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UNIVERSITY OF CALIFORNIA SAN DIEGO

**The Type of Calligraphy:  
Writing, Print, and Technologies of the Arabic Alphabet**

A Dissertation submitted in partial satisfaction of the  
Requirements for the degree Doctor of Philosophy

in

Communication

by

J.R. (Wayne) Osborn

Committee in charge:

Professor Carol Padden, Chair  
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2008

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University of California, San Diego

2008

For my Grandparents and Großeltern.

Who taught me the world is full of wonder,  
if one only takes the time to look for it.

**Beautiful writing renders the eye clear.**

The ugliness of writing

turns

the

eye

into

a bathstove.

*Ahmad ibn Mir Munshi*

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ABSTRACT OF THE DISSERTATION

**The Type of Calligraphy:  
Writing, Print, and Technologies of the Arabic Alphabet**

by

J.R. (Wayne) Osborn

Doctor of Philosophy in Communication

University of California, San Diego, 2008

Professor Carol Padden, Chair  
Professor Bennetta Jules-Rosette, Co-Chair

This dissertation examines multiple applications of Arabic script and the relationship linking visual design with written communication. It presents typography and calligraphy as distinct communicative practices and explores the importance of print culture and printed material in relation to the rise of the modern bureaucratic state. The work is arranged in seven chapters, each illustrating how changes in the visual appearance of Arabic letters connote distinct channels of textual authority and knowledge. Chapter 1 opens a comparative framework with three models of writing in relation to religious

tradition, and Chapter 2 explores written communication through the lens of grammatology. Chapter 3 delves into the Arabic calligraphic tradition, the symbolic interpretation of letters, and the meanings of multiple scripts. With the arrival of print, Arabic writing practices shifted in response to a new communication technology, and Chapter 4 outlines the Ottoman adoption of print technology. This section examines historical and archival material, which chronicles early Ottoman printing as well as post-print developments of Ottoman calligraphic art. The symbolic, visual, and textual changes that accompanied the new medium are addressed in Chapter 5, and Chapter 6 introduces a comparative study of Arabic letter design in modern Jordan. A series of interviews with practicing calligraphers, graphic designers, and contemporary artists highlight diverse applications of Arabic script and the flexibility of written communication and. Finally, Chapter 7 reflects upon the historical trajectory of previous chapters to ask what the story of Arabic script might teach us about the future of writing. This chapter traces the continuity of calligraphy and digital design and suggests a more nuanced concept of writing for digital practice. As practices of writing continue to shift both in the Middle East and globally, visual conventions surrounding Arabic script provide a wealth of strategies worthy of preservation and exploration.

## Introduction

The following exploration of Arabic script weaves together two realms of scholarship, which are often examined in isolation. One realm examines the rich artistic tradition of Arabic and Islamic calligraphy. Calligraphy remains a potent cultural and religious symbol in the contemporary Arab and Islamic world, and art historians frequently cite the importance of calligraphic writing in Islamic art and Arabic textuality. These traits inspire a variety of aesthetic, visual, and cultural analyses. The second realm of study foregoes aesthetic concerns to focus on the social implications of Arabic print adoption. Print did not make great strides in the Arabic, Ottoman, and Islamic world until the eighteenth century, nearly four centuries after its rapid spread across Europe. These historical differences tend to inspire more social and political analyses, as well as critical comparisons with European modernization and the growth of print culture.

Drawing upon studies of Arabic writing and printing practices, these chapters examine visual and textual relations across the twin realms of scribal and printed letters. Both forms reveal meaning through a shared collection of symbols: the letters and glyphs of the Arabic alphabet. The communicative question asks how distinct practices employ this common set of visual tools. The handwriting and printing of Arabic letters inscribe different types of texts, and the shifting relations which connect these diverse texts alter the meaning, understanding, and appreciation of the Arabic letter as a visual symbol.



The visual appearance and form of written characters are inextricably connected with wider cultural and textual systems. Technical and aesthetic choices influence both what is inscribed and how inscriptions communicate. Communicative analyses ought to inquire what social, cultural, and symbolic role aesthetic differences play in the presentation of written text. For example, the scribal and calligraphic variations of manuscript traditions are much more than beautiful writing. They encode additional information inaccessible via the semantic content of writing alone. Scribal style might indicate a genre of writing, or it might visually comment on its textual content. In the same vein, analyses of print should not disregard the ways in which the new medium changed the shape of writing. Printing altered the visual appearance, layout, and organization of texts. These changes modified the communicative role of writing in terms of authority, cultural role, and symbolic value.

In both the Middle East and Europe, political states deployed print in the transition to modernity. But the technology did not determine identical paths of development across both regions. The adoption of communication technologies always interfaces with earlier patterns of knowledge, religion, politics, culture, and authority. Differences of political and religious tradition contributed to different trajectories of print adoption in Islamic and Christian communities. Although it was far from an immediate revolution, printing with moveable type sent political and religious shockwaves across European society. The same technology entered the Middle East as a series of political and administrative reforms. Unlike the European case, where printing and

religious reform were quickly coupled, the earliest efforts of Ottoman and Arabic printing emphasized secular texts.

Highlighting these differences helps disentangle the implications and “effects” of new communication technologies from other cultural forces. The benefits and uses of new technologies cannot be assumed. The encounter of Euro-American globalization and Islamic tradition has recently been posed as an irreconcilable “clash of civilizations.” In such a debate, the assumed delay in Islamic print adoption becomes yet another sign of resistance to modernity. But Ottoman hesitancy towards print was less a consequence of social and religious conservatism than it was a result of introducing a new medium into an already established textual system. Ottoman scribal practices encoded written texts in particular ways. Specialized techniques of written and formal variation contributed to the communicative, cultural, and political status of documents. The deployment of these techniques—many of which preceded moveable type printing—represent innovative visual strategies of information management. The introduction of print technology recast these methods in relation to new practices of textuality, authority, and writing.

Print technology designs and distributes specific types of texts, which communicate in specific ways. How these texts are applied, and how their applications influence political, religious, cultural, and linguistic structures remain key questions in the current study. In the Ottoman case, print was legislated, monitored, and carefully inserted into an existing textual system as yet another style of scribal variation. Observing print from a critical distance,

Ottoman authorities evaluated the risks and advantages of the new medium. By the seventeenth century, Ottoman scholars and bureaucrats argued that print technology offered specific benefits to the fields of geography, military science, and modern governance. These suggestions unfolded concurrently with similar changes in the textual organization of Europe. In both settings, printing answered new bureaucratic and administrative needs, which were not supported by earlier scribal practices.

Although print reorganized the semiotic system of Ottoman and Arabic inscription, it did not replace either manuscript or calligraphic traditions. An efficient system of scribal production satisfied Ottoman demand for popular and religious texts, so print was initially not applied in those arenas. In such documents, moreover, symbolic qualities of handwriting and fine penmanship played a significant communicative role. The juxtaposition of handwriting with printed material further emphasized these aesthetic qualities. Alongside the spread of print, Ottoman calligraphic experimentation became increasingly complex, and calligraphic display panels became a popular aesthetic form. In religious or calligraphic compositions, fine craftsmanship signified the moral devotion and sincerity of the scribe, and the formal beauty of written language symbolically communicated the spiritual mystery of writing.

To examine these strategies, my research pursued the story of Arabic script, and the following chapters trace the changing meaning of the Arabic alphabet as it moves across communication media and languages. This focus produces a different sort of study than those bounded by geographic, historic,

linguistic, or ethnic communities. Thus, an examination of Ottoman printing precedes discussion of Arabic lettering practices in contemporary Jordan. In the first setting, printed Arabic letters primarily represented Ottoman Turkish, while calligraphic forms might also reflect Arabic passages. In contemporary Jordan, in contrast, Arabic letters display both traditional and modern forms of the Arabic language. These studies are linked by their shared use of Arabic script. More specifically, they compare the changing role of the script during two moments of communication transition: the adoption of printing and the current shift toward digital production.

As the official script of Islamic tradition, Arabic writing has long served as a visual marker of authority and jurisdiction. But the written and printed representation of Arabic as the visual signifier of a linguistically and ethnically unified national community is a more recent phenomena. Printed languages, as well as the scripts in which those languages are written, became powerful symbols of national affiliation. Like other print languages, printed Arabic interfaced with the formation and authority of modern nation states. This political shift in the symbolic meaning of scripts and writing introduced new formations of language, political affiliation, and information management.

A secularized Turkey and the modern Arab states replaced the theopolitical structure of Ottoman administration. In 1928, Turkey adopted Latin letters for the written representation of modern Turkish. This movement of alphabetic reform was highly symbolic and fractured the connection between the textual products of Turkey and Arab tradition. But the symbolic meaning

of Arabic script, in both the Arab world and the Islamic community, cannot be isolated from its Ottoman past. The development of the script by Ottoman scribes continues to influence contemporary calligraphic practice. The letters of Arabic therefore function currently as both national political and religious symbols. Following the story of the script helps elucidate how changes in letter design influence these communicative and cultural functions.

A number of sources contributed to this quest. In the fall of 2005, I conducted archival research involving Ottoman manuscripts and incunabula at the Süleymaniye Kütüphanesi in Istanbul, Turkey. During this time, the libraries of the Islâm Araştırmaları Merkezi (ISAM) and the Research Centre for Islamic History, Art, and Culture (IRCICA) provided valuable access to modern Turkish and rare secondary sources. I subsequently examined a wide variety of early Arabic imprints, thanks to the generous financial support of a Newberry Library Fellowship. The John M. Wing Foundation on the History of Printing, which is housed at the Newberry, includes a valuable collection of Arabic incunabula and type specimens.

A series of interviews with contemporary Arabic lettering practitioners complement these historical studies. I conducted these interviews in Amman, Jordan during the summer of 2005, and discussions with many respondents continued via email after my departure. While in Jordan, the resources of the Jordanian National Gallery of Fine Arts and the Darat Al-Fanun of the Khalid Shoman Foundation helped me locate local artists. Their libraries also shaped

my understanding of the Jordanian context and the continuing significance of the letter in the contemporary Arab world.

The results of this research are organized into three sections. Each part contributes to understanding how the visual form of Arabic writing encodes multiple aesthetic, symbolic, and political meanings. In Part I (Chapters 1 and 2), I introduce theoretical discussions of writing as a communicative medium. Chapter 1 explores the relationship of religion and media and the role played by religious and secular traditions in the modeling of written communication. And in Chapter 2, I define *grammatology*, the study of writing, as the graphic application of visual conventions for communicative purposes. This chapter presents a brief historical overview of Arabic script in order to introduce the multiple visual conventions at work in Arabic writing practices.

Next, Part II (Chapters 3, 4, and 5) examines how the adoption of print altered the symbolism and meaning of Arabic script. Chapter 3 addresses symbolic and religious interpretations of the Arabic alphabet within Islamic and Ottoman tradition. I end this chapter with a list of Ottoman calligraphic styles and their particular uses. In Chapter 4, which occupies the center of the discussion, I examine the adoption of print by the Ottoman administration. In this chapter, I introduce the relationships connecting print technology, print culture, and the proper functioning of the modern bureaucratic state. I then situate the changing symbolism of the script alongside the spread of Arabic printing in Chapter 5. This chapter explores post-print developments of

Ottoman calligraphy as well as the new symbolic meanings of typographic and printed letters.

Finally, Part III (Chapters 6 and 7) places concerns of earlier chapters upon the contemporary stage. In Chapter 6, I present a comparative study of Arabic letter design in modern Jordan. I introduce three communities of letter design—traditional calligraphy, graphic design, and contemporary art—each of which employs the letters and symbolism of Arabic script in distinct ways. The discourses of these communities and their applications of Arabic letters reflect varied understandings of written communication and technology. The concluding Chapter 7 draws upon these multiple applications to suggest a more nuanced concept of written design. In this chapter, I summarize my findings and ask what the history of Arabic script might teach us about the future of writing.

The current reorganization of writing practices with digital tools invites graphic and textual spaces to explore a variety of narrative structures, shapes, directions, layouts, colors, and fonts. These aesthetic and formal differences are all affordances which manuscript and calligraphic traditions also employ. Graphic space is an open terrain. The lines of writing may follow multiple directions and display a variety of shapes. However, printing with moveable type formalizes the textual space of a page. Similar sized glyphs are arranged in consistent lines and textual blocks. Digital software applications and word-processing templates often tend to reproduce these printed designs. But the possibilities of digital design are much grander.

Studies of diverse writing traditions uncover alternative techniques and innovative strategies of textual design. For example, a conventional pairing of particular script styles with particular types of content represents one of the many techniques we may learn from Ottoman and Arabic tradition. Although we currently tend to interpret the meaningful content of **WORDS** and words as similar, the communicative difference separating these two “words” need not be trivial. Similarly, the difference separating “words” from

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is more noticeable, but we still lack formal conventions with which to interpret such difference.

