleum, 1322 year, Azerbaijan

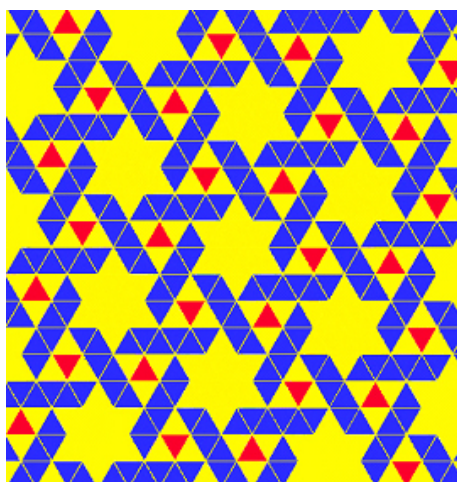


Fig. 3. Hypothetical structures. Imameddin Amiraslan

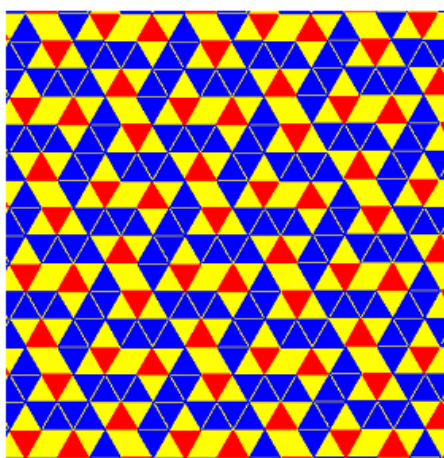


Fig. 4. Hypothetical structures. Imameddin Amiraslan

The appearance of new scientific methods at the beginning of the twentieth century led to the crystalline structures of many compounds being solved. It became apparent, that planar projections of the structures of many inorganic compounds appeared identical to some medieval ornamental designs. For example, the ornamental designs, shown in Fig.1 and 2, are taken from eleventh and fourteenth century buildings in Egypt and Azerbaijan, respectively. However first picture is also the planar projection of the crystal structure of the mineral Fluoborit, while the second picture is that of the planar projection of Quartz.

A second type of two-dimensional repeating ornaments are the famous tessellations of M.C. Escher, which also appear in the Escher-like works of modern artists (Fig.5-7). In these artistic endeavours geometrical figures are, however, substituted with stylized forms of living objects.

