







Chinese Porcelain with Arabic Magic Squares from the Qing **Dynasty: An Archaeological Study**

ABSTRACT

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1. INTRODUCTION

Muslims used magic numbers as religious mandalas, meditation tools, talismans, and amulets. These numbers were put on a variety of raw materials such as ceramics, metal, wood, fabric, and more. Known as a 4×4 magic square, or a magic square of the order 4, the numbers used added to 195. This quotient is known as the magic constant. This article is a study of nine Chinese porcelain bowels with magic squares that include Quranic and Shiite writing. The study examines the mathematical operations of these numbers, using historical, analytical, and comparative approaches. The meaning of the numbers is also analyzed to understand their symbolism and how the numbers are linked to the surrounding Arabic texts.

There are many theories about when blue and white porcelain emerged in China. Some suggest the porcelain appeared in the early Ming Dynasty, while others suggest that it appeared during the Yuan Dynasty (Medley 1989, 177) (Kessler 2012, 3-9). The 14th century AD marked a strong expansion of blue and white porcelain in China. The Chinese were able to develop the porcelain industry by applying cobalt under a translucent layer (Al-Wakeel 2010, 173-208), and they had their own industrial methods.

Blue and white porcelain is a type of Chinese ceramic made from a special type of pure clay characterized by its ability to withstand high temperatures when fired. Porcelain consists of two main materials: Kaolin and Petuntse. These two materials are mixed in varying proportions according to the degree and quality of the porcelain to be produced (Macintosh 1994, 196). The blend is then fermented as a preliminary stage, which is followed by the melting stage at a high temperature of 1280 degrees Fahrenheit (°F). This process changes the shape of the blend into a vitrified solid (Macintosh 1994, 196). It is noteworthy that Yaqut Al-Hamawi (d. 1229) mentioned that the clay of Chinese porcelain was the hardest type and more tolerant of fire than others (Al-Hamawī 1994, 234).

One of the most important advantages of porcelain is the delicacy of its sides and its light weight when compared to other types. The porcelain is also characterized by a resonance similar to the resonance of metals, and it predominantly comes with white with blue decorations (Creswell 1998, 11-12). These two colors are the most prominent characteristic of the porcelain, particularly the brightness of the white. The porcelain is also characterized by its hardness, durability, lack of thickness, and ability to withstand shocks (Denny 1974, 76-99). The quality of the glaze, which acquired a special softness in its texture is a distinguishing feature (Hagras 2022, 319-141).

The decoration of the blue and white porcelain takes place after the drying process. The most important part of the decoration is with cobalt blue, which is overlaid by a transparent glaze covering the whole body of the vessel. The final stage of production is firing the vessel in a high-temperature kiln (Finlay 2010, 158).

Islamic influence on Chinese art appeared early during the Jin Dynasty (1115-1234 CE), where Islamic glass and textiles were found in Beijing with Sasanian and Islamic motifs (Guang'en and Chenghua 2011, 113-118). However, Arabic scripts and arabesque motifs did not appear on Chinese ceramics until the Yuan Dynasty (1279-1368 CE) (Rawson 2007, 272-285). Chinese porcelain with Islamic designs was made for local Muslim communities and for export to the Islamic world. Porcelain was of great value to the Chinese emperors. The Chinese court relied on it for its economic importance and considered it a symbol of diplomacy and soft power by sending it as diplomatic gifts abroad (Wen-Chin 1988, 135-159). This helped the Ming and Qing dynasties become well known beyond China's borders (Dillon 2018, 351). In the late Ming Dynasty (1368-1644 CE) and throughout the Qing Dynasty (1644 -1911/12) the porcelain trade became extremely important (Wen-Chin 1988, 135-159). The high demand caused the emperors during the Ming Dynasty to manage the porcelain economy and manufacture, to ensure a steady supply of the product (Dillon 1992, 278-290). When the porcelain kilns in Jingdezhen could not meet export orders, Ming emperors such as Jiajing (r. 1521-1566 CE) and Wanli (r. 1573-1620 CE) built more kilns in Jingdezhen to fulfil the increase in demand (Dillon 1992, 278-290).

The Qing emperors such as Kangxi (r. 1661–1722 CE) improved the porcelain trade by further encouraging maritime trade and reinforcing the importance of ceramics in the Qing Dynasty's economy (Zhao 2013, 116-136). The growth of demand for Chinese porcelain outside of China led to the improvement of the artistic design as a result of the economic strength (Medley 1987, 65-76).

1.1. JINGDEZHEN KILNS

Jingdezhen is located in China's southern Jiangxi Province and was a famous center of Chinese porcelain kilns. In the early Ming Dynasty (1368-1644 CE), Jingdezhen became the largest porcelain production center (Vainker 1991, 176) (Rawson 2007, 238-239). Due to its economic and political importance, emperors from the Ming Dynasty onwards controlled the official kilns in Jingdezhen (Dillon 1992, 278-290). Jingdezhen reached the peak of its prosperity during the era of Emperor Qianlong (r. 1736-1795 CE), which during his long reign, increased orders for porcelain contributed to the development of Jingdezhen kilns and products, which had a great impact on the reputation of Jingdezhen as a center of porcelain industry outside China during the later periods.

Move the beginning of the next section (2 and 2.1.) here. You need to introduce the nine bowels as the source of your study. The first paragraph under section 2 and 2.1. could be combined into one introductory paragraph that describes the bowels.

1. LIST OF THE OBJECTS

Object No. (1)

Type: Bowl.

Material: Porcelain, blue and white

Date: the Qing Dynasty, Qianlong, (1735-1796 A.D.)

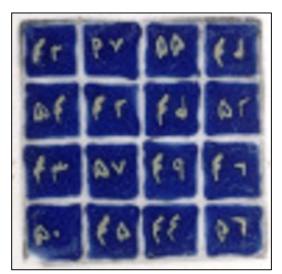
Dimensions: 20.5 Diameters, 4 cm Height.

Museum: Museum of National Adrien Dubouche, France

Inventory Number: ADL252.



Pl.1. Shows object No. (1)



Pl.1-a. Shows the magic square of object No. (1)

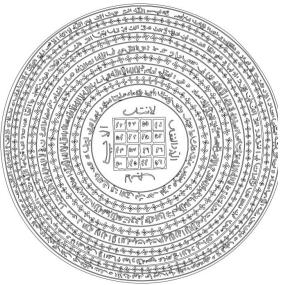


Fig.1. Shows the inscriptions of object No. (1).

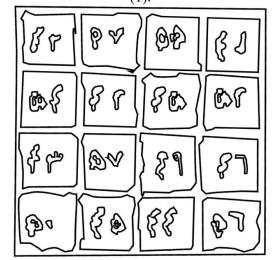


Fig.1-a. Shows the numbers of object No. (1)

Object No. (2)

Type: Bowl.

Material: Porcelain, blue and white.

Made in: Jingdezhen.

Date: 1786 CE (1201 AH), the Qing Dynasty, Qianlong, (r. 1735-1796 CE)

Dimensions: Diameter: 8 inches (20.32 cm).

Museum: British Museum.