These reorganizations of the written “word” might appear as gimmicks of design or simple visual tricks. But they also demonstrate a deeper concern with changing practices of written communication. This dissertation seeks to question current practices of written design. Via a historical study of Arabic script, it outlines a series of communicative strategies and visual conventions that might usefully inform applications of digital design. Aesthetic differences modify the communication of written Arabic messages, and an awareness of visual variation as a communicative element invites more engaged readings. As a corollary, this awareness hints at more creative modes of writing. With new methods of visual inscription, we open new possibilities of meaning and new avenues of critique.



## Chapter 1:

### Three Models of Written Communication

Writing is a visual medium, and the appearance of writing is intimately linked with the communication it conveys. But the ways in which writing may communicate vary greatly. Writing often transmits a linguistic and semantic content, but it need not do so necessarily. In addition, the style, appearance, and shape of writing may communicate aesthetically. Certain styles of writing operate as visual symbols that reinforce, alter, or undermine their linguistic content. Beautiful writing, for example, conveys a visual image of fluidity and balance, while less refined writing may make the same phrase appear rough and unbalanced. The layout and form of a text might designate its function, and the material on which, or with which, a text is written may indicate its status. Which of these aspects are significant to a written message, and which are tangential, depend upon the visual and symbolic conventions that decipher the graphic and material marks of writing.

In order to set the stage for an exploration of visual conventions and the shapes of Arabic script, this initial chapter postulates three models of written communication: the model of the printed Reformation Bible, the model of the written Qur'an, and the model of secular texts and information. Each model emphasizes a different aspect and function of written communication in the formation and maintenance of a community. Drawing upon interactions of religious and textual structures, I bridge concerns of communication, ritual

and transmission to explore the subtle ways religion and media infuse later chapters. A religion and communication framework helps explain the ways in which Arabic and Islamic tradition applied written communication and how these applications interfaced with the new textual needs of secular printing and national structures. This is not to say that the secular model conflicts with the religious models. Although the three models are presented as divergent formations, they are not necessarily exclusive. Instead, they offer distinct frameworks for understanding the function, conventions, and meaning of written communication.

#### **OF COMMUNICATION AND RELIGIOUS MODELS**

James Carey's essay "A Cultural Approach to Communication" (1989) begins by examining a series of enigmatic comments from the philosopher and communication theorist John Dewey. Drawing upon Dewey's diverse use of the word "communication," Carey uncovers two distinct but complementary conceptions: a transmission view and a ritual view of communication (1989: 14-15). The transmission view positions communication as the sharing of information across distances, emphasizing the extension and control of communication in space. The ritual metaphor, on the other hand, postulates communication as the formation of common practices, shared beliefs, and social bonds. It emphasizes the maintenance and preservation of society in time. However, the distinction between the transmission and ritual views is

not as simple as a dichotomy of space and time. Transmissions can cross both time and space, and rituals unify both geographic and historic communities.<sup>1</sup>

Like all models, models of communication operate as both descriptions *of* and guidelines *for* the processes they model (*ibid.*: 31). They delineate both what communication is, how communication occurs, and how it should be practiced. A transmission view that positions communication as the sharing of information across space implies that more efficient sharing over ever wider distances is a model for communication development. Alternatively, a ritual model that defines communication as community maintenance suggests that communication networks should be directed toward the forging of stronger communal bonds. Neither of these views denies what the other affirms, but their differing emphases suggest distinct forms of communicative practice (*ibid.*: 21-31). Diverse models of communication imply different sets of ethical responsibilities and social relations.

Carey presents both transmission and ritual models of communication as outgrowths of religious understanding.<sup>2</sup> The ethical, social, and cultural implications of the two models reflect the religious roots of European and

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<sup>1</sup> In postulating a dichotomy of space and time, Carey references the work of Harold Innis. In *Empire and Communications* (1972), Innis explores the history of empire as the management of communication across expanses of both time and space. More direct discussion of Carey's debt to Innis can be found in "Space Time and Communications: a Tribute to Harold Innis" (Carey 1989: 142-172).

<sup>2</sup> In tracing the religious roots of the transmission and ritual views of communication, Carey cites Perry Miller's *The Life of the Mind in America, From the Revolution to the Civil War* (1965) and Emile Durkheim's *Elementary Forms of Religious Life* (1915) respectively. John Durham Peters also discusses the intersection of religious concepts and the study of communication in *Speaking Into the Air: A History of the Idea of Communication* (1999).

American communities. The communication scholars of these communities draw upon a shared cultural and religious framework to frame their theories. The religious basis of the transmission model, for example, is the geographic extension of God's kingdom on Earth and the American claim of "manifest destiny." Transportation and communication technologies became understood as "divinely inspired" tools for "purposes of spreading the Christian message, farther and faster, eclipsing time and transcending space, saving the heathen, bringing closer and making more probable the day of salvation" (*ibid.*: 16-17). In the transmission model, the application of communication technologies is intimately linked with the spreading of civilization. The religious roots of the ritual model, in contrast, build upon the projection of community ideals in the form of totems (*ibid.*: 9-21). In such models, rituals of shared communication coalesce a community around common discussions and common images.

This linking of religious understanding with communication theory in the American and European traditions raises the question of whether or not different varieties of religious experience might yet inspire alternative models. In a review essay addressing "Religion and/as Media" (2005), Jeremy Stolow states:

Religion always encompasses techniques and technologies that we think of as 'media', just as, by the same token, every medium necessarily participates in the realm of the transcendent, if nothing else than by its inability to be fully subject to the instrumental intentions of its users (2005: 125).

Religions mediate diverse sets of stories and practice, and media technologies always retain an element of mystery in what they can or may communicate.

Additionally, all media have the potential for channeling religious messages. But the precise channels deployed for religious communication and the types of messages those channels convey are far from universal (*ibid.*: 130). Diverse religions structure diverse practices of mediation.<sup>3</sup> The Abrahamic traditions of Judaism, Christianity, and Islam, for example, mediate between a historical God and a religious community. Religious rituals serve as communicative moments connecting the human community with the Divine, and religious texts transmit these communications. The content, intent, form, frequency, and performance of religious moments are carefully monitored to insure effective and successful communication. Religious and community structures arise to protect and preserve the significance of these transmissions.

In his early work, Jacques Derrida similarly discusses written mediation as “essentially theological” (1976: 14),<sup>4</sup> and he more explicitly interrogates the connection of mediation and religion in his later essays. Often, Derrida begins his mediations with an etymological examination of the term “religion” itself.<sup>5</sup> Adapted from the Latin term *religio*, “religion” may be alternatively traced to

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<sup>3</sup> The connection between the spiritual or the religious and media becomes clearer by remembering that the later term is a plural of “medium,” one who speaks for that which is not present (Weber 2001).

<sup>4</sup> “It [deconstruction] is a question at first of demonstrating the systematic and historical solidarity of the concepts and gestures thought that one often believes can be innocently separated. The sign and divinity have the same place and time of birth. The age of the sign is essentially theological” (Derrida 1976: 13-14).

<sup>5</sup> Derrida’s use of the term “religion” is particularly specific. It refers to Abrahamic tradition as a general model, and Christian tradition more particularly, as the source from which current understanding of the term arises. For exploration of the ways in which Christian notions of religion are inextricably linked with the organization of globalization, see his discussion of *globalatinization* in “Faith and Knowledge” (2002).

either *ligare* (to tie or bind) or *legere* (to collect or gather) (Derrida 2002: 71).<sup>6</sup> These twin roots reflect the two poles of Carey's competing communication models. Whereas, the root *ligare* approaches the transmission view, *legere* approximates the ritual view. In *re-ligare*, transmissions *tie* constituent sites together; they *bind* producers and receivers in a communicative circuit. In *re-legere*, rituals *collect* a community; they *gather* participants in shared practice. As Derrida continues to wrestle with these etymological implications, his persistence procures an additional moment of insight. Under the banner of "religion," he suggests, the common element of binding and gathering rests with the prefix "re-" (*ibid.*: 74; *c.f.* Weber 2001). Binding transmissions and gathering rituals re-peat, re-produce, and re-present significant moments of community.

Like media of communication, re-ligions repeat their messages across time and space. And religious writings, as both objects of religious ritual and guidebooks for ritual, contribute greatly to practices and forms of repetition. Written scriptures repeat a shared text which unites the religious community. The textual contents of scripture serve to justify and reinforce the import of religious ritual, and those same rituals reproduce a proper attitude toward the textual content of scripture. Religions offer a cycle of repetition, but how these repetitions play out vary from tradition to tradition. Distinct religious models mediate the cycle of cultural and textual repetition, and they may emphasize

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<sup>6</sup> Derrida (2002: 71) draws the genealogy of the first source through Lactantius and Tertullian to Kobbert, Ernout-Meillet, and Pauly-Wissowa. The second etymology is traced through Cicero, W. Otto, J. B. Hoffman, and Emile Benveniste (*ibid.*).

one component more than another. A religion that places emphasis on the transmission of scriptural content may accommodate a variety of rituals for repeating that content. Writing will preserve a text, and rituals will transmit the content of that written text. An alternative tradition may emphasize a series of ritual repetitions. The transmitted semantic contents of a text may be less important than rituals celebrating its usage, preservation, and care.<sup>7</sup>

With these difference in mind, imagine that we stumble across a strange series of glyphs carved on the walls of a local architectural ruin. How do we choose to interpret and preserve these signs? One approach might decide to decode them. We carefully examine the shapes, analyze them, and translate their written content into a more accessible language or symbolic system. We then transmit and share our translation via familiar systems of writing and media technologies. Such an approach draws heavily upon a transmission view of communication. The glyphs transmit a message; but that message is initially hidden behind an unknown visual code. By decoding the marks, we disentangle a transmitted message and render it accessible. The message the glyphs contain is central, and the specific shapes of the glyphs offer a doorway into that message. Although the media, form, and language which shares this transmission may vary—from the glyphs on the wall to our own writings—the spirit and content of the transmission remain. Our rituals of communication

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<sup>7</sup> For closer consideration of the term “scripture,” see William H. Graham’s *Beyond the Written Word* (1987), especially his discussion of “Scripture as Relational Concept” (5-6) and his etymological examination of “The Semantic Background”(53-57).

and translation gather us in the decoding, repetition, and understanding of transmitted information.

A second approach might interpret the glyphs as marks of graphic art rather than written language. This approach positions the visual design and appearance of the glyphs as paramount. We focus attention on the decorative patterns, intricate design, and aesthetic construction of the graphic image. In replicating its form, we take great care to preserve the precise shape and forms of the glyphs. Our transmissions now seek to reproduce a visual image rather than a linguistic message. Hasty copies risk distorting the glyphs and altering the subtlety of their design. To transmit and protect these key qualities, we adopt a different set of communicative rituals: careful replication and aesthetic preservation.

This second approach does not necessarily exclude the possibility of the glyphs holding a linguistic message. But instead of decoding the contents of the glyphs through translation, the subtlety of communication and design may inspire us to learn the language of the glyphs themselves. We now wish to learn not only *what* these beautiful visual signs communicate but also *how* they communicate. By studying their visual patterns, we appreciate the structure of the glyphs, their various components, and how they fit together. The rituals of learning a new visual language, rather than rituals of translation, gather us as a community. We begin to understand how transmitted content arises from the specific design of the marks themselves. And more importantly, we appreciate



that the precise message of the glyphs cannot be communicated apart from the beauty and appearance of their original form.

Finally, a third approach might adopt a more archeological model. We stipulate that since the inscribed glyphs were discovered in this specific place, they therefore represent the history of this place. These mysterious marks delineate a historical community with a shared language and a shared past. The glyphs offer the visual traces of those who preceded us in this space. And since we now dwell in this region; we continue the history that the glyphs represent. The content of the glyphs' message may therefore interest us as a means of understanding our predecessors, but these marks also contribute to another narrative: the history of inhabiting this place. Understanding this significance, we adopt and apply the set of glyphs as a symbolic link with our predecessors. We rewrite, reform, and visually redesign this collection of written signs for use with modern messages and modern technologies. Our new transmissions contain new messages and new meanings; they need not repeat the content of our initial discovery. Instead, the ritual of using similar glyphs symbolically extends the community which those glyphs represent.

Each of these approaches understands the communicative function of the written glyphs differently. The first approach emphasizes the referential or content function of writing; the second emphasizes an aesthetic function; and the third emphasize a territorial or community function (Bierman 1998: 31-59). These diverse understandings imply different types of transmission as well as different rituals that preserve those transmissions. In the first approach, the

informational content of the glyphs becomes transmitted in translation. The referential function of the written glyphs stresses its semantic content (*ibid.*: 18, 56-58), and a community of readers gathers in the ritual of understanding and that message. In the second approach, a visual design is transmitted through careful copies. The aesthetic function stresses a consistency of form and style (*ibid.*: 20, 49-53), and a community gathers around the ritual appreciation of a common image. And, finally, the glyphs of the third approach transmit a communal identity. The territorial function provides a visual index of group solidarity (*ibid.*: 16, 31-43), and a community gathers through the use of a shared collection of signs. Across all three approaches, the visible signs, the discovered glyphs, remain the same. But the contents of their transmission, the meaning of their use, and the rituals of their repetition differ greatly.

