

The Cosmic Script: Sacred Geometry and the Science of Arabic Penmanship

Volume One: Sources and Principles of the Geometry of Letters

Volume Two: From Geometric Pattern to Living Form

Ahmed Moustafa and Stefan Sperl

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This cloth-bound, large-format book set is a quest to understand and apply the contents of a groundbreaking fourth/tenth-century treatise that reformed Arabic penmanship and established the canon of calligraphy applied to this day. Muhamad ibn Ali ibn Muqla's treatise *The Proportioned Script* acts as the esoteric center of a riddle not unlike the unraveling of a lost book through other books as seen in Umberto Eco's *The Name of the Rose*. In this case, *The Proportioned Script* is but a succinct treatise, for Ibn Muqla's two explanatory manuscripts detailing the proportions and methods are lost – and can only be retraced through subsequent studies and drawn reconstruction.

Why such a monumental effort to unravel a single small treatise on Arabic penmanship? As the authors explain, it was and is the canon of proportion in writing and reveals a great deal about the sociocultural context and the importance of script related to faith. Hence the title of the book. *The Cosmic Script* is clearly the result of significant research. The two authors met over four decades ago, during which Moustafa completed an MA and a PhD on the subject. They collaborated for eight years on unraveling *The Proportioned Script* through other sources and reconstructed the canon of letters by a detailed geometric analysis and Moustafa's own artistic practice of application.

The first volume includes an introduction and seven chapters outlining the historical and spiritual background of the Arabic script in terms of ancient pre-Islamic influences. The second volume contains an introduction and twenty-one chapters, of which nineteen cover the specific letter families and outline sources and specific graphics for each letter's formulation.

"Decoding the "Geometry of Letters," the introduction to the first volume, describes Ibn Muqla as having invented the theory of proportioned script that transformed this art form and had a significant impact upon the culture of the Abbasid era and beyond. He derived his system from the scribal dot (square in form, on an angle) and thus, according to the authors, linked prophecy, writing, and geometry with the sacred dimensions. The elevated rank of the pen and writing were underscored by the first revealed Qur'anic verses and the sacred status of the physical Qur'an. The authors argued that geometry bridged

between the material and the spiritual realms, and that Ibn Muqla's treatise outlined the fundamental and hieratic roles of penmanship.

The first chapter, "The Arabic Writing System and Its Development up to the 4th/10th Century," opens with a discussion of the alphabet, including the nineteen letter shapes (and diacritical dots) and spaces as they reflected sound. The chapter outlines the script's origins from its ancient Egyptian pictographic beginnings and evolution to letter forms in the early Semitic and Nabatean alphabets. It ends with a study of the script's status and role in nascent Islamic culture during this period, which discusses the Prophet's mission and the central role of writing and the truth.

The second chapter, "The Proportioned Script in Context: Sciences, Arts, and Penmanship in 4th/10th Century Baghdad," examines the cultural "efflorescence" at the time of quickly changing political tides and Ibn Muqla's roles in the Abbasid government (three times a vizier, often imprisoned, and his eventual mutilation and death in prison). "Efflorescence" is the key word used to describe these times, which simultaneously inspired the creative and abundant research in the arts and sciences (e.g., philosophy, theology, literary criticism, poetry, medicine, astronomy, geometry) but was tainted with the period's unstable and corrupt politics. These scholarly investigations shared three qualities, namely, methodical inquiry, structural synthesis, and interconnectedness between disciplines. The Qur'anic vision of creation and the connection of penmanship and philosophy is discussed – including Plato's theories of proportions, al-Farabi's "Perfect State," the Brethren of Purity's cosmological treatise, and al-Tabari's theory of the "heavenly pen." The chapter concludes with a study of the relationship of penmanship to recitation and literature.

Chapter 3, "Classical Sources on the Geometry of Letters," reviews the specific classical Arabic sources on penmanship (from the 4th/10th to 10th/16th centuries), beginning with Ibn Muqla's brief treatise and followed by the Brethren of Purity, Ibn Shith al-Qurashi, al-Rawandi, al-Sinjari, al-Ziftawi, al-Athari, al-Qalqashandi, Ibn al-Sa'igh, al-Tayyibi, al-Hiti, al-Saydawi, and Siraj al-Shirazi. All of these scholars wrote manuscripts on penmanship and script, and all cite Ibn Muqla's works (including the two missing manuscripts). His seminal works are reconstructed through these references. These scholars' studies and penmanship span the geography of the contemporaneous Muslim empires from (the modern-day regions of) Iraq, Egypt, Lebanon, and Iran. The chapter concludes by analyzing each scholar's dimensions of the letter *alif* in order to reconstruct Ibn Muqla's.

The fourth chapter, "Constructing the Foundation: The Dot and the Two-Dimensional Grid," outlines the basic grid's components with respect to the

proportions of composing various letters using circles, squares, and hexagons. It also examines the width of the stroke. The “mother-square,” “mother-circle,” and “mother-hexagon” provide the horizontal, vertical, and circular strokes, respectively, for composing the letters. The interface between the three mother shapes, which the authors call the “grid module,” is used to construct all letter shapes. The fifth chapter, “The Grid and the Golden Ratio,” analyzes the golden rectangle, spiral, ratio, and grid as well as the “golden tooth” and the “golden tooth dot,” which are proportioned extensions between the letters’ semi-circular and horizontal forms. The relationship of these proportioning systems to compositions of letters concludes the chapter.