Museum number: Franks.619.a. (Akbarnia and al 2018, 71)



Pl.2. Shows object No. (2)

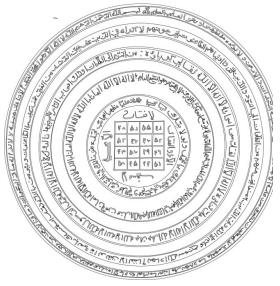
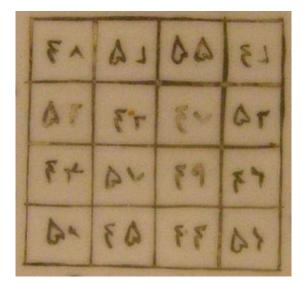
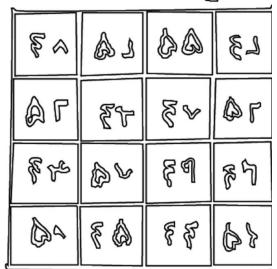


Fig.2. Shows the inscriptions of object No. (2)



(2)



Pl.2-a. Shows the magic square in object No. Fig.2-a. Shows the numbers of object No. (2)

Object No. (3)

Type: Bowl.

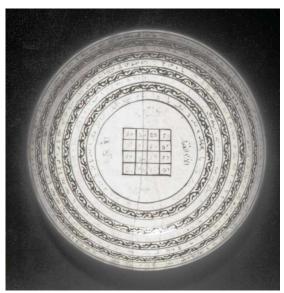
Material: Porcelain, blue and white.

Made in: Jingdezhen.

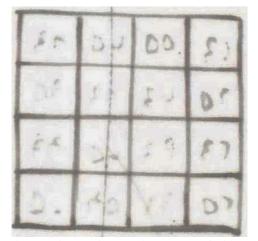
Date: 1786 CE (1201 AH), the Qing Dynasty, Qianlong, (r. 1735-1796 A.D.)

Dimensions: Diameter: 8 inches (20.32 cm).

Museum: British Museum. Museum number: Franks.619.



Pl.3. Shows object No. (3)



Pl.3-a. Shows the magic square of object No. (3)

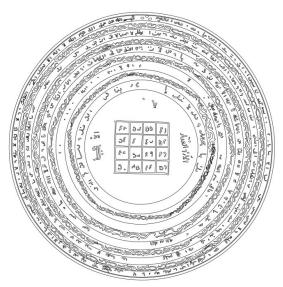


Fig.3. Shows the inscriptions of object No. (3)

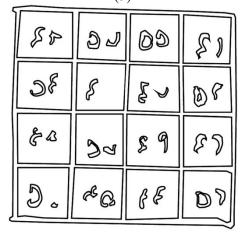


Fig.3-a. Shows the numbers of object No. (3)

Object No. (4)

Type: Bowl.

Material: Porcelain, blue and white

Date: 1700-1800 CE, the Qing Dynasty, Qianlong, (r. 1735-1796 CE)

Museum: Manufacture Nationale de Sèvres, France.

Museum number: MNC22477



Pl.4. Shows object No. (4)

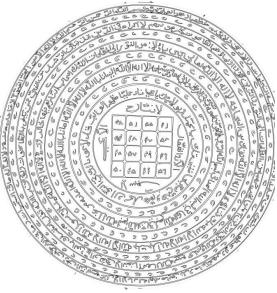
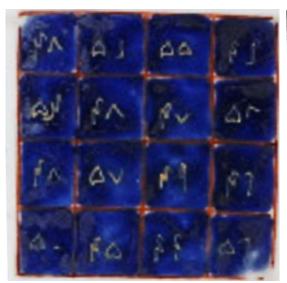


Fig.4. Shows the inscriptions of object No.



Pl.4-a. Shows the magic square of object No. (4)



Fig.4-a. Shows the numbers of object No. (4)

Object No. (5)

Type: Bowl.

Material: Porcelain, blue and white

Date: 1775 CE, the Qing Dynasty, Qianlong, (r. 1735-1796 CE)

Dimensions: Diameter: 20.6cm.

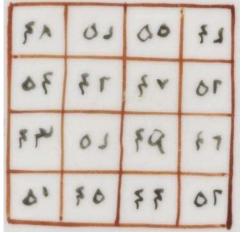
Museum: Victoria & Albert Museum, UK.

Museum number: C.12-1910.





Pl.5. Shows object No. (5)



Pl.5-a. Shows the magic square of object No. (5)

Fig.5. Shows the inscriptions of object No. (5)

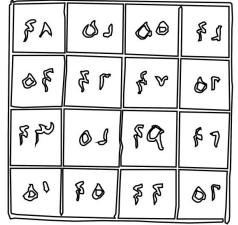


Fig.5-a. Shows the numbers of object No. (5)

Object No. (6)

Type: Bowl.

Material: Porcelain, blue and white

Date: 1700-1800 CE, the Qing Dynasty, Qianlong, (r. 1735-1796 CE)

Dimensions: Diameter: 20.3cm.

Museum: Victoria & Albert Museum, UK.

Museum number: 1944-1855.



Pl.6. Shows object No. (6)

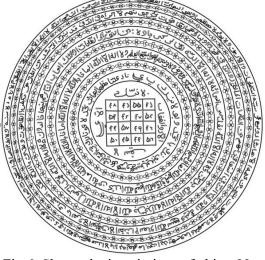
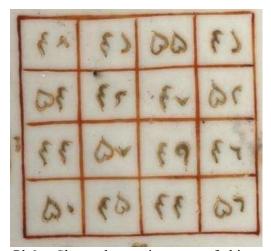


Fig.6. Shows the inscriptions of object No.



Pl.6-a. Shows the magic square of object No. (6)

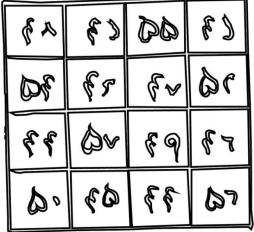


Fig.6-a. Shows the numbers of object No. (6)

Object No. (7)

Type: Bowl.

Material: Porcelain, blue and white

Date: 1780-1795 CE, the Qing Dynasty, Qianlong, (r. 1735-1796 CE)

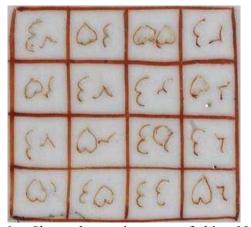
Dimensions: Diameter: 19.7cm.

Museum: Victoria & Albert Museum, UK.

Museum number: CIRC.569-1926.



Pl.7. Shows object No. (7)



Pl.6-a. Shows the magic square of object No. (7)

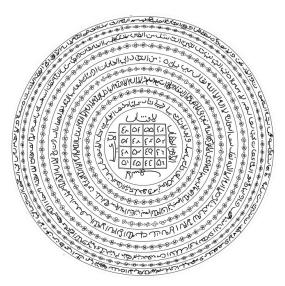


Fig.6. Shows the inscriptions of object No.

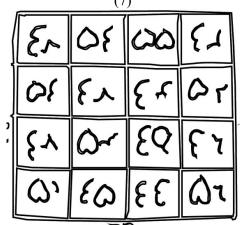


Fig.6-a. Shows the numbers of object No. (7)

Object No. (8)

Type: Bowl.