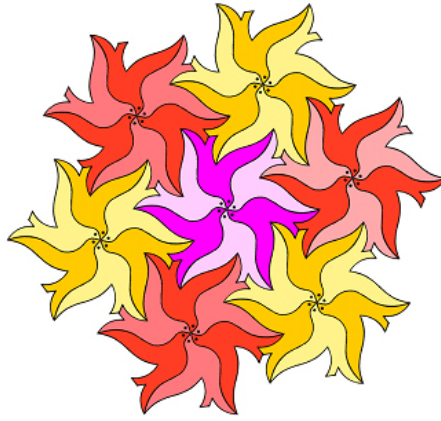


Fig. 5. "Pigeons". Imameddin Amiraslan

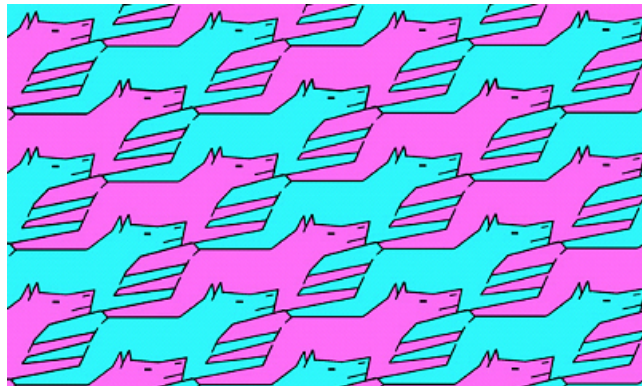


Fig. 6. "Wolves". Imameddin Amiraslan

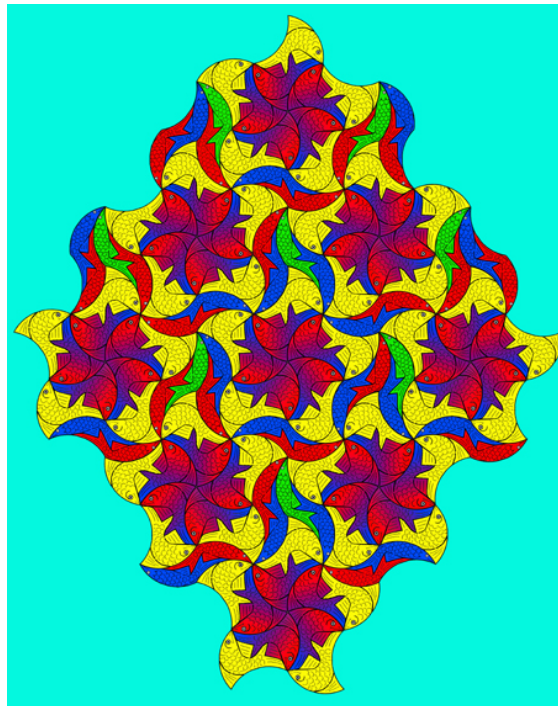


Fig. 7. "Fish". Imameddin Amiraslan

Among historical ornaments we can explicitly distinguish one more type, which for convenience we will refer to as *maze-like repeating* ornaments. There are dozens of such samples with unknown semantic, dated BC (Fig.8). Most of such ornaments were created in the middle Ages by using Arabic characters (writing). It is well know, that the Arabic writing very amenable for creating wonderful calligraphy in easy manner as well as for maze-like geometric calligraphy. Four characteristic pictures of geometric calligraphy are shown in the Fig. 9-12. These pictures consist of the Arabic words for Allah (God), Muhammed and Ali. Arabic writing especially,

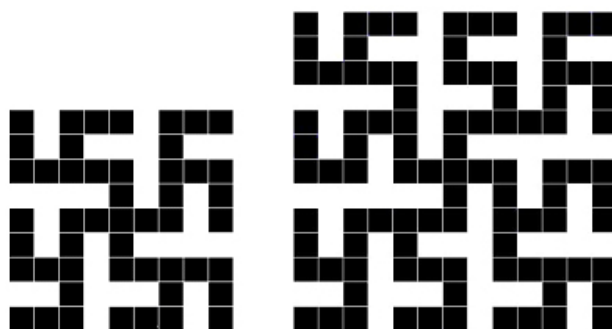


Fig. 8. Maze-like geometric ornaments. Clay stamps. Unknown semantic. Beginning of the first millenium BC, Gazach district of Azerbaijan.



Fig. 9. Ornament composed from words of “Allah” (God). 1322 year, Barda, Azerbaijan



Fig. 10. Ornament composed from words “Ali” and “Muhammed”. 1307-1313 years, Sultaniyye (nearest to Tabriz), mousoleum of Uljaytu