The sixth chapter, “From Geometric Core to Living Form: Tracing Strokes with the Pen,” examines the physical construction of the pen – the cut angle of which is necessarily related to the geometry and the changing width of the two-dimensional stroke that generates the shapes. Following this, “The Alif Born” encapsulates the pliant qualities of each scribe’s *ālīf*, an individuality with which he imbues the letters with life and yet maintains a rigorous consistency. The strokes of the letters, drawn with the thick nib, need to be drawn like ribbons with gradual shifting from thick to thinner areas and with bodily movements that originate in the shoulder.

Chapter 7, “By a Hair’s Breadth: Growth and Form in the Proportioned Script,” concludes the first volume with a summary of two systems’ script proportions: (1) the *mansūb*, Ibn Muqla’s system outlined in the book based on dots and (2) *mawzūn*, the other system with historical precedents, which was based on multiples of horsehairs. Both systems were designed to reflect notions of cosmic order, and the authors charted new territory by attempting to reconcile and compare both of them via proposing methods for converting dots into horsehairs with a summary charts and graphics. The chapter concludes with a compelling graphic of three-dimensional dots (that become cubes) growing radially and the proposition of the dot as a “fountainhead of being” (p. 282).

The introduction to the second volume, *Analyzing the Geometry of Letters*, deliberates upon the features of the geometric grid and analyzes the detached letter shapes. Through a survey of the geometric grid’s key features and a summary of technical terms outlined in the first volume, this volume’s introduction acts as a bridge between the former volume’s research and information and the detailed guide to the nineteen letter shapes discussed in the following chapters. The introduction ends with an outline of the methodology used for analyzing the shapes.

Chapters 1 to 19 consecutively cover the alphabet’s specific letter families, beginning with *ālīf* and ending with *yā’*. The illustrated guide to the grid mod-

ule's features and explanations of the methodology analyze the letter shapes in three stages: translation and discussion of Arabic sources, construction of shapes on the grid module, and verification of construction in proportioned script with beautifully reproduced examples from Muhammad ibn Hasan al-Tayyibi (10th/16th century) "Jāmi' Mahāsin Kitābat al-Kuttāb" by (located in Istanbul's Topkai Sarayi Museum) and from Baysunghur ibn Shah Rukh ibn Timur's 9th/15th-century manuscript of the Qur'an (located in Tehran's Golistan and Malek libraries). Subtle graphics are carefully superimposed on the reproductions to highlight the specific analysis of the letter being discussed.

Chapter 20, "The Cosmic Symbolism of the Proportioned Script," summarizes the arguments, studies, and applications laid out in the two volumes. The idea of the "symbols of the one" discusses the dot, the point, and the *ālif* as seminal forms in every script, likening the square dot in three-dimensions to the Ka'bah – both as sources from which guidance emanates. Key integers in the natural world and Qur'anic associations and numerical determinants of the grid module are considered, and the chapter concludes with an artistic piece by Moustafa, "Maturing of Consciousness," which is coupled with a detailed textual analysis. But unfortunately, it leaves no room for the reader to dwell on or contemplate the evocative work.

The concluding chapter, "The Cubes of Cubes," reflects on the ideas of prophecy, penmanship, and geometry all linked by the concept of justice. This is followed with a discussion of the number 1,000, which is used in the Qur'an and is a perfect cube of the number 10 (a number which Pythagoras considered perfect long before). The cube is linked to the three-dimensional manifestation of the square dot as well as the source of all proportioned scripts. The authors reiterate their reading of the inherent cosmic roots and connections of the Arabic script. The triptych "Naming Infinity – One Hundred minus One" made by Moustafa is based on graphic studies of the manipulation of a series of cubes, and is again coupled with such a detailed textual analysis that little room is left for interpretation – and the infinite implications are far too finitely described.

Jeremy Henzell-Thomas' epilogue is a lengthy essay that begins with an apology for its length and the difficulty of wrapping up such an in-depth creative work of research. It thus proceeds to cover a variety of related topics to Islamic art and ends with reflections on the "education of the soul."

The large volumes are difficult to carry around, and I found myself in an unusual situation: unable to read them wherever I pleased. Certainly problematic, I realized that the sheer size, weight, and cloth-binding brought the books back to the category of the ancient manuscripts they were describing: a text to be laid down in a context where its mere corpus is respected and the act of

reading and learning becomes focused in a specific environment. This set will be of particular interest those who wish to learn more about the history and nature of script or this very creative period of Islamic scholarship. It occupies that elusive space of being the result of solid academic research, yet is written in a way that is engaging with a detailed analysis. The visuals elucidate many of the ideas presented and encourage the reader to follow along the instructions in Arabic calligraphy. There parallels between this study and Eric Broug's *Islamic Geometric Design* [see *AJISS* 32, no. 1 (2015): 126-30] are many. For example, both work with the idea of understanding highly visual expressions through the first-principles of the underlying construction, and both outline the need for individual "breath" or application to bring the creative works to life. It is a pleasure that scholarship can achieve these goals of comprehensive exploration and instructive synthesis.

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