Material: Porcelain, blue and white

Date: 1800-1830 CE, Qing dynasty, Jiaqing - Daoguang reign (r. 1796-1850 CE).

Museum: Bristol Museum & Art Gallery.

Museum number: Or1981.03.08.



Pl.8. Shows object No. (8)

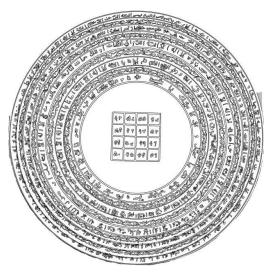
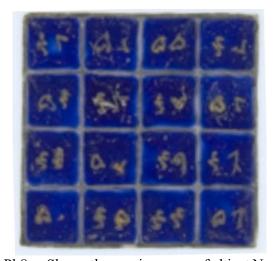


Fig.8. Shows the inscriptions of object No. (8)



Pl.8-a. Shows the magic square of object No. (8)

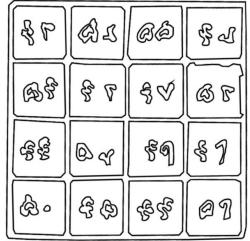


Fig.8-a. Shows the numbers of object No.

Object No. (9)

Type: Bowl.

Material: Porcelain, blue and white Date: 18th century CE, Qing dynasty.

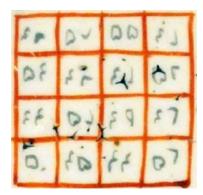
Dimensions: Height: 2.8 cm, Outside Diameter: 15.3 cm.

Museum: Penn Museum & Art Gallery.

Museum number: 88-16-106.



Pl.9. Shows object No. (9)



Pl.9-a. Shows the magic square of object No. (9)

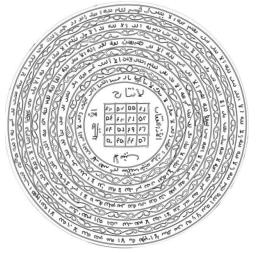


Fig.9. Shows the inscriptions of object No.

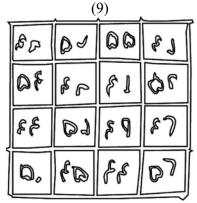


Fig.9-a. Shows the numbers of object No.

2. THE ANALITICAL STUDY

All the bowls are painted and gilded with Arabic calligraphy according to the Arabic-Sino style script. They are decorated on the inside with four circular bands of foliage around the center that alternate with five bands of Arabic calligraphy. The Arabic script is dominated by Our'anic and Islamic text.

2.1. THE INSCRIPTIONS

All the bowels are similar in that they contain a magic square inside the center of the bowel. Around each square four cartouches rotate, each corresponding to one of the four sides of the square. Surrounding the magic square are five rounded inscription ribbons separated by a ribbon of ornamentation and scrolls of flowers in concentric circles on the outside resembling a chain. These inscriptions are read from the rim of the bowel towards the center, and all of them are Our'anic and Islamic traditions.

2.1.1. THE QUR'ANIC INSCRIPTIONS

بِسْمِ ٱللَّهِ ٱلرَّحْمَٰنِ : The outer three bands of text are Qur'anic supplications, which include basmalah: بِسْمِ ٱللَّهِ ٱلرَّحِيمِ In the name of God, the Most Gracious, the Most Merciful. These three bands are verses 255 and 256 of the Al-Baqara Surah. Verse 255 is the Ayat Al-Kursi (The Throne verse). بِسْمِ ٱللَّهِ مُمْنِ ٱلرَّجِيمِ"

In the name of God, the Most Gracious, the Most Merciful "بسم الله الرحمن الرحيم الله لا إله إلا هو الحي القيوم لا تأخذه سنة ولا نوم له ما في السموت وما في الأرض من ذا الذي يشفع عنده إلا بإذنه يعلم ما بين أيديهم وما خلفهم ولا يحيطون بشيء من علمه إلا بما شاء وسع كرسيه السموت والأرض ولا يؤده حفظهما وهو العلى العظيم "

Allah! None has the right to be worshipped but He, the Ever Living, the One Who sustains and protects all that exists. Neither slumber nor sleep overtakes Him. To Him belongs whatever is in the heavens and whatever is on the earth. Who is he that can intercede with Him except with His Permission He knows what happens to them (His creatures) in this world, and what will happen to them in the Hereafter. And they will never compass anything of His Knowledge except that which He wills. His Kursi extends over the heavens and the earth, and He feels no fatigue in guarding and preserving them. And He is the Most High, the Most Great.

''لا إكراه في الدين قد تبين الرشد مُن الّغي فمن يكفر بالطاغوت ويؤمن بالله فقد استمسك بالُعروة الّوثقي لا انفصام لها والله سميع عليم''

Let there be no compulsion in religion: Truth stands out clear from Error: whoever rejects evil and believes in Allah hath grasped the most trustworthy hand-hold that never breaks. And Allah heareth and knoweth all things.

"الله ولي الذين آمنوا يخرجهم من الظلمات إلى النور والذين كفروا أولياؤهم الطاغوت يخرجونهم من النور إلى الظلمات أولئك أصحاب النار هم فيها خالدون"

Allah is the Protecting Friend of those who believe. He bringeth them out of darkness into light. As for those who disbelieve, their patrons are false deities. They bring them out of light into darkness. Such are rightful owners of the Fire. They will abide therein.

According to Islamic tradition, Ayat al-Kursi is considered the most powerful verse in the holy Qur'an (Gruber 2010, 125) (Ephrat, Wolper and Pinto 2021, 290). In this context the tradition claims that the person who recites Ayat al-Kursi after every prayer, nothing will prevent him from entering into paradise but life (Wherry 1882, 383). If someone reads that verse in the morning and evening, then they will be under the protection of God - protected from evil, the jinn, and demons (Lassner 1993). The verse is not only recited to expel evil spirits, but used for healing and protection from the jinn and demons (Wherry 1882, 383). In view of the virtues of the Throne verse, which includes spiritual and physical protection, Muslims often recite it before embarking on a journey and before going to sleep (Esposito 2004, 30). One of its virtues

is that whoever recites it before going to sleep a demon will not get close to them until morning. (Al-Asqalani 2011, 613-615).

Al-Buni (d. 622 AH/ 1225 CE), mentioned that the Ayat al-Kursi verse was placed in a square with eight rows, and it would give whoever bears it, glory, prestige, happiness, exaltation, exaltation and sovereignty. Through the verse, blessings descend, disabilities are removed, and needs are fulfilled. It contains secrets for the people of beginnings and lights for those of the end. It indicates religion, truthfulness, etiquette, success, strength, maintenance, victory, obedience, kindness, love, preservation, sufficiency, security, safety, ownership, possession over regions and countries, kingship, authority, ministry, sustenance, capacity, principality, expansion, pleasure, understanding and bliss, the increase in money, prestige, children, family, good life and good condition... Whoever puts it in water, and an enchanted person drinks it, he will be cured at the time, and if he drank it feverishly, he will be cured in its moment... Whoever says it when sleeping is safe until the morning and the person whoever says it in the morning is safe until the night (Al-Buni 1985, 115).