The discovered glyphs offer a mysterious communication. But how will these mysterious writings be approached? The significance and function of the glyphs can be interpreted in many ways. In the following sections, I suggest that the ways in which communities approach written communication derive, in part, from religious understandings. The forms of religious transmissions and the rituals that preserve those transmissions influence the ways in which communication technologies are adopted and utilized (Jules-Rosette 1990: 100-103).<sup>8</sup> The rituals through which written messages are approached, stabilized,

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<sup>8</sup> In *Terminal Signs* (1990), Bennetta Jules-Rosette suggests that the application of new technology parallels religious frameworks of understanding: "Religion encompasses sign relationships that resemble those connected with the introduction of new computer technologies" (102).

and deployed build upon religious models. Religions model communicative practices in the interaction of transmission and ritual

I develop this religion as media perspective across three models: the Reformation model of the printed Bible, the Qur'anic model of a recited text, and a secular model of national languages. Two of these models draw upon Abrahamic traditions (Christianity and Islam), while the third (the secular nation) operates in counterpoint. Although the three models roughly parallel the approaches outlined above, none of these models can be easily categorized as either a simple transmission or ritual perspective. Each model encompasses the repetition of communicative transmissions and the rituals surrounding those transmissions. And like our three approaches to discovered glyphs, they highlight distinct interpretations and functions of writing.

#### **THE PRINTED BIBLE AND CHRISTIAN TRANSMISSION<sup>9</sup>**

The scholarly literature of book and print history frequently comments upon the close relationship between the printing revolution and the religious Reformation (Febvre and Martin 1958, McLuhan 1962; Eisenstein 1979, 2005; Steinberg 1996).<sup>10</sup> Indeed, the intimacy of the communication technology with

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<sup>9</sup> Protestant Christianity, of course, did not adopt a single coherent approach to print, and the following section does not seek to imply this. The section, rather, presents an abstract model, which helps to emphasize and frame one perspective on print culture, and the early connection linking printing with the religious changes of the Christian Reformation.

<sup>10</sup> In Part Three of *The Printing Press as an Agent of Change* (1979), Elisabeth Eisenstein situates Protestantism alongside the more sweeping communications revolution of print. Lucien Febvre and Henri-Jean Martin (1958) also highlight the Reformation as a primary area in which the printed book operated as a "Force for Change."

the religious movement risks positioning the *Book* that connects them (i.e. the printed Bible) as a tacitly understood model of the printed book in general. An analysis of this book as a communicative and religious model guards against this risk. The uses and applications of communication technologies are always contingent, and the role played by the printed Bible in the Reformation built upon Christian understandings of media. Both the transmission of Biblical content and ritual of Biblical reading benefited from print. Printing bolstered and channeled the religious understanding of mediation which informed the Christian Reformation.

The spread of print in Europe successfully merged Christian mediation with a technology that, at the time, was new media. Gutenberg's development of printing with moveable type increased distribution of the Christian Bible and Christian devotional texts. With the catch phrase of "scripture interprets itself," Reformers argued that the meaning of written scripture would be made clear to faithful readers. Biblical translations made the text more accessible, and literate Christians could approach the vernacular text directly, without the need of ecclesiastic or scholarly intermediaries. An accessible scripture would interpret itself free from the dogma of the Church, and print was the technical vehicle that made this possible. In his book of *Table Talk*, Martin Luther notes:

Printing is God's ultimate and greatest gift. Indeed through printing, God wants the whole world, to the ends of the earth, to know the roots of true religion and wants to transmit it in every language.<sup>11</sup>

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<sup>11</sup> The quote from Luther's *Table Talk* is reproduced from Jean-François Gilmont's introduction to *The Reformation and the Book* (1998: 1).

Other Christian Reformers similarly embraced print as a miraculous invention for spreading the glory of the faith. Both printers and theologians glorified the new invention in religious and sacred terms (Gilmont and Maag 1998:2-3).

This celebration of writing as the distribution of Biblical text built upon earlier models of Christian mediation. From their beginnings, Christian media spread the story of Christ. The written Bible reports and shares the good news, the Gospel of Jesus Christ's divinity and sacrifice. The rituals of preaching and Biblical reading distribute the referential contents of this story and gather a community within its significance. Rather than "reforming" this religious mission, print emphasized and exaggerated it as a textual model. Luther's arguments re-assert the power of Biblical scripture as a sharing of the Christian word. The role of the written text remained consistent, but it was channeled through the power and scope of a new information technology (Schneider 2001: 199-206). The printed Bible increased the transmission of the Christian tradition.

Within the corpus of Christian scripture, the writings of St. Paul offer an important precedent to Luther's readjustment. Paul's letters stress the power of textual mediation for learning about and accepting the word of Christ. Paul, importantly, did not witness the oral and bodily revelation of Jesus Christ, the embodiment of the divine word. Apart from his brief encounter on the road to Damascus—already mediated through light—Paul's knowledge of Christ was gleaned through the teachings and writings of others. The good news of the Gospels could not replicate the miracle of an embodied Christ, but they could

relate the wonder and significance of that event for others; texts could *mediate* the miracle for those who were not present. Tied to the key event of Christ's death and resurrection, Christian mediation developed as the repetition of that event. Christian scripture repeats the story and miracle of Christ's life and, with proper understanding, the cosmic significance of that story.

But the Bible does not offer a unified retelling of Christ's life; the four gospels present diverse accounts of this key event and epistolary writings of Paul and other apostles explain the import of this story. Thus, the Reformer's call that "scripture interpreted itself" does not fall far too from the tree. The interpretation of the Gospels in Paul's letters became integral components of Christian scripture.<sup>12</sup> Reflecting upon the message of the Gospels, these later writings extract the message, the "spirit," of the New Testament. Both Roger Chartier (1995: 19) and Elizabeth Eisenstein (2005: 335) comment upon the importance of cross-referencing in Christian tradition, a practice facilitated by the binding of Biblical books in the form of a codex. The specific contents of Biblical books may vary, but a common spirit unites them. The interpretive writings of Paul offer a model for locating this spirit across the text. As Paul writes in 2 Corinthians 3:6, the letter kills, but the spirit gives life.

St. Paul, the media specialist of the Apostles, radicalized the difference inaugurated by Jesus and his reporters: namely, that God's power and the medium of his revelation consisted in spirit. This spirit is, according to St. Paul, not chained to the letter.

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<sup>12</sup> Paul's epistolary writings consist of letters (of the postal variety). The inclusion of these letters as part of the New Testament underscores the importance of transmission across space in spreading the Christian Gospel.

Instead, it is a universal power, of which scripture is only a reduced and inaccessible medium (Schneider 2001: 202-203).

The spirit of Christian message lay hidden within the letters of scripture, but that referential message is not the graphic shapes of the letters. The message is what those shapes convey about the person of Christ and the significance of his life. This interpretive and textual strategy produced a radical break with the Judaic Torah, in which the medium and message are inextricably linked. The specific Hebrew letters of the Torah are themselves mystical and divine symbols. But Christian mediation separated the “spirit” of the law from the medium of its written form. The spirit message of the Christian Bible arises as readers move among various letters and a variety of texts.

The structures of Pauline semiotics and Christian mediation offered the scriptural model to which Luther and later reformers returned. Luther argued that the Church sought to re-chain the spirit of Christ to the letter of its laws. The power of the Church had chained the Bible to the veneration of Latin, the invocation of the Mass, and the performance of multiple sacramental rites. To challenge this, Luther returned to scriptural authority, an authority of spirit arising from the text itself (Graham 1987: 146; Schneider 2001: 207). The text of scripture, he argued, should be accessible to all rather than mediated by an ecclesiastic hierarchy. The Holy Spirit of the text itself, and not the Church, assures proper interpretation: “however easy or difficult the text in question and however learned or unlearned the reader” (Graham 1987: 147). In such a model, the faithful Christian, guided by spirit, approaches the Bible, but only the Holy Spirit can unchain the message of the words from the page (Graham

1987; Schneider 2001). The Holy Spirit clarifies the spiritual meaning of the text and imprints that meaning upon the heart of the reader. The written text functions the vehicle which mediates this spiritual guidance.

For Reformers such as Luther, the printing press provided a means by which the Holy Spirit could be shared with, heard by, and accessible to all. As “God’s ultimate and greatest gift,” printing placed written copies of the Bible before the eyes of multiple believers. Importantly, this did not imply the wide distribution of Latin Bibles. For Luther and subsequent Reformers, the spirit of scripture should not be meditated through a foreign power (the Church), nor should it be mediated through a foreign language (Latin). The Reformation desire to share and transmit the word consequently spurred the translation, production, transmission, and distribution of vernacular Bibles (Febvre and Martin, 1958: 295).

Ironically, however, the act of translating scripture also interpreted it. And interpretations of vernacular Bibles were greatly influenced by practices of translation (Olson 1994: 146). The print edition of Luther’s translation of the New Testament provides an interesting example in this regard. In an attempt to convey the “uncorrupted meaning of scripture,” Luther translates the Greek text of the new Testament “sense for sense” (Füssel 2003: 170-71; Olson 1994: 153). This method implicitly declares that scripture is indeed understandable in every “sense” and that a complete translation of all its meaning is possible. Luther insists, moreover, that his own translation represents a just and proper understanding.



But Luther did not simply translate the words of the Bible and let their sense interpret themselves for German readers. He also included a plethora of printed aids to guide readers in proper scriptural interpretation:

Using forwards and introductions, marginal glosses, polemical illustrations, rearranged paragraphing, and a theologically inspired translation, Luther sought to insure that at least the *printed text* of scripture interpreted itself (Edwards 1994: 111, emphasis added).

Luther's reading aids edited and organized Biblical content such that its spirit would be clearer to vernacular readers. They included a series of prefaces for key books of the New Testament and marginal commentaries linking specific Biblical passages with central Christian issues of faith, law, and gospel (each of which is defined as central by Luther's introduction). Luther even reorganized the table of contents. He relegated certain Biblical books to a secondary tier of importance and did not assign them chapter numbers. And he followed the table of contents with a list identifying "Which are the True and Most Noble Books of the New Testament" (*ibid.*: 112). Biblical books not included on this list are still Biblical scripture, but Luther suggests that the spirit of scripture is more accessible elsewhere.

Luther did not simply utilize print for a wider distribution of scripture. He deployed the medium as a resource and communicated scripture in such a way that the new technology reinforced his theological and religious position (Schneider 2001: 206). Through his glosses and reading aids, Luther assisted readers wishing to access the "spirit" of the text for themselves. But it was the

spirit of the text as interpreted by the Reformer himself.<sup>13</sup> Printing's ability to reproduce and distribute identical copies of a single translation reinforced the authority of this interpretation, and the sheer volume of identical printed texts made Luther's translation a *de facto* German standard. Within three years of its initial publication, over 77 percent of German Biblical citations employed his translated wording, regardless of whether the citing text supported or opposed Luther's religious views (Edwards 1994: 129).

Printed translations shared the contents of Biblical writings with wider audiences, promoted the ritual of individual reading as a means to access the spiritual meaning of the text, and emphasized a specifically Christian model of transmission, and understanding. But translations only share the referential content of a written text. They do not preserve the visual or aesthetic style of a text in its original script, and vernacular translations of the text demarcated linguistic and territorial boundaries. Just as Luther interpreted the Bible and issued a vernacular edition with extra-textual commentary and reading guides, so could other Reformers. As alternative editions became available, the clarity of the scriptural message became fuzzier. Each new translation offered a new vernacular vision and a new textual interpretation through which to approach the spirit of the text:

The fact that print could exactly reproduce a particular version of the Bible meant that comparison among versions was simplified. The result was greater theological confusion when the obvious

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<sup>13</sup> For more general discussion of the ways in which print altered the appearance and format of the Bible, see the edited collection *The Bible as Book: The First Printed Editions*, especially the essays by Paul Saenger (31-52) and Paul Needham (53-70).

differences called into question the true meaning of the text. This confusion fueled the Protestant skepticism about religious authorities and supported their contention that people should read the Bible directly and make their own interpretations of it (Mukerji 1983: 144).

As print increased the availability of alternative translations, scripture began to interpret itself in diverse ways. Skeptical readers in search of the unmediated spirit of the text could read across translations just as they read across diverse books of the Bible. The words and letters of specific translations served as only the outward signs of an inner spiritual message. The Christian message was not tied to a shared language nor a specific aesthetic presentation. The written signs transmit the referential content of a religious message, and the ritual of devotional reading unlocks the text's spiritual meaning. With the printing and reading of multiple Biblical editions, the story of Christ's life and resurrection is shared, remembered, and repeated.