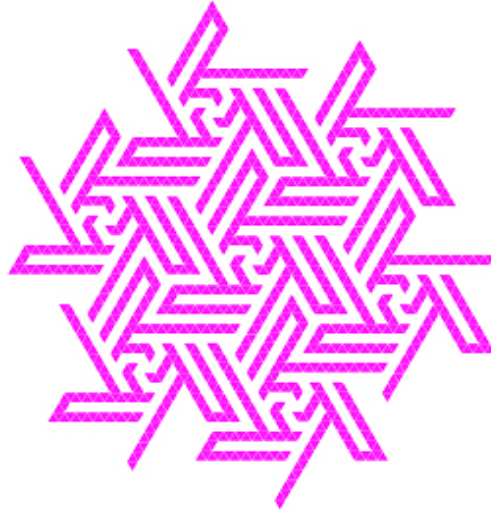


Fig. 11. Ornament composed from words “Ali”. Imameddin Amiraslan

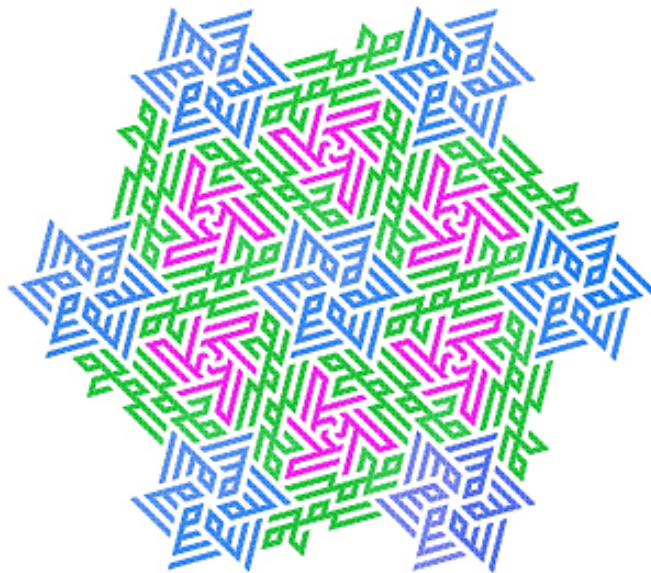


Fig. 12. Ornament composed from words “Allah , Muhammed and Ali”. Imameddin Amiraslan

has lent itself to this art-style. We have noted, that this kind of ornament contains background, which is proportional to the letters, and for people who are not familiar with Arabic writing, it's often difficult to distinguish the inscription from the background. Therefore, the aesthetic effects of these ornaments rely on the inscription and background being of equal proportion to each other. However, among medieval ornaments there are a few examples, where the background is absent completely. All of these ornaments are composed of the Arabic word “Ali”. The reason for this is that the Arabic word “Ali” is very simple and written without dots and **confined** areas, which are characteristic of most of the Arabic letters. As an example, Fig.13 shows a **wonderful** ornament from the palace of the “Shirvanshahlar Sarayi” (Baku, Azerbaijan, XIV – XV centry), in which a regular hexagon is filled up with six inscriptions of “Ali“ (three light and three dark).

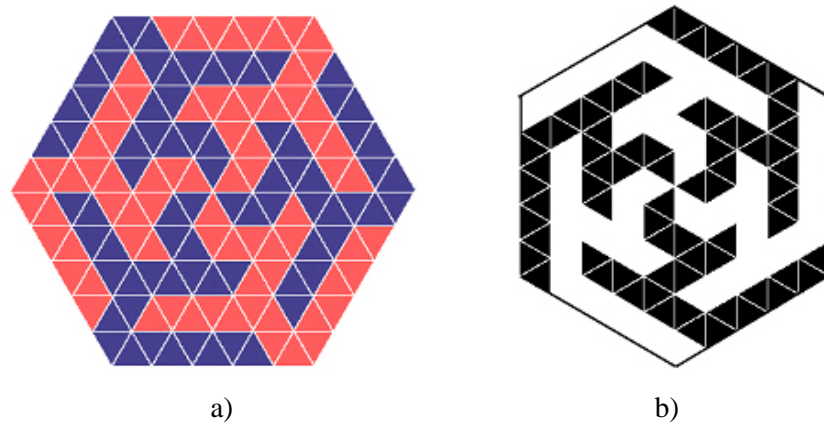


Fig. 13. Hexagonal ornament composed of the Arabic word “Ali”. XIV – XV century, Baku, Azerbaijan (a) and From Koniya (b)