2.1.2. THE INSCRIPTIONS OF SUPPLICATIONS-DU'A

The supplication phrases are one of the important features of Islamic art. It is noted that they had found their way into the European countries ruled by the Ottomans. The phrase "Mashallah", is a notable example from Greece and the Balkans (Ameen 2020, 73-85). The inner script contains the Duʻā [supplication], which is a prayer of invocation and calling for help from God. The text is as follow:

- "لا إله إلا الله" There is no deity but Allah,
- "محمد رسول الله" Muhammad is the Messenger of Allah,
- " "Yhere is no deity but Allah, splendor of his majesty "لا إلله إلا الله جل جلالـه"
- "لا إله إلا الله جل ثناؤه" There is no deity but Allah, may His Glory be praised
- "Yhere is no deity but Allah, sanctified are His names." لا إله إلا الله تقدست أسماؤه
- "Yhere is no deity but Allah, may His Glory be exalted" لا الله تعالى كبرياؤه
- "لا إله إلا الله إيمانًا بالله" There is no deity but Allah, to have faith in god.
- " "There is no deity but Allah, may Him grant us protection" "لا إله إلا الله أمانًا بالله"
- "There is no deity but Allah, trust from Allah" "لا إله إلا الله أمانة من عند الله"
- "In the name of Allah, Allah is the more sufficient and health giver" ("بسم الله الكافي المعافي"
- "In the name of Allah the healer" "بسم الله الشافي"
- "In the Name of Allah, "بسم الله الذي لا يضر مع اسمه شيء في الأرض ولا في السماء وهو السميع العليم" "In the Name of Allah, Who with His Name nothing can cause harm in the earth nor in the heavens, and He is the All-Hearing, the All-Knowing"

This supplication is considered one of the recommended supplications and du'ās after the morning prayer. It was recorded by the Indian mystic Ibn Khatir al-Din (d. 970 AH / 1562 CE) in "Al-Jawhar Al-Awal fi Ubadat al-Abidin" from his book, "The Jawahir-i khamsa, or "The Five Jewel" (Gwaliyārī 2010, 9-12). It is also one of the opener supplications of Ali bin Shihab Al-Hammadani (d. 786 AH/ 1385 CE) (Sulayman 2017, 10).

It is noteworthy that the wording of this supplication was adopted by both the Sufism, Mevlevi Tariqa and Naqshbandi Tariqa, and was mentioned in the supplication collection of Sheikh Muhammad bin Muhammad Bahauddin Shah Naqshband (d. 791 AH/ 1388 CE) (Gümüshânevi 2013, 24-25).

Surrounding the center are Arabic inscriptions that read:

"Call upon "Ali the manifestation of wonders, you will find him as a helper in crisis, anxiety and sorrow will come to the end. Through your grandeur O Muhammed, through your guardianship O 'Ali."

This supplication is one of the praiseworthy rituals of the Shiites, and is known as the *Dua-e-Saifi* (the sword supplication) (Barelvi 2013, 223), which is attributed to Imam Ali ibn Abi Talib (d. 40 AH/ 661 CE). The supplication has many virtues in Shiite culture. It is believed to be expiation for sins (Al-Nadhifi 2015, 207), and an effective way to solve problems (Burujardi 2005, 159-160) (Barelvi 2013, 223). Burujardi (d. 14th century CE), claims that it is also a way to find the lost and return the absent, and an effective way to answer prayers, needs, and deliverance from the siege of enemies (Burujardi 2005, 160, 190). According to the book, "The Five Jewels"; it is read seven or three times, or once a day (Gwaliyārī 2010, 288-289). These expressions were common to Islamic art in Iran during the 18th and 19th centuries CE. The Metropolitan Museum of Art displays a cuirass with corners decorated with this supplication (Alexander 2015, 56-58), and a mail shirt decorated with same text (D. G. Alexander 2015, 26).

There are four cartouches surrounding the square, which are read together:

"لا فتى إلا علي لا سيف إلا ذو الفقار" (There is no bravery like Ali; There is no sword like Zulfikar 'Ali's sword').

Ali bin Abi Talib (d. 40 AH/ 661 CE) and his sword played an important role in thwarting the victory of the pagans of the Quraysh tribe over the Muslims under the leadership of the Prophet in the Battle of Uhud (3 AH/ 625 CE). After Ali's sword was shattered, the Prophet gave him Zulfiqar, a new sword, and performed in great tournaments. Some Islamic sources indicate that on that day the Muslims heard a Takbir (magnification of God) from the sky saying, "There is no bravery like Ali; there is no sword like Zulfikar". According to this story, Gabriel praised Ali, and Hassan b. Thabit asked the Prophet to recite the praises of the Prophet and Ali, so he granted him the permission, and he said, "Gabriel called out and soaking is not dissipate, Muslims have stared around the Prophet, there is no bravery like Ali, there is no sword like Zulfikar" (Sibt ibn al-Jawzi 2005, 29).

Although some have weakened this hadith, it undoubtedly influenced Islamic culture, and the event became an epic and a miracle. The hadith has a vital position among the Shiites and permeated the political, intellectual, and doctoral fields. In any case, this saying has become an important legacy in the collective consciousness of Muslims, especially Shiites. It became one of the supplications that have a great status among the Shiites, because it contains praise for Imam Ali and his sword, which was the cause of unlimited victories for the Muslims. It has become a tradition for Shiites to pray and seek blessings. Besides being written to be optimistic about victory, the hadith speaks of safety and assistance in times of peace and war.

The supplication has become a belief among Shiites for the destruction of the enemy and the oppressor, the achievement of goals, the abundance of livelihood, and the finding of lost things, as well as the return of the absent. It is written to get rid of worry, grief, and anger, and is written for happiness, victory over enemies, and to ward off the eye of the envious, and so on. Likewise, it is written to dismantle magic, to heal from poisons, for the sick who cannot be cured, to ward off affliction and anger, for the rich, to gain power and victory over enemies, for those afflicted with evil eye and envy, to gain knowledge, to gain dignity, and to fulfil one's needs. It writes for victory over enemies, answering prayers, and seeing the Prophet Imam Ali (Burujardi 2005).

2.1.3. THE MAGIC SQUARES

The oldest magic squares appeared in China during the first century CE and the time of confucian scholar Dai De 戴德 (Dai the Elder 大戴) in what is known as Da Dai Liji, 大戴禮記, (Record of Rites by the Elder Dai) (Qiyu 1992, 133-134). Some consider the square of Lo

Shu to be the oldest magic square, and according to Chinese records, one of these squares is dated to 570 CE (Cammann 1961, 37-80). Since the 14th century CE, Chinese magic squares have developed, such as the works of Ding Yidong (丁易東), author of (大衍索隱) Dayan suoyin (the Dayan numbers (the numbers of the Great Expansion)) (1300 CE), Cheng Dawei (程大位, 1533-1606 CE) in his book Suanfa tongzong (算法統宗) (General Source of Computational Methods) (1593 CE) (Martzloff 2007, 160-161), and Fang Zhongtong方中通 (1633-1698 CE) in his study Shuduyan (数度衍) (Developments on numbers and measures) (1661 CE) (Swetz 2008, 77).In India, the oldest magic square is seen in the Varāhamihira's encyclopedic (550 CE) (Hayashi 2016, 2600-2607).