#### **THE WRITTEN QUR'AN AND ISLAMIC RITUAL**

The Qur'anic model of writing emphasizes a different set of concern. It stresses the repetition of an exact text and the precise language of the divine message rather than the spirit of its written contents. Whereas the Christian Bible reports a divine story (the good news of Christ's embodied divinity) and the importance of that story is translated and preached in every language, the Qur'an does not only transmit a story about divinity. Within Islamic tradition, the Qur'an operates as a textual object *of* divinity. Its significance and form are shared, repeated, and displayed in as many venues as possible. Whereas

Biblical stories connect readers with the life, death, and resurrection of Christ, in whom divine word became flesh, the Qur'an connects readers and hearers to a moment of revelation, in which divine word became human language. The structure and language of the Qur'an mediate the presence of a divine mystery for the Islamic community.

The repetitions of Qur'anic recitation celebrate the mystery of divine presence. Qur'anic recitation repeats a divinely aesthetic form and reproduces the Qur'an as a ritual object. Muslim interaction with the Qur'an approaches this object and does not necessarily involve the following of textual narratives or the extraction of referential content (Graham 1987; Nasr 1994; Sells 1999). The Qur'an presents a specific collection of Arabic letters and words, rather than a container of information. As the sacred text of Islam, it communicates through non-discursive channels as much as it does through an understanding of its linguistic message (Graham 1987: 111). The Arabic words and the sound of the Qur'an are aural manifestations of divine spirit. Qur'anic qualities of alliteration, rhyme, pitch, and rhythm provide indications of its divinity above and beyond the semantic meaning of the words themselves (Nelson 1985: 90-99). According to Muslim tradition, the Qur'an is inimitable, matchless, and incomparable in its purity.<sup>14</sup> When the prophet Muhammad was challenged to produce a miracle, the Qur'an responded that its revelation is a miracle: the

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<sup>14</sup> Oliver Leaman (2004) contains a chapter outlining philosophical arguments for "The Miraculousness of the Qur'an" (141-164). For an insightful analysis of Qur'anic language and textuality by a scholar who does not specialize in the study of Islam, see Norman Brown's "The Apocalypse of Islam," in which he compares the force of the Qur'an with the language of *Finnegan's Wake* by James Joyce.

miracle of divine word made human language. Throughout the text, a sublime blending of content and linguistic form stands as a sign of divine origin.

This miraculous construct is neither the information contained within the Qur'an nor a collection of narrative stories. The miracle of the Qur'an is the object of the text itself and the particular ways in which this divine object communicates. Across the text, themes are touched upon, dropped suddenly, and returned to in later *surahs* (chapters). Narratives of prophets and history are parceled among many chapters. They connect via patterns of sound and wording rather than simple succession (Nasr 1994: 41-67; Sells 1999, Brown 1983). Sound figures and intertextual references operate alongside and across the literal meaning or sounds of words.<sup>15</sup> The Qur'an communicates within, among, and across its letters as much as through them. The spiritual message of the Qur'an arises through a precise patterning of Arabic language. The text presents a divine object of communication rather than a didactic relay of divine information.

Muslim tradition suggests that the Qur'an presents its spiritual message in the form most suitable to its intent (Ali 1938: 51-54). This includes both its wording and its precise language, and, for this reason, it cannot be translated from the original Arabic. Whereas Christian Reformers sought to translate and share the referential content of the written Bible across multiple vernaculars, Muslim recitation repeats the words of a specifically Arabic text. Rituals of

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<sup>15</sup> For an excellent introduction to the Qur'anic use of sound figures, see Michael Sells' *Approaching the Qur'an* (1999), especially his focused essay "Sound, Spirit, and Gender in the Qur'an" (183-207).

recitation transmit the aesthetic form and Arabic structure of the Qur'an as an integral component of its message. All translations are partial; all translations interpret; and translation is specifically impossible for a divinely revealed text (Leaman 2004: 152). Translation tampers with divine communication (Graham 1987: 85). Although translations may offer a textual interpretation of Qur'anic content, they cannot replicate the spiritual power of this content in its original form. The process of translation alters the uniqueness of the text, and, in turn, recasts the text as no longer divine.

Like the body of Christ in Christian tradition, the text of the Qur'an is unique within Islamic tradition. Through these very letters, divinity enters the world. The Christian analogue of the Qur'an is not the message of the Bible, but the body of Christ himself (Sells 1999: 4, Nasr 1994: 43-44). In Christianity, Jesus Christ, the "word of God," presents a guide to the just life, and Biblical scripture provides the textual vehicle through which humanity may access that guide. In Islam, this relation is reversed. The Qur'an *is* the word of God and a guide to just life. Muhammad was but the human vehicle through which that guide became accessible. The two religious models revolve around distinct sets of communicative relations. In one, a text serves to report and mediate a divine body. In the other, a body serves to recite and mediate a divine text.

The Qur'an was revealed via Muhammad as an oral recitation, and it is thereby repeated as such. Qur'anic recitation envelops audiences in the very sounds and aural patterns through which divine revelation entered the world. The divine text surrounds all listeners, regardless of Arabic comprehension or

literacy. Recitation repeats a moment of divine revelation, and the repetition of Qur'anic sound re-connects living Muslims with the divine:

The experience is a nonlinear repetition through recitation. The actual stories, which may seem fragmented in a written version are brought together in the mind of the hearer through repeated experiences with the text (Sells 1999: 12).

Sounds and segments align through repetition. Qur'anic recitation gathers the faithful in the presence of a divine text, rather than the shared comprehension of a divine story. Linguistic comprehension remains valuable, and the content of the Qur'an offers Muslims a guide for just life. But the communicative and aesthetic power of the text transcends the referential function of its semantic content alone.

As the pedagogical equivalent of recitation, Muslim education was also a means of entering and aligning oneself with the text. Education formed the student with the proper habits of recitation and the proper comportment for appreciation of a text. Qur'anic memorization was a central focus of Islamic education (Messick 1993: 85; Robinson 1993: 235; Eickelman 1995: 257). Rather than extracting meaning from the text through reading, students inscribe the text within their heart and mind (Nasr 1995: 64-65).<sup>16</sup> Islamic literacy was a bodily phenomena, and memorization integrated the words, sounds, and

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<sup>16</sup> Foreign commentators, such as Thomas Carlyle (1841) have sometimes discussed the Qur'an as a jumble of narratives or, even worse, an incomprehensible text. But foreign claims of incomprehensibility and Muslim claims of Qur'anic inimitability offer two sides of the same coin. According to Seyyed Hossein Nasr, the claim that Qur'anic content appears incomprehensible at first contact may be indicative of its divine status. Perhaps it is the human reader who is incoherent, not the text (Nasr 1994: 48). By studying the Qur'an, faithful Muslims align their understanding with the specific Arabic language and semiotic structure of the text. In doing so, both the divinity and the message of the text become accessible.

rhythms of a text with the rhythms of a student's life. Within such a model, writing functions as much more than merely transcription of textual content. Practices of writing are formative processes, and rituals of writing become rituals of recitation. By writing and rewriting the words of a text, students dwell within the text. They inscribed its form, rhythm, and content upon their body and within their lives. Like Muslim prayer, the repetition, recitation, and copying of the Qur'an aligns the body with divine letters (Siegel 2000: 316).

Recitation does not *repudiate* writing; it *replicates* divine presence. And Islamic writing developed as a visual means of recitation. Recitation recreates the moment of Qur'anic revelation in a consistency of language, format, and structure. Rituals of Qur'anic transmission encompass much more than its informational content, and these rituals inform a distinct model of writing. In a semantic examination of the Qur'an, Daniel Madigan (2001) explored the text's self-references as *kitab*, a term often translated as "a piece of writing" or "book" (Graham 1987: 82-84; al-Bagdadi 2005: 89). Madigan chose the word in order to uncover the Qur'anic understanding of itself as a written text. His analysis distinguished four aspects of text—composition, display, storage, and redisplay—and he discovered that Qur'anic references of *kitab* primarily refer to the first of these stages. When the Qur'an refers to itself as *kitab*, it cites its origin as a divine composition. Virtually none of the Qur'an's talk of *kitab* has to do with storage (Madigan 2001: 75). To preserve the Qur'an's interpretation of its textual function, recitation cannot simply duplicate the textual content of Qur'anic storage. It repeats the moment of divine revelation and composition.



A separate Arabic term, *mushaf*, describes a collection of material sheets upon which the Qur'anic revelation is written. The term implies a codex, the gathering of multiple material sheets (Madigan 2001: 36-37; al-Bagdadi 2005: 95-96). *Mushaf*, underscores the qualities of materiality and collectedness, and it specifically signified material copies of the Qur'anic text. The term derived from the Abyssinian word for "book" and relates the Qur'an with scriptures of Christian and Ethiopian tradition (al-Bagdadi 2005: 96). Its codex form further reinforced this relation. The material form of the codex symbolized its affinity with books of Christian and Jewish tradition, which had already begun to be bound as codices. During the early years of Islam, most written texts, or *kitab*, were preserved as scrolls. But the pages of the Qur'anic text were bound. This material difference displayed the Qur'an as physically distinguishable from other books in the same way that textual divinity made it ontologically distinct (*ibid.*: 92). Writing, in both its visual appearance and its material composition, became a sign of origin, content, and authority.

Over time, similar interactions linking material form with the spiritual and intellectual content of a text informed other practices of Muslim writing. Writing communicated via a system of scripts, where relationships governing whether writing appeared in one style or another mattered (Bierman 1998: 20). The material form and appearance of written texts became visual markers of origin, genre, and content:

The book was not identical with the text (*matn*) but the format, style, and material of the book were determined by the nature of the text, whether it was profane or religious, scientific or literary.

Different papers [and different scripts] were used for different texts (al-Bagdadi 2005: 89-90).

Visual differences signified both textual and ontological differences of written content. The aesthetic function of writing operated alongside the referential content of written texts. The shape, form, color, and appearance of writing provide contextual knowledge to viewers and readers (Bierman 1998: 20). As in our second approach to the mysterious glyphs, viewers interpreted relations of visual form, and the patterns they create, rather than simply decoding and translating their content.

In summary, the Qur'anic model of written communication transmits information through a preservation and repetition of form. Writing creates the material and visual object of a particular transmission, and material changes alter how a written message communicates. The aesthetic communication of writing alters if it is bound differently, if it is scribed differently, and, even more so, if it is translated from one language or medium to another. Centered upon sharing the spirit of a message, the Reformation model transmitted the story of a uniquely divine individual. The rituals of reading, translation, and distribution repeat the contents of Christian scripture. Centered on the sharing of a divine object, in contrast, the Qur'anic model transmits the precise pattern of a unique ritual object. Both Qur'anic recitation and rituals of writing repeat the form of divine communication.

## SECULAR TRANSMISSIONS AND NATIONAL RITUALS

For the two models discussed above, a specific religious text informed the vision of writing. In the Reformation model, the importance of the Biblical story supported the transmission and wide distribution of written and printed copies of that story. In the Qur'anic model, a divinely revealed communication emphasized linguistic preservation and the formal repetition of an aural and visual object. This third model derives from the secular nation, and it may initially appear out of place next to these religious traditions. But the secular model is not distinguished by its lack of religious text. Like the two previous models, the national secular model structures a particular set of written and communicative relations. Its distinction rests with the organization of written texts, the contents and meanings those texts transmit, and the rituals which preserve those transmissions.

As different as the reinforcement of political administration and the repetition of religious messages may appear, the two poles maintain a complex relationship. Writing has always operated as an administrative and territorial tool alongside religious repetition, and political structures have always been contingent on either the sanctioning of religion or the delimitation of religious authority (DeVries 2001: 3-10).<sup>17</sup> For this reason, a religion as media approach positions formations of the secular alongside religious frameworks (Asad 2003: 191-193). Adopting a utilitarian attitude of social organization, secularism

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<sup>17</sup> Irene Bierman's *Writing Signs* (1998) offers a focused study of the changing role of writing and its increasingly important territorial function in Fatimid Egypt.

circumscribes “religious belief” within an arena of private belief rather than public discourse. In doing so, secularism redefines such key concepts as ethics, community, self, world, and the religious in relation to the state. But can there be a more metaphysical “religious” position than the subordination of religion—and, by extension, the divine—to a state authority? Prior to the demarcation of the political and the religious, the two concepts must *already* be understood as distinct realms. The placement of secular authority in position to organize and mediate religious belief requires the concept of the secular to make sense.<sup>18</sup>

The secular model emphasizes utilitarian administration: the sharing of multiple messages and varied information across institutional structures. The content and transmission of messages remain important, but content becomes localized as bureaucratic and administrative data. Bureaucratic writings do not repeat a singular story or unchanging message. Instead, they preserve and record contextual information, the repetition of which is required for proper institutional functioning. Their contents may vary from day to day and site to site, but the rituals by which they circulate are critical. Rituals of information sharing and textual circulation preserve the state and by extension the national community. Repetitions of secular messages respond to the changing needs of administrative institutions, and the ritual of institutional maintenance replaces the importance of repeating a divine message.