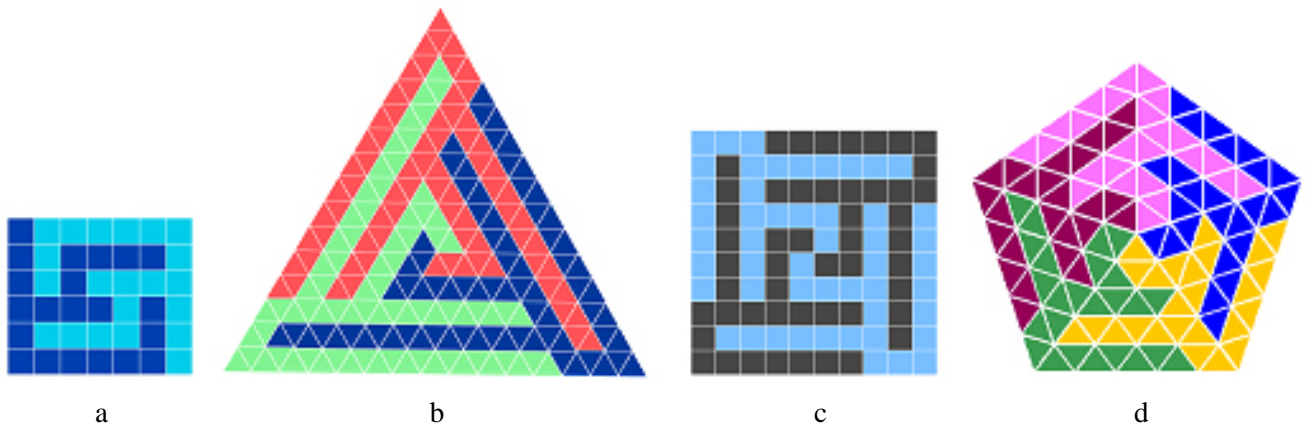


Fig. 14. New ornaments of “Ali”, with 2, 3, 4 and 5-fold symmetry by Imameddin Amiraslan

Fig. 14 shows different variants of packing of the word “Ali”, with 2, 3, 4 and 5-fold symmetry, by the author. Among historical ornaments samples

One very interesting and backgroundless maze-like ornament was composed by azerbaijani crystallographer Khudu Mamedov, (1927 – 1988), from words “Nasimi” (“Nasimi” is a famous azerbaijani poet from the fourteenth century). The black-white antisymmetry of this ornament (Fig.15) is in good accordance with the winged words of the poet Nasimi:



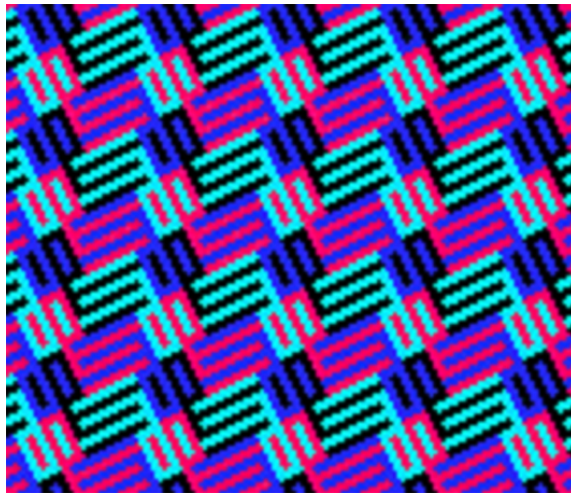
Fig. 15. “Nasimi”. Khudu Mamedov

Both worlds within my compass come, but this world cannot compass me.

An omnipresent pearl I am and both worlds cannot compass me.

(Translated by B. Tempesr)

In Fig.16 one more ornament is shown, which is composed of the word “Allah“ (God).



Pic.16. Background less ornament “Allah”. Imameddin Amiraslan

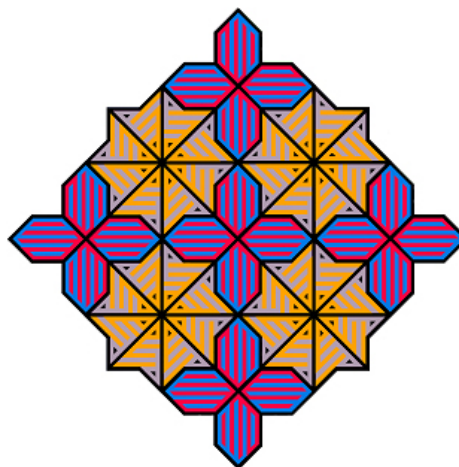
Below presented several different background less or background reduced compositions created by author from the word of “Allah” in Arabic.