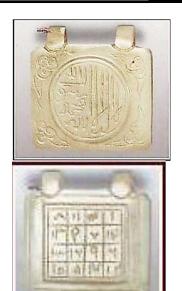
Although the history of the magic squares in the Islamic world is not specified, it has been suggested that they were known in the pre-Islamic ages. The development of the construction of magic squares is one of the most remarkable achievements in Islamic mathematics. The Islamic mathematicians contributed to the theory of numbers, and they studied a combination of what they called (أعداد الوفق), a'dad al-wafq "harmonious dispositions of numbers", which are called nowadays "magic squares" (Hogendijk and Sabra 2003, xv). These squares were used by people to take care of themselves and make supplications according to what they knew. They are regular numbers that baffle the thought, baffle the mind, amaze the mind, and baffle the beholder (Gohari 2016, 159).

As for Islamic culture, Jabir bin Hayyan (d. 197 AH/ 813 CE) is considered the first to use the three-row magic square (Swetz 2008, 93). As for Arabic texts that dealt with magic squares, the oldest of them dates back to the late 10th century AD. It appears in the works of Abi Al-Wafa Al-Bazjani in 998 CE and Ali bin Ahmed Al-Antaki (d. 376 AH / 987 CE) (Sesiano 2003, 1-20). In the letters of Ikhwan al-Safa (10th century CE), squares of three to seven rows appear (Swetz 2008, 77) (Cammann 1969, 181-209). The eleventh century CE was a time when several ways to build simple magic squares explored and developed (Sesiano 2003, 1-20) (Sesiano 2017).

From the 13th century CE onwards, magic squares became more associated with magic and religious purposes. Thus, some texts only depict squares and mention their attributes. Others, though, keep their core, mostly to help the readers to build the amulets by themselves (Sesiano 2016, 2607-10). This type of magic square is known as 4×4 magic square, or a magic square of the order 4 (Yoke 2016, 2598-2600). In Islamic traditions, a magic square in order 'n' is a square divided into 'n2' cells in which the order of different natural numbers and the same sum must appear in each of the rows, columns, and two major diagonals (Sesiano 2016, 2607-10).



Pl.10. The Anxiwangfu magic square with Arabic numerals (Dezhi 1960)



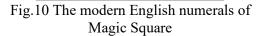
Pl.11. The Shanghai jade box with magic square. (Heling 2004)

In 1957, during the excavation of the Yuan palace in the city of Anxiwangfu (the prefectural city of the prince of Anxi, within Xi'an, the capital of Shaanxi today), a bronze magic square with Arabic numerals of six digits in a stone case was found (pl.10) (Dezhi 1960, 20-23) (Steinhardt 2024, 62-63) (Nai 1960, 24-26). A jade box with a magic square of four numbers with an Islamic inscription was discovered in Lujiazui, Pudong, Shanghai in the 1990s (pl.11) (Heling 2004, 83). Wang Zhengshu studied and compared the structure of the Arabic numerals and found them to be similar to the types of numbers commonly used in the Islamic world during the 10th century CE, and therefore, both are believed to be products of the early Yuan Dynasty (13th to 14th centuries CE) (Zhengshu 1981, 43-48).

The magic squares on the porcelain collection in this study have odd and even values. They are all subject to a 180-degree transformational rotation, united together. The sum of each row or four adjacent numbers gives the same sum. The magic square consists of entries 1 to n^2 . This means that the sum of all the entries of the square appears as follows: $1 + 2 + 3 + \cdots + (n^2 - 1) + n^2$ (Ng 2017). The magic square is divided into a number of cells, each containing one natural number that differs from the rest of the other numbers. The number is never repeated in the square, and those numbers are arranged in a table. If all the numbers of each row are added together, the sum is the same in each horizontal row, each vertical row, and each of the two major diagonals (Sesiano 2017, 4).

The numbers of the magic squares are inscribed according to Eastern Arabic numerals, "Mashriki" numerals, or Hindu-Arabic numerals (**fig.10, 11**). The exception is the number 57, and the magic square include numbers 41 to 57, and it turns out that they are 16 numbers, respectively; 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 54, 55, 56, and 57. By performing a simple calculation of the numbers in one group, the result will be 780. When 780 is divided by 195, the sums of the numbers in each row of the square, the result will be 4.

48	51	55	41
54	42	47	52
43	57	49	46
50	45	44	56



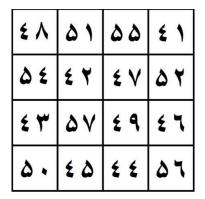
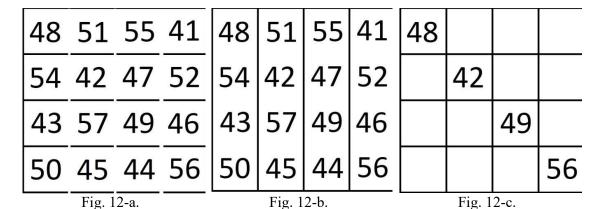


Fig.11 The Eastern Arabic numerals of Magic Square

2.1.4. THE MAGIC SUM COMPUTATION

The magic sum, also known as the magic constant, is the sum of the numbers in any column, row, or diagonal of a magic square (Sesiano 2017, 4). However, by examining the magic squares of our collection, it turns out that we have 18 arithmetic operations. In each of which we can find the magic constant 195 as follows:

- 1. The addition of numbers in each row (48+51+55+41), (54+42+47+52), (43+57+49+46), and (50+45+44+56); the sum is 195, (**fig. 12-a**).
- 2. The addition of numbers in each column (48+54+43+50), (51+42+57+45), (55+47+49+44), and (41+52+46+56); the sum is 195, (fig. 12-b).
- 3. The addition of numbers in each diagonal (48+42+49+56) (**fig. 12-c**), and (41+47+57+50) (**fig. 12-d**); the sum is 195.
- 4. The addition of numbers in vertices (48 + 41 + 50 + 56) (fig. 12-e); the sum is 195
- 5. The addition of the central four numbers (42+47+57+49) (fig. 12-f); the sum is 195.
- 6. The addition of the four numbers of each corner (48+51+54+42) (**fig. 12-j**), (55+41+47+52) (**fig. 12-h**), (43+57+50+45) (**fig. 12-i**), and (49+46+44+56) (**fig. 12-j**); the sum is 195.
- 7. The addition of the middle four numbers of the top two rows of the square (51+55+42+47) (fig. 12-k); the sum is 195.
- 8. The addition of the middle four numbers of the bottom two rows of the square (57+49+45+44) (fig. 12-l); the sum is 195.



			41	48			41					
		47							42	47		
	57								57	49		
50				50			56					
Fig. 12-d.					Fig. 12-e.				Fig. 12-f.			
48	51					55	41					
54	42					47	52					
								43	57			
								50	45			
Fig. 12-g.				Fig.	12-h.			Fig.	12-i.			
					51	55						
					42	47						
		49	46						57	49		
		44	56						45	44		
	Fig.	12-j.			Fig.	12-k.			Fig.	12-1.		