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<sup>18</sup> For Asad’s arguments regarding secularism as a religious formation, see *Formations of the Secular: Christianity, Islam, Modernity* (2003). A summary of his position can also be found in his essay “Reading a Modern Classic: W.C. Smith’s *The Meaning and End of Religion*” in *Religion and Media* (Hent de Vries and Samuel Weber, eds., 2001).

The formations of secular communication reorganize the transmissions and rituals of writing. But instead of radically diverging from the previously discussed religious models, aspects of the secular model overlap with both the Reformation and Qur'anic frameworks. As with the Reformation model, the referential content of texts provide the essential element of repetition, and like Reformation Bibles, secular messages are printed and shared with a large number of readers. The transmission of secular content may be translated for foreign dignitaries, international treaties, or minority populations, as long as the translation preserves the "spirit" of state laws. Nevertheless, the official mark of written authority occurs only within the chosen national languages. An official written language is the visual sign of authority. In this regard, the secular model reflects the Qur'anic framework. Just as Muslims only recite the Qur'an in Arabic, secular institutions expect the members of their community to possess literacy with the official language. Nationalism offers political unity under the banner of a shared vernacular image (McLuhan 1964: 176). Once a national language and its associate script are determined, all communication of import occurs within the official language and the proper representative script.

The reorganization of religion by secular authorities influences how, and in what form, messages become relayed. In secular societies, both scripts and the languages they represent operate as markers of national and ethnic divisions rather than religious ones. Whereas writing once followed religion, it now follows the flag (Diringer 1968: 428; *c.f.* Gelb 1952: 234). Secular regimes adopt diverse scripts and a variety of written vernaculars, emphasizing the

territorial function of writing as a visual symbol of community. Choices of script and writing operate ritually as the outward symbol of a political unit, and the choice of language(s) is particularly salient in the imagination and unification of national consciousness (Anderson 1991: 42). The Turkish shift from Arabic to Latin letters, for example, was a symbolic statement. With the adoption of Latin-derived letters, Turkish secularism broke with Islamic tradition and visually aligned itself with Europe as a sign of modernity.

Secular states promote the writing and printing of text in their chosen languages, and the secular model replaces the authoritative writing of sacred scripts with the printing of national vernaculars (Anderson 1991: 44).<sup>19</sup> But unlike the fixed religious texts of the Reformation and Qur'anic models, the national and administrative writings of modern secular states continually shift. New texts and written information must be quickly and efficiently distributed to a wide audience. Print, and more recently electronic media and computer networks, answer these demands, with written standardization secured by the speed and scope of production: "The older principle of iteration through ritual practice was rendered obsolete by technology" and the certitude of regularity was assured by technical repeatability (Schneider 2005: 210). Technological

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<sup>19</sup> Interestingly, Benedict Anderson, whose exploration of nationalism is predicated on the decline of religious and sacred communities, fails to address languages such as Arabic, which continues to flourish in both sacred *and* national realms. In *Imagined Communities* (1991), Benedict Anderson only mentions Arabic once, when he lists it alongside Latin and Classical Chinese as a dynastic language of the past. Of the three languages listed, however, only Latin does not possess a modern incarnation as a national language. Niloofar Haeri begins to address some of these issues in *Sacred Language, Ordinary People: Dilemmas of Culture and Politics in Egypt* (2003), where she discusses the tension of Arabic being both a sacred eternal language and a modern national language.

reproduction and mass distribution become rituals of written reiteration and communicative transmission. The volume and speed with which documents may be printed and transmitted in a national vernacular ritually reinforces its privilege as the binding language and visual symbol of a community.

Clearer appreciation for the way in which the secular model organizes written communication can be gleaned by examining one of the key texts of imagined national communities: the vernacular daily newspaper.<sup>20</sup> Although its exact contents vary from printing to printing, the daily newspaper offers a counterpart to the religious texts of the other two models. Newspapers are “an extreme form of the book” (Anderson 1991:34), a book which offers a persistent one-day best seller. These community books display a shared vernacular and gather a collection of pertinent information under the heading of a single date:

Apart from the vernacular used, the dateline is the only organizing principle of the newspaper image of the community. Take off the dateline, and one day’s newspaper is the same as the next. Yet to read a week-old newspaper without noticing that it is not today’s is a disconcerting experience (McLuhan 1964: 212)

Every day, newspapers repeat the newest exploits, successes, and failures of a community, alongside timely information such as financial data and weather reports. Their written appearance of the paper mixes various formats, fonts, pictures, and layouts across multiple stories and a diversity of messages. Each textual component—be it a headline, a weather report, an editorial letter, or a

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<sup>20</sup> The use of print to share community news and recent events extends back to the earliest days of moveable type. In the fifteenth century, printed posters and placards announced occurrences of all kinds, from the passing of comets, to the outcomes of military campaigns, to the exploits of nobility (Febvre and Martin 1958: 289). Posters summarizing key debates and controversial decisions fueled the religious-political discussions of the Reformation (*ibid.*: 289-90).

cartoon—possesses a distinct format depending on its function and position within the whole. But all of these elements reflect the community; they are all important to its maintenance and functioning. Taken together, a newspaper presents the history, current state, and prognosis of a reading community.

Newspaper stories are repeated by thousands of readers across a nation, each of whom holds an identical printed copy of the latest community book. The daily ritual of reading unites scattered individuals within a similar textual experience and gathers them within the flow of a shared history. “The nation is the epitome of a (religious) readership that has not only the same scripture but the same book before its eyes” (Schneider 2001: 207). Like primary texts of religious traditions, community newspapers operate as both the transmission of shared content and the ritual gathering of community:

If one examines a newspaper under the transmission view of communication, one sees the medium as an instrument for disseminating news and knowledge.... A ritual view of communication will focus on a different range of problems.... It will, for example, view reading a newspaper less as sending or gaining information and more as attending a mass, a situation in which nothing new is learned but in which a particular view of the world is portrayed and confirmed (Carey 1989: 20).

In the first instance, the contents of the news are central; in the second, focus shifts to how the newspaper builds imagined communities. The daily reading of a newspaper is as much a ritual as the repetition of a sacred scripture. The shared readership of a technologically replicated text parallels earlier practices of religious community, which were unified through shared religious texts and sacred languages (Anderson 1991: 12-22). The ritual of newspaper reading is repeated on a daily basis, even as the contents change from day to day. With



mass distribution, a newspaper reaffirms its particular story across the minds and days of multiple readers.

Although the daily newspaper is not constitutive of a secular nation, the secular model of communication often accompanied the spread of newspapers in the seventeenth and eighteenth centuries.<sup>21</sup> The process was similar in both Europe and the Middle East, and the secular model interfaced with both the Reformation and the Qur'anic models. This should not suggest that secular writing replaced the religious models, but, rather, it operated alongside them. In both settings, newly printed texts began to play an increasingly important role in state administration and military campaigns. Interestingly, documents surrounding early Ottoman printing and Arabic presses in the Middle East tended to stress instrumental state uses of new print technology rather than the contents of printed works (al-Bagdadi 2005: 86). The earliest printings of Ottoman and Egyptian constituencies display an administrative and military focus rather than a religious one.<sup>22</sup> Increasingly, governmental, military, and educational institutions required multiple copies of identical texts, recent data, and standardized curricula: school textbooks, technical manuals, territorial maps, census tables, military treatises, passports, and financial receipts. The printing of these texts was often state sponsored, and they circulated outside

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<sup>21</sup> This timeframe parallels the development of the "modern literary system," which Carla Hesse (1996) describes as the textual mode of print culture.

<sup>22</sup> When Muslims utilized print for the dissemination of religious texts, it was typically a political response for protection of the faith and printed texts were often polemics or commentaries rather than the Qur'an itself (Robinson 1993). In Europe, however, the political expediency of printing religious texts occurred much earlier.

the channels of religious authority. What unified their multiple material and visual forms was a contribution to the efficient and effective governing of the state apparatus.

#### **LIGATURE: WRITING THE SPACES OF RELIGION AND MODERNITY**

Noticing parallels across religious and secular rituals helps clarify the various roles written communication may fulfill. Returning to our mysterious discovered glyphs, we now hold three religious and communicative models for approaching their written significance. The significance of the glyphs may reside in the semantic contents of a message, the referential function of writing. I loosely associated this approach with the Reformation model of Christian transmission, in which the spirit of a message is perceived through letters of a text. Alternatively, the significance of the glyphs may be the subtle pattern of the material object they trace. I associate this approach with a Qur'anic model, with its focus on aesthetic structure and form. The glyphs may be traced and repeated as an integral part of our lives, even if their precise content remains foreign or transcends the possibility of full comprehension. And finally, the significance of the glyphs may rest with the way in which they visually unify a linguistic, territorial, and historical group. I pair this approach with a national secular model, in which the adoption of a linguistic vernacular and a specific script represent the essential news and information of a national community.

In the following chapters, each of these models fulfills a distinct role. Closely associated with the history of European printing, the Reformation

model of the printed Bible implicitly informs the *de facto* history of printing. It therefore provides a foil for an alternative history, especially the challenges of grammatology in Chapter 2 and the discussions of Ottoman and Arabic print adoption in Chapters 4 and 5. In contrast, the aesthetic focus and implications of the Qura'nic model for practices of Islamic and Arabic writing are explored in Chapters 2 and 3, which present the story of Arabic script and calligraphy. The Qur'anic object as a model for Islamic and calligraphic art is especially noticeable in Chapter 3 and a section of Chapter 6 exploring current practices of Arabic calligraphy. The influence of the secular model and the relations of printing and nationalism organize Chapters 4 and 5. Replacement of religious communities with secular national ones signals an important shift in practices of writing, mediation, and communication. Chapter 6 considers how multiple visions of writing operate within the secular society of contemporary Jordan. And, Chapter 7 concludes by reflecting upon the possibilities these models suggest for contemporary practices of writing and graphic design.

## Chapter 2: Of Grammatology and Arabic Script

Writing offers a spatial and material organization of symbolic marks. What these graphic marks symbolize, how they are constructed, how they are preserved, and how they are read reflect competing models of transmission, ritual, and communication. If we understand writing as a visual transcription of language, for instance, we may dismiss textual decorations, pictures, and illuminations as peripheral to the linguistic “content” of writing. But if we position writing more generally as graphic marking upon a material surface, we also appreciate design, drawing, and illustration as essential aspects of written communication. The line separating writing as a representation of language and graphic imagery becomes especially fuzzy in the hybrid realm of calligraphy, visual poetry, text art, and advertising logos.

To navigate these concerns, this chapter explores *grammatology*, the study of writing as a collection of conventional visual marks. I present writing as a medium of communication and information storage distinct from speech and examine the qualities unique to this visual form of representation. I begin by disentangling writing from speech and exploring the multiple channels by which visual marks become conventionally understood as writing. I then turn toward the example of Arabic script and outline key moments of its formation and innovation. The celebration of script in the Arabic tradition offers a useful site of grammatological commentary and reflection.

## DISENTANGLING THE WRITTEN FROM THE SPOKEN

Although the concept of grammatology became famous with Jacques Derrida's 1967 *De la grammatologie*, Derrida credits I.J. Gelb with first using the term to designate a modern field of study (Derrida 1976: 323, n4). Gelb's 1952 book *A Study of Writing: The Foundations of Grammatology* introduces the term and usefully defines writing as "a system of human intercommunication by means of conventional visible marks" (1952: 12, emphasis original). Gelb stresses the visual aspect of writing and its conventional understanding as hallmarks of the medium. This definition allows Gelb to gather a variety of discussions within its fold: epigraphy, paleography, script history, calligraphy, graphic design, written grammars, and scribal aesthetics. Many later scholars have criticized Gelb's work as an evolutionary taxonomy of writing systems (Guar 1984; Daniels 1990; Harris 1995; Daniels and Bright 1996), but Gelb offers the first word on the subject, not the last. And his initial definition continues its invitation as an adequate and useful point of departure.

By emphasizing visibility and conventionality as foci of grammatology, Gelb distinguishes writing as much more than the transcription of language. He also bypasses the difficulty of defining the term *language* itself. If writing operates as a visual subset of language, grammatology examines the structure and possibilities of writing qua language. This requires a shared concept of language prior to the examination of written marks, and modern linguistics tends to draw its understanding of language from *spoken* language. Writing is thus twice removed from the origin of thought, operating as a signifier of the

signifier of the signified (Derrida 1976: 7).<sup>1</sup> The signifiers of writing represent speech, which in turn represents thought. The teleology this model suggests that an idea is first voiced as a sound image. And that sound image is later inscribed in writing as a visual image. Reading a word works backward in the same order: from image to writing to speech to thought. What this process overlooks are all the people who have marveled at a piece of writing they cannot decipher or do not understand. Viewers unfamiliar with a specific language may still admire the aesthetic beauty and form of the written marks representing that language.