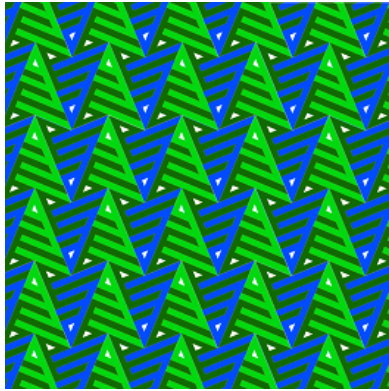
a)



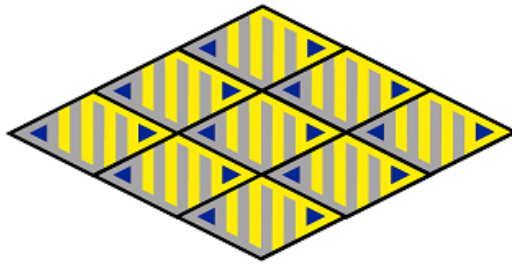
b)



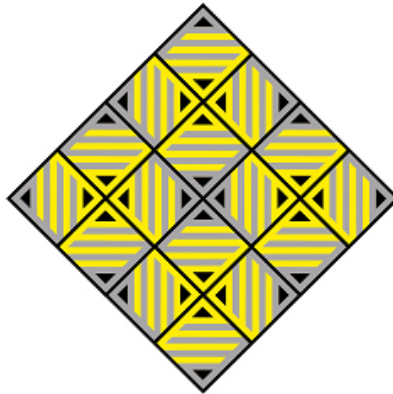
c)



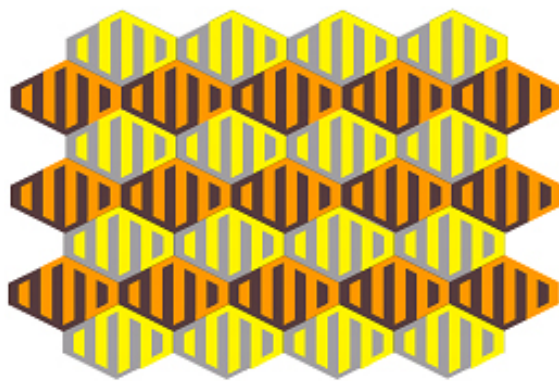
d)



e)



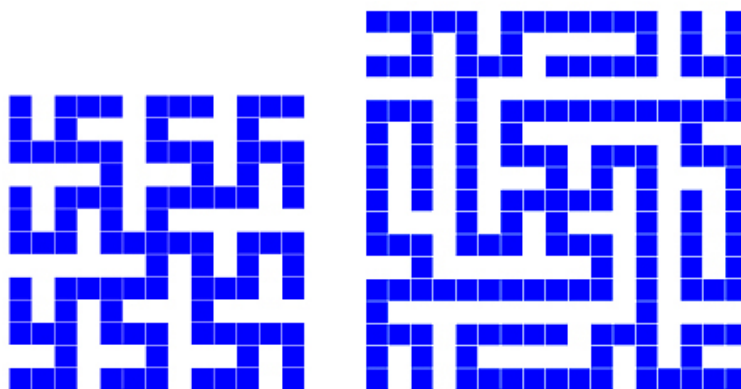
f)



g)

Fig17 a,b,c,d,e,f,g. Compositions created from the word of “Allah” in Arabic. Imameddin Amiraslan

It should be noted, that these ornaments, which are composed from Arabic inscriptions, are presented in the literature as samples of “Islamic Art”. However, our investigation has shown [1, 2], that the history of this style of ornaments is very old and originates many thousands of years ago from territories like Altay, Siberia, Central Asia and the Caucasus. This art-style, whilst finding convenient and majestic expression through Arabic holy words, is not grounded in Islam but has rather been appropriated from older cultural sources. By comparing are two ornaments, shown in pic. 18 and 19 it is easy to convince oneself of this.



Pic.18. Clay stamps. Unknown semantic. Beginning of the first millenium BC, Gazach district of Azerbaijan.

Pic.19. Ornament 4-Ali, XIV – XV centry, Isfahan, Iran.

In conclusion, I am convince, that maze-like artistic creations have by no means exhausted their aesthetic - applied usefulness, and in the near future we are going to see many new works.

Literature

1. Kh. S. Mamedov. *Crystallographic Patterns*, Comp. & Maths. with Appls. Vol 12B, Nos. 3/4, pp. 511-529, 1986
2. Kh. S. Mamedov, I.R.Amiraslanov, H.N.Najafov, A.A.Mursaliyev. *Nachishlarin Yaddashi* (Memory of ornaments, in Turkish), 1996, Istanbul, Turkey
3. Imameddin Amiraslan. *Azerbaijani tessellations*, 1997, Ankara, Turkey