2.1.5. SYMBOLISM OF THE NUMBER 195

The number 195 is the sum of eleven consecutive primes (3 + 5 + 7 + 11 + 13 + 17 + 19 + 23 + 29 + 31 + 37). It is also the multiplication sum of $(3 \times 5 \times 13)$, (39×5) , (15×13) , and (65×3) . In this study, we faced a difficult and fundamental problem; the symbolism of the number 195. This raises an important question; why is the magic square constant 195? As we did not find any historical or contemporary sources to help us understand why this may the case, we relied on Abjad numerals (*Hisab al-Jummal*) as a scientific method to answer the question. The script around the magic square was examined according to the Abjad numerals method, but it did not give the magic constant of 195. We therefore, turned to another hypothesis, which is examining the Islamic names of God, as perhaps one of them has the numerical value 195. However, the numerical values of all the 99 names did not correspond to the 195.

2.1.6. THE NUMBER 195 AS QUR'ANIC MYSTERIOUS LETTERS

Our study took another path, which is measuring the numerical values of the inceptions of the Qur'anic surahs (chapters), or what is known idiomatically as *Muqatta 'at* (the mysterious letters, or detached letters) (Britannica 2022). These letters are known as *fawātiḥ* (openers), if

we drop the repeated ones, it totals 14 initial designated letters, and appears at the beginning of 29 out of the 114 Surahs (Ibn Kathir 2018, 70). Scholars have proposed many theories for these letters, but there is no clear explanation or confirmed indications for them. In this context, Al-Suhayli (581 AH/ 1185 CE) mentions that these letters at the beginning of the surahs have many meanings and pleasant benefits. God Almighty would not send down in the Qur'an what is purposeless (Al-Suhayli 2009, 408). According to Ibn Kathir (d. 774 AH/ 1373 CE), combining the 14 letters in one sentence is, "a wise text that has a conclusive secret that has a secret" (Ibn Kathir 2018, 70).

al-Zamakhshari (d. 538 AH/ 1143 CE) said, "And know that if you contemplate what God mentioned in the opening of these names, you will find that they are half of the names of the lexicon, fourteen letters in twenty-nine Surah, according to the number of lexicon letters.....". When you look at these fourteen letters, you will find that they contain half of the types of letters" (Al-Zamakhshari 2015, 39). Mostly, the openers are of three or two letters. Out of the 29 openings, there are only two openers consisting of five letters, one of which is, HA MEEM. 'AYN SEEN QAF (Pl. 12), which is composed of two words, unlike Kāf Hā Yā 'Ain Ṣād, which has one word. The intent is that the presence of a surah opening of 5 connected letters did not occur in the entire Qur'an except in Surat Maryam.





Pl. 12 Sword of Sultan Mehmed III, inscribed with حم عسق and حم عسق (Islamic art Museum in Cairo) (MOHAMMED 2018, 548)

When we studied all 14 initial $faw\bar{a}tih$, we did not find any with a numerical value of 195, except for the verse of $K\bar{a}fH\bar{a}$ $Y\bar{a}$ 'Ain $S\bar{a}d$ (Σ). This opener is the initial verse of Maryam Chapter, and is named after Mary, mother of Jesus. The verse is composed of 5 letters: $K\bar{a}f(S)$, $H\bar{a}$ (Δ), $Y\bar{a}$ (Δ), $Y\bar{a}$ (Δ), and $S\bar{a}d$ (Δ). According to Abjad numerals (Hisab al-Jummal), the numerical value of this verse is 195 as follow: (Δ =20 + Δ =5 + Δ =10 + Δ =70 + Δ =90) (total is 195).

It is the first verse of Surat Maryam, and it is pronounced as syllable letters, not as a single word. Al-Suyuti (d. 911 AH/ 1505 CE) said about it, "God knows best what he means by that" (Al-Suyuti 2004, 305).

However, this study suggests that the number 195 is symbolic of (*Kāf Hā Yā 'Ain Ṣād*), for several reasons:

2.1.6a THE "Kāf Hā Yā 'Ain Ṣād" AS A GRACE

Muslim interpreters differ in the virtue and importance of $K\bar{a}f H\bar{a} Y\bar{a}$ 'Ain $\bar{y}\bar{a}d$, and they cite various sayings (see below).

It is noteworthy that during the migration of the first Muslims to Abyssinia, Jaafar bin Abi Talib recited *Kāf Hā Yā ʿAin Ṣād* to Al-Najashi, and their eyes welled up with tears (al-Qurtubi 2019, 3).

2.1.6b THE "Kāf Hā Yā 'Ain Sād" AS A SUPPLICATION-DUA

Al-Yafi'I, mentioned the virtue of supplication with the word $K\bar{a}f H\bar{a} Y\bar{a}$ 'Ain $S\bar{a}d$ in the form, " $K\bar{a}f H\bar{a} Y\bar{a}$ 'Ain $S\bar{a}d$, $K\bar{a}f H\bar{a} Y\bar{a}$ 'Ain $S\bar{a}d$, $K\bar{a}f H\bar{a} Y\bar{a}$ 'Ain $S\bar{a}d$, help us, for you are the best of helpers. $K\bar{a}f H\bar{a} Y\bar{a}$ 'Ain $S\bar{a}d$ is our sufficiency, so God will suffice them, and He is the All-Hearing, the All-Knowing" (al-Yāfi'ī 2003, 42).

This supplication is also considered one of the recommended supplications, as follows: "Oh God, guard me from the plot of the evildoer, from the slander of the wicked, and from the sting of the darker, by $K\bar{a}fH\bar{a}$ $Y\bar{a}$ 'Ain $Y\bar{a}$

Whoever wrote Surah $K\bar{a}f$ $H\bar{a}$ $Y\bar{a}$ 'Ain $S\bar{a}d$ and put it in a glass of his house, his goodness increased, and he saw in his dreams what made him happy, and if it was written on the wall of the house, it would prevent the devils, and if the fearful person drank it, he will be safe (al-Yāfi'ī 2010, 86).

2.1.6c THE "Kāf Hā Yā 'Ain Sād" AS A NAME OF ALLAH

Al-Alusi (d. 1270 AH/ 1854 CE) reported on the authority of Fatima bint Ali. Ali used to say, O Kāf Hā Yā 'Ain Ṣād, forgive me (al-Alusi 1994, 378). Nasr bin Muzahim Al-Manqari (d. 212 AH/ 827- 828 CE) narrated that, "Ali was never in a fight except that he called out Kāf Hā Yā 'Ain Ṣād'' (Al-Barqei 2014, 227). Both Al-Suyuti (d. 911 AH/ 1505 CE) and Ibn Al-Jawzi (d. 597 AH/ 1201 CE) believe that the Kāf is from the king, the Hā is from God, the Yā and the Ain are from the impervious, and the Ṣād from the Creator. Umm Hani' said that the Messenger of God said, "The Sufficient, the Guide, knowledgeable, truthful" (al-Suyuti 2003, 8) (al-Jawzī 1993, 339).