As an alternative, Gelb's definition usefully emphasizes writing as a medium of visual communication. For although writing systems are often paired with specific spoken languages, systems of writing may just as easily represent concepts foreign to those languages. As Daniels and Bright (1996) note, a purely logographic writing, a writing system capable of representing only one spoken language, is an impossibility: "for a script to adequately represent a language, it must not only represent its words, but also must be able to represent names and foreign words" (1996: 4, *c.f.* McLuhan 1964: 87). Moreover, spoken language is but one source from which conventional visual

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<sup>1</sup> See Ferdinand de Saussure's *Course in General Linguistics*, especially the section on "Graphic Representation of Language" in which he claims that "Language and writing are two distinct systems of signs; the second exists for the *sole purpose* of representing the first" (23). Many studies of written *language* accept this claim, including Diringer (1968), Logan (1986), and De Francis (1989). Alternatively, the critique of oral bias often informs calls for the study of writing as a visual medium, (*c.f.* Derrida 1967; Harris 1995). The difficulty of overcoming the spoken language bias, moreover, is not unique to studies of writing. Similar problems occur in any study, e.g.: studies of gesture and sign language, which attempts to divorce the general concept of language from the specifics of speech.

meaning may arise. The examples of musical notation, mathematical notation, and pictographic figures provide system of conventional markings that are not tied to a precise spoken language (Sampson 1985: 26-45). The study of writing ought to begin from this plasticity.

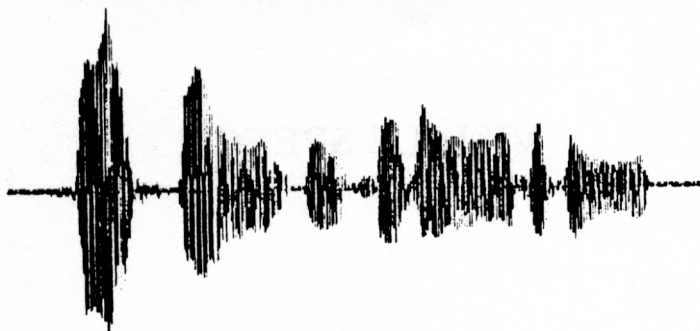
Although written conventions often represent speech and language, the relation of specific visual marks with the sounds of specific languages is itself conventional. John DeFrancis (1989) emphasizes writing's flexibility to record spoken language through a multiplicity of visual conventions (Figure 2.1). In a key example, DeFrancis displays twelve distinct written representations of the opening phrase of the Gettysburg Address, "Four score and seven years ago." The twelve representations are as follows (De Francis, 1989: 249):<sup>2</sup>

1. An acoustic wave graph recording the voice of Professor William S.-Y. Wang reciting the phrase.
2. A phonetic linguistic transcription of the Wang acoustic wave graph.
3. An English spelling, Latin alphabetic system.
4. A Cyrillic ("Russian," *sic*) alphabetic system.
5. A Hindi alphabetic system, followed by conventional Latin transcription.
6. A Korean Hangul version, followed by conventional Latin transcription.

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<sup>2</sup> With the transcriptions of foreign writing systems taken into account, DeFrancis actually offers 20 distinct visual representations of the spoken utterance.

## THE ONENESS OF VISIBLE SPEECH



f ɔː s k ɔː ænd s ɛ vn jɪr z ɔː g o

four score and seven years ago

фор скор энд сэвэн йирз эго

फ़ोर स्कोर एण्ड सैविन यीअर्स अगो  
fora skora eṇḍa saivina yīarsa ago

ஹீ ஸ்கோர் அன்ட் செபன் லீயர்ஸ் அகோ  
h ɔ̃ s kh ɔ̃ æ d se b̃n i ɔ̃ j a g ɔ̃  
w ũ ũ o ð n ũ n i ũ j ũ a g ɔ̃

f r s k r a n d s w n y r z a g o

فُورُ اِسْكَوْرُ اَنْدُ سَاصِنُ يِرْسُ اِغُو  
ogaɪ sri:ynafas dnaɪ roksiɪf rof

フオー スコア アンド セブン イヤーズ アゴ  
foā sukōa ando sebun iyāzu agō

fo lyr sy guo lyr a dde sievie yilyrssi eggo

pu ar es ku ar an de se ba an yi ir iz a gu

佛爾斯國爾恩得色文伊爾斯阿鈞  
fo er si guo er en de se wen yi er si a gou

**Figure 2.1: The Oneness of Visible Speech.** Twelve visual representations of the spoken phrase “Four score and seven years ago.” Reproduced from *Visible Speech: The Diverse Oneness of Writing Systems* by John De Francis (1989: 249).



7. A consonantal hieroglyphic version, followed by conventional Latin transcription.
8. An Arabic consonantal alphabet, followed by conventional Latin transcription.
9. A Japanese Katagana syllabic version, followed by conventional Latin transcription.
10. A Yi syllabic version, followed by conventional Latin transcription.
11. A cuneiform syllabic version, followed by conventional Latin transcription.
12. A Chinese syllabic version, followed by a conventional Latin transcription.

Transcribing a single phrase with diverse characters highlights the ability of phonetic scripts to visually represent sound apart from linguistic conventions. Phonetic scripts translate sound into visible marks.<sup>3</sup> In each case, the phrase is recorded with varying degrees of “accuracy” to acoustic sound, and each of the notational system allows recovery—more or less—of the spoken utterance. The fact that only one of these visual systems is understood as written English, is a cultural convention. English writing becomes written language only after conventional understanding links a specific set of character shapes with the sounds of a specific spoken language.

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<sup>3</sup> The decision of which script to adopt for which language is often a political choice, as the shift from Arabic to Latin script for the transcription of Turkish underscores. For an outline of general concerns in this regard, see Albertine Guar's brief discussion of “Language and Writing” (1984: 33-34).

Competing conventions of spoken-written codings, moreover, do not only occur across the scripts of multiple languages. Despite an alphabet that pairs letters with specific sounds, written English contains numerous visual conventions for transcribing speech. Written English may represent similar sounds with different characters, and many signs of written English indicate different sounds depending upon their location and context.<sup>4</sup> Gelb provides the following useful example: “Mr. Theodore Foxe, aged 70, died to-day at the Grand Xing Station.” This statement contains a variety of written and visual conventions, including individual letters that correspond to single sounds, combinations of letters that correspond to additional sounds (i.e. “th” for an aspirated t), single letters that compress multiple sounds (i.e. “x” for the two consonants “ks” in “Foxe”), numeric signs (i.e. “70”), the rebus-like symbol X in the word “crossing,” and the various punctuation marks linking words and phrases (Gelb 1952: 13). Some of these conventions reflect proper “dictionary” spellings and others are common shorthand or abbreviations, but they are all conventionally understood regardless of the multiple ways they do or do not represent speech and language.

Derrida argues that this relation may just as easily be reversed: speech may be understood as an extreme form of *arche-writing* in which a system of differences organize and map information (1976: 56-61). The grammatological

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<sup>4</sup> Traditionally, attempts to remove extraneous conventions from English spelling, such as the phonetic Initial Teaching Alphabet proposed by Isaac Pitman's in the late 19th century and the “simplified spelling movement” of the mid-20th century, have met resistance from a reading public accustomed to navigating across multiple visual conventions.

question asks what information becomes encoded in any form of writing and how that form represents its informational content: "A grammatology may be surmised through the wealth and novelty of information, as well as through the treatment of this information" (*ibid.*: 83). The study of writing examines the material and visual storage of information. Beginning with the openness of inscription and the vast possibilities of visual marking, it asks how certain marks become conventionalized as writing systems, how certain systems of writing are applied for certain languages, how and when writing systems incorporate non-linguistic symbols, and how and why conventions change over time. Grammatology accounts for the materials and tools of information storage, as well as the adequacy of the tools to the task at hand.

Unlike speech, writing is visually shaped in space. Its materiality and durability allow it to record and store information in time.<sup>5</sup> These traits offer a set of prospects unavailable to spoken language. The visual conventions of writing serve to materially store information rather than record speech. The sounds of speech may be one form of information stored in writing, but they are far from being the only or most important content. The earliest writings often record economic exchanges (Schmandt-Besserat 1978), or they display injunctions, property claims, and monumental commemorations (Gunter

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<sup>5</sup> Like Derrida, Roy Harris position de Saussure as the source of oral bias in studies of writing. But Harris' writings, which appear after *Of Grammatology*, mention Derrida's work only briefly and do not build upon the earlier arguments. Instead Harris offers an alternative "integrational semiotic" approach to writing, which revolves around the twin poles of representation in space and durability across time. The postscript to Harris' *Signs of Writing* (1995:164-167) lists seven essential traits of the integrational approach, including "the conceptualization of time in terms of space" and "abolition of any equation between language and speech."

2005). Later, the storage capabilities of writing become exploited for recording more complex information, including speech. Visual conventions developed for the transcription, translation, and recording of spoken language. But the powerful function of information storage still sets written language apart from spoken words:

Once we concede the possibility that the act of writing itself may be significant, we can no longer exclude the possibility that this significance may, in certain contexts, constrain in various ways what gets to be written down (Harris 1995: 36).

The recording process—the choice to record or not to record, the powerful act of building the archive—alters language. Certain aspects of language, certain spoken statements, are ranked and selected as worthy for recording, storage, and communication across time. Similarly, not all that is recorded in writing, such as economic records and legal pronouncements, are spoken in as concise or organized a form as they become written. The visibility of writing aids the organization of material data, and writing reformulates data in the form of graphic visual marks, such that they may be compared, transported, rescaled, recombined, and usefully applied at a latter date (Latour 1986: 20-22).

Elisabeth Feldbusch offers a succinct discussion of the application and development of writing as information storage in “The Communicative and Cognitive Functions of Written Language” (1986). Breaking with a linguistic community that holds speech as intimately linked with thought, Feldbusch suggests that written communication offers a more deliberate representation of organized thinking. As a communicative process of conventional visual

marks, writing visually encoded and displays thought in a structured and meaningful way.

[W]ritten language is a conventional sign system that developed independently and has independent functions. Its intrinsic feature is not to reflect another sign system [i.e. speech] but to represent reality as conveyed through thinking.... If the term "language" is linked to the material form of speech, we need a second, equivalent term for the material form of writing, and we have to construct a "study of writing" parallel to the "study of speech" but independent of and equal to it. It would have writing as its subject, define it independently of speech, and use speech at the most as a technical aid (Feldbusch 1986: 88).<sup>6</sup>

What Feldbusch requests is the field of grammatology.

Feldbusch bases her suggestions upon examination of early Germanic texts, in which she discovers that written German did not originally record oral testimony (*ibid.*: 84). Early German texts mediated between a population of spoken German and the world of written Latin. On the one hand, German texts helped clarify Latin for those struggling to read and understand works written in the latter, and it is therefore not surprising that German adopted the Latin alphabet. Additionally, written German recorded thoughts and practical items, such as daily prayers and local commentary, unsuited to the formality of Latin discourse:

The qualitatively new system of written German was initially created for the purpose of meeting those requirements that the given system of written Latin could not adequately answer because of its highly restricted social distribution (*ibid.*: 85).

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<sup>6</sup> Even scholars who understand writing as a secondary representation of speech still accept claims in which writing offers a clearer representation of thought. Daniels and Bright, for instance, differentiate the naturalness of speech from writing, "a deliberate product of human intellect." Similarly, David Diringer suggests that writing alone is the "vehicle of civilization."

Far from reflecting the language as it was spoken, German writing began as qualitatively different from spoken German in both purpose and structure. It defined itself not in relation to spoken German but in opposition to another system of writing: Latin. It initially recorded what was important to a literate, or semi-literate, community in written Latin. The link between spoken and written German spans their common use by a German-speaking population, but the written language did not originate as a direct representation of the spoken. Although the written and spoken languages correlated in practice, independence of the two forms is the only possible basis for a study of their correlation (*ibid.*: 89).

Such subtlety, however, unfortunately remains absent from *The World's Writing Systems* (1996), an extensive grammatological reference work edited by Peter T. Daniels and William Bright. Daniels' introduction credits Gelb with the first linguistically informed study of writing, and offhandedly claims that grammatology is "better than most" labels for the study of writing (1996: 1). But Gelb's useful emphasis on visual convention is downplayed, and the precise relation between grammatology, the study of writing, and linguistics, the study of language, is muddled throughout the introductory sections. In some sections, "language" refers to a general capacity of communication, and "writing" indicates a subcategory of language alongside "speech." Elsewhere, the term "language" offers a replacement for "speech," where speech presents "a natural product of the human mind" contrasting with writing, "a deliberate product of human intellect."

Although Daniels and Bright claim no expectation that “the patterns or principles that describe language should apply to writing” (1996: 2), Daniels offers a definition that moves writing *closer* to spoken language. For Daniels and Bright, writing indicates “*a system of more or less permanent marks used to represent an utterance in such a way that it can be recovered more or less exactly without intervention of the utterer*” (1996: 3, emphasis original; *c.f.* “immutable mobiles” in Latour 1985). Whereas Gelb emphasizes visibility as the hallmark of writing, Daniels and Bright focus upon the recovery of utterances, and the introductory essay explicitly excludes all “graphic expressions that do not reflect the *sounds* of language” (*ibid.*: 8, emphasis added). Daniels deliberately binds writing to speech despite contradictory claims, which appear earlier in the very same essay: “the earliest uses of writing seem to communicate things that really don't have oral equivalents” (*ibid.*: 5). If even the earliest writings represent statements without oral equivalent, the modern study of writing should similarly not be limited to the recovery of spoken utterances.<sup>7</sup>

Grammatology examines the visible, graphic, and material traits of written communication. As the study of writing rather than language, it investigates how *conventional visible* marks are applied for communicative

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<sup>7</sup> Daniels and Bright claim to be following Gelb's lead in limiting their study to visual representations of spoken language. But Gelb never explicitly attempt to limit his study in this way. In addition to his initial definition stressing visual convention, Gelb includes insightful discussions of mathematical formula and other nonlinguistic signs. And he cautions that his own distinction between partial and full writing, where only full writing can accurately capture speech, is non-exhaustive: “The general statement that full writing expresses speech should not be taken to mean it expresses nothing but speech” (Gelb 1952: 15). The ability of writing to express contents apart from speech is as interesting, potentially more interesting, than its ability to capture speech.

ends. It distinguishes writing from speech and explores the specifically visual possibilities of writing and the communicative applications for which those possibilities are conventionally applied. Written communication allows an extended discussion across space and time. Through writing, the number of livestock in an area may be recorded such that taxes may be levied. Through writing, Latin texts may be introduced into spoken German. Through writing, information may be stored and returned to at a later date. All these options open avenues of communication unavailable to speech.

#### **GRAPHIC POSSIBILITY AND THE USES OF WRITING**

As a concrete representation of thought, writing transforms language and information into a material object or visual image. It offers a distinct set of communicative options and advantages. Writing offers a visual modeling system and a set of symbolic tools with which to decode and read the world (Olson 1994: 18; Jules-Rosette 1993: 273).<sup>8</sup> Among the information which writing makes visible is the sound of speech. It parcels the temporal flow of spoken language into discrete visible units of analysis and relation (*ibid.*: 258): characters correspond with sounds, images represent ideas, and so on.

Consequently and conversely, systems of writing delimit language: "Our instinctive ideas about language are heavily coloured by the orthographic

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<sup>8</sup> Bennetta Jules-Rosette suggests the construction of non-linguistic semiotic models, including models based upon religious and artistic symbolic systems: "The idea of a maximal modeling system allows us to shift the 'infrastructural' foundations that may be used for interpreting texts from natural language to other highly structured semiotic systems. This shift could weaken the attachment to natural language as the only modeling device" (Jules-Rosette 1993: 273).



system we have learned for reading and writing” (Sampson 1985: 38). Scripts demarcate certain sounds as significant for visual transcription, while other sounds, tones, or fluctuations remain unwritten (Olson 1994: 260-1). Just as models of religion as media postulate diverse frameworks of transmission and ritual, different systems of writing highlight and encode distinct types of language. A written language not only provides a means for parceling nouns, verbs, and phrases from a string of speech, but tools for locating assumptions, hypothesis, metaphors, relations, and “figures of speech” in the world. Such phenomena may exist in spoken language, but they become significantly easier to notice, isolate, and repeat in writing, as well as easier to compare.<sup>9</sup>

Through the storage and preservation of information, writing systems assist in the building and formalization of extended linguistic arguments. The written argument can then be preserved, catalogued, and examined, or it may serve as a mnemonic aid for repeating oral statements and argumentation at a later date. Frances Yates' mediation on memory palaces (1966), which allow for the reconstruction of extended oral argument, mirrors the key traits of writing. The architecture of a memory palace, like writing, provides a *spatial* organization of information and visual symbols. Wandering, navigating, or “reading” this imagined space reconstructs an argument for spoken repetition. Similarly, writing provides a spatial encoding of information, which can then be repeated, reiterated, reformulated, and transported across space and time.

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<sup>9</sup> By differentiating words, phrases, and parts of speech, writing transforms aspects of language into “immutable mobiles” (Latour 1986), which can be compared, shared, analyzed, and interrogated. Hence, the academic study of modern linguists is made possible by writing, not speech.

Jacques Derrida locates a similar interconnection of writing and space in the work of paleo-anthropologist André Leroi-Gourhan. In *La Geste et la parole* (1964), Leroi-Gourhan traces communication as a process of technical evolution, which encompasses the full range of bodily movement: the flow of breath, the movement of the tongue, the adjustment of posture, the formation of gesture, and the physical marking of one's space and environment.<sup>10</sup> Leroi-Gourhan's theory suggests the co-development of communicative modalities across variety of channels. Speech derives from techniques of breath control; gesture derives from techniques of bodily movement; and writing derives from techniques of the physical marking of one's space and environment.

Writings result from the manual movement of the body traced across material surfaces. The organization of written marks occurs as a spatial and graphic layout divorced from the linear unfolding of time. Leroi-Gourhan labels this spatial construction a *mythogram*:<sup>11</sup> "the distinguishing feature of mythographic writing is its two-dimensional structure which puts it at a remove from linearly emitted spoken language" (*ibid.*: 200). As a movement in time, speech follows a pattern of linear temporality. But the manual traces of writing are multi-dimensional and spatial. Linearity is neither a prerequisite

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<sup>10</sup> In *Phenomenology of Perception* (1962), Maurice Merleau-Ponty describes speech as "a gesture of the tongue." And Ibn Khaldun offers a remarkably similar argument in the *Muqqadimah* (1958: vol. 1, 45): "It should be known that all languages are habits similar to crafts (techniques). They are habits (located) in the tongue and serve the purpose of expressing ideas."

<sup>11</sup> Leroi-Gourhan introduces mythography as a written analog to mythology, "a multidimensional construct based upon the verbal" (1993: 196).

nor an essential feature of written and graphic communication. As a reminder of writing as spatial arrangement, Leroi-Gourhan returns to early pictographs:

One of the most striking features of Paleolithic art is the manner in which the figures on the cave walls are organized. The number of animal species represented is small, and their topographic relationships constant: Bison and horse occupy the center of the panel, ibex and deer form a frame around them at the edges . . . . The same theme may be repeated several times in the same cave and recurs . . . from one cave to another (*ibid.*: 196).

Pictographic conventions communicate mythographically. As a collection of visual marks, their spatial organization is radial rather than linear. Instead of recording a temporal line of speech, they explore the space of writing.

By referencing Leroi-Gourhan and the mythogram, Derrida wishes to “de-sediment four thousand years of linear writing” (Derrida 1976: 86; Leroi-Gourhan, 1993: 192).<sup>12</sup> Mythographic writing covers a multiplicity of lines, planes, and surfaces, all of which become marked by visual traces of bodily movement. As a general science of writing, grammatology ought to address the graphic, technical, and material traits of writing as conventional visual communication, and the mythogram recalls the *visual image* of writing as a shape inscribed across a planar surface. Rather than being recited as a string

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<sup>12</sup> For Derrida, the importance of the mythogram cannot be understated. Freedom from the written line provides *the radical break* with which grammatology may deconstruct a Western metaphysical tradition beholden to linear historical time:

“Mythogram,” a writing that spells its symbols pluri-dimensionally; there the meaning is not subjected to successivity, to the order of a logical time, or to the irreversible temporality of sound. This pluri-dimensionality does not paralyze history within simultaneity, it corresponds to another level of historical experience, and one may just as well consider, conversely, linear thought as a reduction of history. (Derrida 1976: 86).

of phonetic characters, the markings of a mythogram are navigated and read as a series of visual conventions. This does not invalidate written systems, which adopted a conventional linear structure. But the potential for *reading* written marks as a spatial organization rather than a linear string remains. Conventions of writing and reading navigate a two-dimensional space rather than adhere to a singular route.

Writing communicates via spacing and spatial organization (Derrida 1976: 78). Even if numerous systems of writing, including alphabetic scripts, conventionally adopt a sequential order and a certain linearization, that line is drawn across a multi-dimensional space, and the line of writing may assume a number of possible directions and orientations: left to right, right to left, top down, bottom up, diagonal, etc.<sup>13</sup> This variety of lines and directions order the visual marks of writing, and writing communicates as the layout and design of graphic space. The design, or “uniform,” of texts signals something about their role (Levy 2001: 28; *c.f.* Clanchy 1979: 103-105; Olson 1994: 96). Financial receipts, for example, look different than novels and newspapers. These three genres offer different visions of written space. Similarly, standardized forms and questionnaires tend to isolate fields of text, assigning each field a specific type of content (i.e., Name, Date of Birth, Address, etc). Although individual fields contain linear strings of written text, the different fields are arranged multi-dimensionally upon the page. And finally, a number of conventional

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<sup>13</sup> Guar (1984: 52-56) provides numerous examples of linear written direction. With digital media and hyperlinking, the possibilities increase even further. For discussion of linear directionality on an infinite digital canvas, see Scott McCloud's *Reinventing Comics* (2000: 222).

written marks, including punctuation marks, line breaks, and capitalization, visually organize phonetic characters.<sup>14</sup> As David Olson notes, writing “is largely a matter of inventing [spatial] communicative devices which can be taken as explicit representations of aspects of language which [are] expressed non-lexically in speech” (1994: 110).

As a method of spatial organization, however, the import of alphabetic scripts and linear strings of characters cannot be overlooked. Character sets offer a technological toolbox through which information becomes visible and spatial, and alphabets provide a series of reusable marks. These shapes may be reiterated and recombined for communicative ends. Written meaning often arises from the combination and spacing of letters and characters rather than any meaning inherent to the shapes of letters themselves. Individual letters offer the construction materials through which morphemes, words, phrases, and statements are built along a line. Via convention, collections of shapes become symbolic building blocks of linguistic meaning, both spoken and unspoken.<sup>15</sup>

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<sup>14</sup> For a focused discussion of punctuation, see *Pause and Effect: An Introduction to the History of Punctuation in the West* (1992) by M.B. Parkes. Appendix B of Bringhurst's *Elements of Typographic Style, version 3.1* (2005) also contains a useful glossary of non-letter characters which accompany the Latin alphabet.

<sup>15</sup> Alphabets and character sets operate as *systems* of visible conventions. In English, for example, most morphemes consist of multiple letters. Some morphemes, such as the plural “-s” or the pronoun “I,” consist of only one letter, but their meaning arises only in relation to other letters and other morphemes. Additionally, alphabets adopt not only a linear structure but a conventional directionality as well. The transcription of “This sentence is meaningless” appears unreadable when written in reverse order (“sseIgninaem si ecnetnes sihT”).

Standardized shapes and sizes arise through conventions of use and understanding. However, as arts such as calligraphy, typography, graphic design, and graffiti testify, possibilities of escaping the written line, bending the line, and exploring linear variety remain. Aesthetic variation in the shapes of characters, their thickness, their height, and their directionality contribute to the way in which writing communicates. Styles of script may indicate the rhetorical form or genre of documents (Clanchy 1979: 98), or the appearance of letters may convey meaningful cultural or political associations.<sup>16</sup> Although such conventions do not formalize linguistic representations, specific styles of writing often become visual markers for recording specific types of content. Finely drawn calligraphic names, for instance, are more common on diplomas and award certificates than check stubs and credit card receipts. Despite their lack of a formally defined linguistic meaning, these visual conventions of style and uniform effectively organize the communication of graphic space.

Which visual conventions get adopted and which get discarded varies from site to site and written tradition to written tradition. This highlights the flexibility of writing as an organization of space. Writing externalizes thought as a collection of visual marks, and the application of these marks will vary according to thoughts they represent (Bolter 2001: 12). A primary function of writing is the storage of information, and the question of visual and written

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<sup>16</sup> Although Sampson (1985:20) claims that differences in visual appearance do not justify treating German written in **Fraktur** typefaces differently from German written in Roman typefaces, the issue was not so easily dismissed by the Nazi administration. The Nazis initially enforced the use of **Fraktur** as a “genuine typographic expression of the Nordic Soul,” but later denounced it as an “overly stylish Jewish invention” (Steinberg 1996: 174).

convention becomes what *form* of writing is suitable for which *type* of storage. Depending upon their specific needs of storage and information management, societies adopt visual conventions which expedite those needs:

If all writing is information storage, then all writing is of equal value. Each society stores the information essential to its survival, the information which enables it to function effectively. . . There are no primitive scripts, no forerunners of writing, no transitional scripts as such, but only societies at a particular level of economic and social development using certain forms of information storage. If a form of information storage fulfills its purpose as far as a particular society is concerned then it is 'proper writing' (Guar 1984: 14-15; *c.f.* McLuhan 1964: 158-159).<sup>17</sup>

Systems of writing are not predetermined by the material technologies that produce them. Similar materials may inscribe a variety of linguistic scripts, mathematical symbols, and musical notations. Which of these visual images are inscribed and circulated, and which are not, are cultural choices. Specific styles of writing become conventionalized and concretized as diverse cultural practices and "technical facts" (Stiegler 1998: 43; Bolter 2001: 12).<sup>18</sup>

Like pens that inscribe, presses that print, inks that color, and the paper to which ink is applied, the graphic marks of writing provide tools for shaping the space of written communication. Visual tools, such as alphabets, scripts, and punctuation, may be borrowed and adapted for multiple languages and purposes. Those who possessed a working knowledge of written Latin, for example, adopted Latin characters to record information that would benefit

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<sup>17</sup> Guar (1984) provides a wonderful and concise elucidation of information storage as the defining quality of written communication in his chapter "Idea Transmission."