Al-Qurtubi (d. 671 AH/ 1273 CE) and Al-Hakim (d. 405 AH/ 1014 CE) reported, "Ibn Abbas said, "The $K\bar{a}f$ is from the sufficient, the $H\bar{a}$ is from the guide, the $Y\bar{a}$ is from the Wise, the 'Ain is from the knowledgeable, and the $S\bar{a}d$ is from the Truthful." It was mentioned by Ibn Abbas (d. 68 AH/ 687 CE). "Meaning is sufficient for his creatures, a guide to his servants, his hand over theirs, know them, true to his promise" (Al-Hakim 2020, 403) (al-Qurtubi 2019, 4). Al-Kalbi (d. 819 CE) also said, " $K\bar{a}f$ is from the generous and the Greater, the $H\bar{a}$ is from Guide, the $Y\bar{a}$ is from Merciful, the 'Ain is from the knowledgeable and Greater, and the $S\bar{a}d$ is from Truthful". Ali bin Abi Talib said that $K\bar{a}f$ $H\bar{a}$ $Y\bar{a}$ 'Ain $S\bar{a}d$ is the name of God Almighty, and he used to say, "Oh $K\bar{a}f$ $H\bar{a}$ $Y\bar{a}$ 'Ain $S\bar{a}d$, forgive me". al-Suddī (d. 127 AH/ 745 CE) mentioned, "It is the name of God the greatest that if he is asked by this name, he gives, and if he is called by it, he responds" (al-Qurtubi 2019, 4).

Shiite sources indicate that Ja'far al-Sadiq (d. 148 AH/ 765 CE), the sixth imam of the Shiites, said, "Kāf Hā Yā 'Ain Ṣād means, I am the sufficient, the guide, the guardian, the knowledgeable, and the truthful in the promise" (al-Bahrani 2006, 102-103). In the same context, Ibn Attia Al-Andalusi (d. 546 AH/ 1147 CE) mentioned, "A group said that it is one of the names of Allah, and it was narrated that Ali used to say, "Oh Kāf Hā Yā 'Ain Ṣād, forgive me" (Ibn 'Atiyya 2001, 3). Al-Tabari (d. 310 AH/ 923 CE) also narrated that Imam Ali used to say, "Oh Kāf Hā Yā 'Ain Ṣād, forgive me", and it was said that it was an oath by which God swore, and one of the names of God. Others said that each letter of it is one of the names of God, while others said that it is one of the names of the Qur'an (al-Tabari 2001, 351-352).

2.1.6d THE "Kāf Hā Yā 'Ain Ṣād" AS AN AMULET

Al-Buni (d. 622 AH/ 1225 CE) says, "Whoever draws a "Kāf Hā Yā 'Ain Ṣād" on the lobe of a ring on the first day of Friday in the strength of the crescent and puts it on his finger will have acceptance and joy, and whoever wrote it in yellow silk, and the horoscope is Jupiter, and he carries it, will obtain abundant luck with creation by the power of God." If a person belongs to the astrological sign of Venus and depicts it in a silver ring and wears it, he will be provided with prestige, love and acceptance, and whoever has bleeding and wears a ring depicted with it, the bleeding will stop, and if a person combines its numerical and literal value, he will be faster to answer (Al-Buni 1985, 207).

Al-Yāfi'ī (768 A.H/ 1367 CE) also mentions that, "whoever engraved the openings of the surahs on a silver ring, and the omen of the Taurus and the moon in it, his needs will be fulfilled if he wears it. Whoever engraves it on the lobe of the ring in the first days of Rajab on Thursday, and a scared person wears it, will be safe, and if the one who bears it enters upon a sultan, he will grow up in his eyes, honor him, and fulfil his needs. He who rubs it on the head of an angry person will be satisfied, and he who sucks it while he is thirsty will be quenched. Whoever puts it in rainwater at night, then drinks it on an empty stomach, his memory is strengthened. If a single woman wore it, she would get engaged and marry. If someone put it on an epileptic, he would wake up. If those letters were written and a person swallowed them on the day known as Holy Saturday (the final day of Holy Week), he is safe from ophthalmia for the whole year, thanks to its light, secret, and blessing." (al-Yāfi'ī 2010, 22).

Whoever wrote Surah Kahi'as and put it in a glass of his house, his goodness increased, and he saw in his sleep what pleases him. Whoever wrote Surah *Kāf Hā Yā 'Ain Ṣād* and put it in a glass of his house, his goodness increased, and he saw in his sleep what pleases him. If it was written on the wall of the house, it prevented the devil spirits, and if the fearful person drank it, was safe (al-Yāfi'ī 2010, 86).

Ibn Wahshiyya (d. 318 AH/ 930 CE) said that, "the letters *Kāf Hā Yā ʿAin Ṣād*, if placed in a five-pointed ring, and the person follows the Taurus and the Venus, he will see many wonders, and strange things will happen to him that the tongue cannot describe. It works in love and intimacy really miraculously, and it has a role in fulfilling needs, bringing sustenance, acceptance, entering pleasures, an abundance of sustenance, goodness, and blessing" (al-Yāfiʿī 2010, 86).

2.1.6e THE "Kāf Hā Yā 'Ain Ṣād" AS A SHIITE SYMBOLISM

Ja'far al-Sadiq interpreted it as, " $K\bar{a}f$: Sufficient for our Shiites, $H\bar{a}$: Guide for them, $Y\bar{a}$: Guardian for them, 'Ain: Knowing of our obedience people, $S\bar{a}d$: Truthful to them His promise, so that He may reach the status He promised them in the belly of the Qur'an." However, Shiite sources indicate that it is a symbol of the Battle of Karbala (61 AH/ 680 CE), in which Husayn ibn Ali (d. 61 AH/ 680 CE) and his partisans were killed by the army of the Umayyad Yazid I (60- 64 AH/ 680- 683 CE). It was also said that $K\bar{a}f$ is the name of Karbala, $H\bar{a}$ is the destruction of the progeny, the $Y\bar{a}$ is Yazid, who is the oppressor of Al-Hussein, the 'Ain' is thirst of Al-Hussein, and the $S\bar{a}d$ is his patience (al-Bahrani 2006, 102-103) (Majlesi 2001, 397).

2.1.6f THE "Kāf Hā Yā 'Ain Ṣād" AS A YEAR

Our study also adopted the hypothesis that the number 195 may refer to a year. We looked to limit, and follow the historical events of the year 195 AH- 810-811 C.E, but we did not find any important events. The exceptionwas the year of the birth of Muhammad al-Jawad (195-220 AH / 811-835 CE), the ninth Imam of the Twelver Shi'ism.

Al-Jawad was born in Medina, on the tenth of Rajab 195 AH, and it was said on the nineteenth day of Ramadan in the year 195 AH (Ibn Khallikan 1971, 175) (al-Qami 2015, 220). Ibn Khallikan (d. 681 AH/ 1282 CE) stated that his death was on the fifth of Dhu al-Hijjah in the

year 219 or 220 AH (Ibn Khallikan 1971, 175). At that time, he was 24 or 25 years old, and thus considered the youngest among the Twelve Imams (Daftary 2013, 62). When his father, Imam Reza, died, he was seven years old (Momen 1985, 41). Like his predecessors, al-Jawad moved away from politics and adopted calm stances with the Abbasids, as he was a contemporary with both al-Ma'mun and al-Mu'tasim (Donaldson 1933, 192).

This study raises a question; what is the relationship between the number 195 (The magic constant of (*Kāf Hā Yā 'Ain Ṣād*) and the birth year of Imam Al-Jawad?

We mentioned earlier that 195 refers to the verse, "*Kāf Hā Yā 'Ain Ṣād'*", which is the initial opener of Maryam Surah. The surah began with the story of the Prophet Zacharias, and his supplication to his Lord to give him a successor and son. Zacharias had reached a very old age, as his wife was barren. After his supplication, the Lord responded to him, and sent Gabriel with an answer promising a son, John the Baptist. We are quoting O Zachariah! "We give you the good news of the birth of a son, whose name will be John—a name we have not given to anyone before" (The holly Quran).

We examined the life of Imam al-Reza, the father of al-Jawad, and deduced some similarities, which may directly indicate the great similarity between the two stories.

Historical sources mention that Imam Reza did not have a son until he was at a late age. His age on the day of the birth of Muhammad al-Jawad exceeded forty-five years (Qazwini 1987, 339). Historical texts support this approach. al-Riza was born in the year 148 AH / 766 AD, and Imam al-Jawad was born in the year 195 AH, which means that he was born to a father who is 47 years old.

The delay in giving birth to al-Jawad was a sad and worrisome matter for the Shiites, as they were waiting for the ninth imam, the son of the eighth imam, and for this reason, they were eagerly awaiting for God Almighty to bestow upon Imam al-Ridha a son who would succeed him. This was achieved only in the year 195 AH.

According to the foregoing, the symbolism of the number 195 is closely linked with " $K\bar{a}f H\bar{a}$ $Y\bar{a}$ 'Ain $S\bar{a}d$," as the opener of Surat Maryam on the one hand, and with the circumstances of the birth of Imam al-Jawad on the other hand. In this context, we believe that the number 195 may have carried with it connotations and symbols among the Shiites indicating their reverence for that number, which represented a year that carried signs of good news for their belief, relieving their distress and announcing the birth of the ninth imam.

CONCLUSION

Our study examined the model of Chinese porcelain with Arabic writings and a'dad al-wafq (the magic numbers). This type was called porcelain with magic squares. In order to reach the objectives of the research, our study relied on a scientific approach. The study proved that numbers are of great importance, just like words in the Islamic tradition, and they have many symbols, as they were used as amulets to bring good luck and ward off evil. The study examined the numbers inside the squares, and it turned out that we have 18 arithmetic operations, in each of which we can find the magic constant 195.

The study was able to find the meaning of the number 195, and put forward several hypotheses, concluding that the number 195 is the result of Abjad numerals (Hisab al-Jummal) of the verse $K\bar{a}f\ H\bar{a}\ Y\bar{a}\ 'Ain\ S\bar{a}d\ ($ \(\sum_\Sigma_\sum_\Sigma'\), the opening of Surat Maryam, the nineteenth chapter in the Qur'an. The verse is composed of 5 letters: $K\bar{a}f\ (\sum_\Sigma')\ H\bar{a}\ (\sum_\Sigma')\ Y\bar{a}\ (\sum_\Sigma')\ 'Ain\ (\sum_\Sigma')\ and S\(\sum_\Sigma')\ According to Abjad numerals (Hisab al-Jummal); the numerical value of this verse is 195 as follow (<math>\sum_\Sigma = 20 + \sum_\Sigma = 10 + \sum_\Sigma = 70 + \sum_\Sigma = 90$), total is 195.

The study showed that $K\bar{a}fH\bar{a}$ $Y\bar{a}$ 'Ain $S\bar{a}d$ is of great importance in Islamic heritage. Where it was used as one of the names of Allah it had many benefits if it was used as an amulet, because of its effective role in warding off evil and bringing goodness and answering prayers. The study adopted the hypothesis that the number 195 may refer to the year 195 AH, which is the year in

the birth of Imam Muhammad al-Jawad, the ninth imam of the Twelver Shiites. This hypothesis is supported, especially in the writings surrounding the numbers, which are all Shiite writings pertaining to the virtues of Imam Ali bin Abi Talib, the first Shiite imam.

The study also succeeded in interpreting the numbers according to the Shiite perspective, since it is surrounded by religious Shiite writings. The Shiites interpreted it as a symbol of the incident of Karbala and the killing of Hassan bin Ali and his partisans in the year 61 AH/ 680 CE.

The study proved that there is a relationship between, "Kāf Hā Yā 'Ain Ṣād", the opener of Surat Maryam, and the life of Imam Al-Jawad. The Maryam surah begins with the story of the Prophet Zacharias, and his supplication to his Lord to give him a successor and a son. Zacharias had reached a very old age, and his wife was barren. After his supplication, the Lord responded to him. The study examined the life of Imam al-Reza, the father of al-Jawad, and deduced some similarities, which may directly indicate the great similarity between the two stories. Imam Reza did not have a son until he was at a late age, which on the day of the birth of Muhammad al-Jawad exceeded forty-five years. Historical texts support this approach. al-Riza was born in the year 148 AH / 766 AD, and Imam al-Jawad was born in the year 195 AH, which means that he was born to a father who is 47 years old.

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الخزف الصيني مع المربعات السحرية العربية من عهد أسرة تشينغ دراسة أثرية

الملخص

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بيانات المقال

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الكلمات الدالة

بورسلين المربع السحري؛ الثابت السحري؛ المسلمون الصينيون؛ الشيعة؛ أسرة تشينغ.

تعرض بعض المتاحف مجموعة من البور سلين الصيني ذو الكتابات القر آنية والكتابات الشبعية، والمربعات ذات الأعداد وفق نظام أعداد الوفق، ويُطلق على هذا النوع خطأ اسم المربعات السحرية. استخدم المسلمون أعداد الوفق كأدوات للتأمل، وتعويذات، وتمائم؛ للحماية والحفظ والرقية في سياق ديني، وقد تم رسمها على مجموعة متنوعة من المواد الخام كالخزف والمعادن والخشب والنسيج وغيرها. مربعات الأعداد الخاصة بالدراسة جاءت وفق نظام المربع 4 X 4 ، وهي تلك المصفوفة المكونة من 16 حيز أو خانة، في كل منها عدد صحيح، بحيث أن حاصل جمع الأعداد في أي من الصفوف أو الأعمدة أو الأقطار الرئيسية يؤدي لنفس المجموع، وهو العدد 195، ذلك الحاصل الذي يُعر ف بالثابت السحري. في هذا الإطار ؟ تسعى الدر اسة إلى فحص تلك الأعداد وجمعها؛ وإحصاء العمليات الرياضية لها. تقدم الدراسة منهجًا علميًا يعتمد على المنهج التاريخي، والمنهج التحليلي، والمنهج المقارن. كما تهدف الدراسة إلى معرفة معنى أعداد الوفق وتحليلها للوصول إلى رمزيتها. في هذا السياق تطرح الدراسة عدة فرضيات مدعومة علميًا. تفحص الدراسة الكتابات العربية المحيطة بالأعداد، و تقدم الدر اسة محاو لات لربط الأعداد مع الكتابات الدينية المحيطة.