<sup>18</sup> In *Technics and Time* (1998), Bernard Stiegler suggests that societies stabilize around "a point of equilibrium concretized by a specific technology" (31), i.e. a specific mode of writing. Like Derrida, Stiegler draws inspiration from the work of Leroi-Gourhan.

local German liturgies and translations. They borrowed the tools of written Latin and applied them to the representation of another language and new information. The letters of Latin, in turn, were adapted and borrowed from Greek forms, and the story of alphabetic writing outlines a similar series of technical adaptations:<sup>19</sup>

Subsequent developments which gave rise, eventually, to the alphabet may be traced in large part to the consequences of borrowing. A shift in what a script “represents” is a consequence of adapting a script to a language other than that for which it was originally developed, an activity that led logographs to be taken as representations of syllables and later for syllables to be taken as representations of phonemes (Olson 1994: 80).

David Olson traces this process of borrowing across the writings and scripts of the Near East. Visual shapes were associated as linguistic marks in Egyptian hieroglyphics and Sumerian cuneiform. Both systems applied visual marks to represent concepts and words. Adopting Sumerian logographs to represent a Semitic language, Akkadian writers borrowed Sumerian graphs representing single-syllable words, they strung these marks together to be “read” as written Akkadian. Single-syllable word signs were generalized as representations of phonetic syllables. When pronounced, these signs would mimic the sounds of spoken Akkadian. The Akkadian writing system, in turn, was shared and applied to other Semitic languages. Since vowels do not contribute lexical or morphemic import in Semitic languages, the system did not develop forms or devices for representing them. Instead, characters were

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<sup>19</sup> The adaptation of alphabetic representation is not limited to transferences across written languages. See Padden and Gunsauls (2003) for discussion of “How the Alphabet Came to Be Used in Sign Language.”



only assigned to spoken consonants. Once the system was adapted for non-Semitic languages such as Greek, however, vowel signs became necessary for morphemic purposes. The conventional meanings of earlier characters were transformed accordingly. Six characters, all of which represented consonants unknown in spoken Greek, were borrowed to distinguish vowels.<sup>20</sup>

Utilizing otherwise unused written marks to represent new sounds or meanings is not unusual. The history of script adoption is much more likely to develop new characters rather than lose older signs.<sup>21</sup> As Franz Rosenthal jokes, the Greeks may never not have invented vowels if they had not found themselves in the embarrassing position of having letters which they could not use (Diringer 1968: 435). But vowels also offered a powerful contribution to written Greek, and script adoptions apply the forms of earlier systems to the requirements of recording new messages or information. Transformations closely follow the applications, or the languages, toward which technologies of writing become directed. The transference of a script or writing to a new language or purpose is rarely immediate, and most developments in writing style or graphic form remain largely unnoticed until after their widespread adoption and use. Techniques of writing tend to be conservative because the

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<sup>20</sup> Much of this summary is drawn from Olson (1994: 80-85), although Diringer (1968) and Ong (1982) provide similar arguments. But whereas Olson's account emphasizes script progression as a series of borrowings and adaptations, both Diringer and Ong adopt an evolutionary bias in favor of alphabetic scripts and vowels. Ong specifically labels consonantal writing systems as imperfect, but his text fails to address why such "imperfect systems" remain in use and continue to flourish for certain languages.

<sup>21</sup> Hence, the multiple spelling conventions of written English such as the phonetic overlap of "ph" and "f" or "x" and "ks."

storage and conservation of information is one of writing's main purposes (Clanchy 1979: 1115). Abrupt changes in convention compromise writing's function of recording, storing, and sharing information. Tracing shifts in written convention therefore requires a diligent eye. Subtle changes that initially appear spurious may drastically affect the ways in which later techniques are adopted and applied.

#### **UNDERNEATH THE TEXT: THE STORY OF ARABIC SCRIPT<sup>22</sup>**

The Arabic alphabet developed from an Aramaic script, which was previously adapted from the Mesopotamian cuneiform system. Between the second century B.C.E. and the fourth century C.E., Nabatean Arabs traveled the incense routes from Yemen to Petra. Although the majority of Nabatean trade routes passed through regions in which Arabic was spoken, Nabatean traders utilized written Aramaic for their record keeping.

The language of the Nabatean inscriptions and documents is Official Aramaic, but it absorbed Arabic words and forms. . . . the vast majority of the persons mentioned have Arabic names. In the course of time, the Arabic elements in the language of the Nabatean inscriptions gradually increased. . . . Nabatean text is written in what amounts to a mixed language, containing many Arab words and forms (Naveh 1982: 158).

Nabatean writing began as a technology for the inscription of trade registers in Aramaic. As time elapsed, the same technology captured the Arabic names that dominated the Nabatean region.

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<sup>22</sup> This section summarizes the origins of Arabic writing and formalization of the Arabic calligraphic tradition. For a more detailed timeline, see the Appendix.

Gradually, the regional script became recognizable as uniquely Arabic rather than Nabatean-Aramaic. Epigraphic study of Nabatean inscriptions traces a slow transformation of Nabatean writing from an Aramaic alphabet of distinct forms into a cursive script of ligatured letters (Naveh 1982; Anderson 1992: 292). The first reference to a specifically Arabic script occurs in the sixth century with a script labeled *Jazm*. It derived from the Nabatean alphabet and became the primary source from which subsequent Arabic scripts developed. *Jazm* is described as a visually unrefined script, marked by letters of equal-proportion and a stiff angular appearance (Safadi 1979: 8; AbiFarès 2001: 28).<sup>23</sup> The traders Bishr Ibn Abd al-Malik and his father-in-law Harb Ibn Umayyah are credited with introducing a similar script to the Quraysh, the tribe in which Muhammad is born (Safadi 1979: 8).

During the seventh century, the holy Qur'an is revealed in Arabic to the Prophet Muhammad. Although many fragments of the Qur'an were recorded in writing during Muhammad's lifetime, the text was not formally collected in its entirety due to the historical possibility of new additions and revelations. When Muhammad dies in 632 C.E., the revelation of the Qur'an comes to an end. The Qur'an is preserved in oral form by a devout group of *huffaz*, who commit the text to memory in order to retain its oral quality and rhythm of recitation. However, in the Muslim military campaigns that follow the death of Muhammad, a number of reliable *huffaz* are killed in battle. Worried about

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<sup>23</sup> Interestingly, both AbiFarès (2001) and Safadi (1979) describe equal-proportioned letters as unrefined. But a relative similarity of proportion becomes beneficial when fitting letters in a printer's grid or a pixel-based digital display.

the effects of this loss, Umar ibn Khattab urges the first Caliph Abu Bakr to collate and collect the Qur'an as a written text (Safadi 1979: 9).

Abu Bakr requests that Zayid ibn-Thabit, who served as Muhammad's personal secretary, oversee the collection of a written Qur'an. Zayid accepts the task and begins assembling textual fragments inscribed on a variety of materials including parchment, palm stalks, cloth, and the shoulder bones of camels. Each piece of writing is carefully verified and confirmed against two oral testimonies from trusted *huffaz* (al-Sa'id: 1975: 19-27). Once Zayid had gathered a complete version, the third caliph Uthman authorizes the official written text for distribution. Official copies are distributed to major centers of Muslim expansion as standards of copy, correction, and verification.

Muslims refer to these written texts as *mushaf* in order to distinguish them from the orally recited Qur'an. The sheets of *mushaf* are also bound as a codex, which materially separates them in form and appearance from writing on scrolls (al-Bagdadi 2005: 95-96). Early *mushaf* are copied in a number of scribal styles, usually named after with the locale in which they were written. These include the *Makki* and *Madini* scripts, which are named after the holy cities of Islam, and the *Kufic* script from the city Kufa, which attains popularity for its refinement, aesthetic balance and grandeur. The label *Kufic* becomes a general term for the geometric styles of *Mabsut wa Mustaqim* (the elongated and the straight-angled) (AbiFarès 2001: 29). These grand scripts function as the preferred scripts of early Qur'anic *mushaf*. In contrast, the flowing scripts of *Muqawwar wa Mudawwar* (the curved and the rounded) are gathered under

the general heading of *naskh*. These cursive scripts were commonly employed for practical texts, letters, and administrative documents, but rarely applied to the sacred copying of the Qur'an.

During the Umayyad and Abbasid dynasties, a series of writing reform movements address the appearance and visual conventions of Arabic script. The Umayyad Caliph Abd al-Malik (685-705 C.E.) mandates the official use of Arabic for all state documents (AbiFarès 2001: 34; Welch 1979: 23). Instead of images, Umayyad coins display Arabic script as a sign of visual authority (Bierman 1998: 33-34). The grand *naskh* script of *Tumar* becomes the official Umayyad state script, and numerous scripts base their measurements and relations upon the height of the *alif* in *Tumar* (AbiFarès 2001: 34).<sup>24</sup> Later, the Abbasids adopted the *Tawqi'* script as the official signature script of decrees and administrative pronouncements. This choice visually distinguished the new dynasty from the earlier *Tumar* texts of the Umayyads, emphasizing the territorial function of writing as a mark of political and religious unity.<sup>25</sup>

In the seventh century, the Umayyad scholar Abul Aswad ad-Du'ali (d. 688) notices that linguistic habits of spoken Arabic are changing and begins a study of Arabic grammar. ad-Du'ali feared that if linguistic drift continued, the orally recited Qur'an and traditions of the Prophet Muhammad would no longer be properly understood. To address the issue, ad-Du'ali proposes a

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<sup>24</sup> The most famous of these is the common script *Thuluth*, which means "one third," and measures one-third the size of *Tumar*.

<sup>25</sup> In *Writing Signs: The Fatimid Public Text* (1998), Irene Bierman explores the important territorial function of writing in Fatimid Egypt and the changing role of public writings during the eleventh and twelfth centuries.

system for marking *tashkil* (vocalization), in which colored marks diacritically indicate the spoken vowel sounds that do not exist as individual Arabic letters (Safadi 1979: 13). However, in early Arabic script, certain letter shapes could also represent more than one consonant. Thus, two pupils of ad-Du'ali, Nasr ibn Asim and Yayha ibn Ya'mur, devise a system in which diacritical dots, or *nokte*, are placed above and below basic letter shapes to distinguish between consonants.

With the spread of Islam and the availability of quality paper, the use of Arabic script stretches from Morocco to China and the number of documents increases significantly. The Abbasid scribe Khalil Ibn Ahmad al-Farahidi (d. 786) simplifies the earlier system of diacritical marking for general use.<sup>26</sup> He retains *nokte* for differentiating consonants but replaces the colored marks of *tashkil* with eight new diacritical signs. The reforms are met with resistance and initially restricted to secular writings (Safadi 1979: 14). Written changes may have been interpreted as modifying the text of the Qur'an, and therefore opposed as abrogation. But opposition diminishes with time, and vocalization marks become especially useful for teaching proper Qur'anic recitation to non-Arab Muslim converts. These marks continue to be applied to transcriptions of the Qur'an and other religious documents.

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<sup>26</sup> al-Farahidi is also credited with collecting the first Arabic dictionary, a process he began by arithmetically calculating the total possible number of two, three, four, and five letter combinations. He then separated the combinations that were used in spoken Arabic from those that were not, and he defined all combinations for which he could locate a spoken usage.

By the tenth century, a collection of *naskh* scripts known collectively as *al-aqlam al-sittah* (the six pens) are commonly employed across the eastern Muslim world. For administrative purposes, Vizier Ibn Muqlah (d. 940 C.E) seeks to standardize the appearance of these styles and his ensuing reforms drastically reorganize the world of Arabic writing. However, the vizier led a tumultuous life, and his innovations were highly political. Ibn Muqlah is rumored to have been three times vizier, three times at war, and three times imprisoned (Khatibi and Sijelmassi 1976: 26; Ülker 1984: 69). When a rival vizier severed his right hand as punishment, he took up the pen with his left hand and his writing allegedly became more exquisite.<sup>27</sup> Not to be outdone, the rival vizier subsequently cut out Ibn Muqlah's tongue as well (Grabar 1992: 254).

Despite the turbulence of his public life, Ibn Muqlah became known as “a prophet in the field of handwriting”: “It was poured upon his hand even as it was revealed to the bees to make their honey hexagonal ” (Rosenthal 1971: 53, *c.f.* Ahmad ibn Mir Munshi 1959: 58). The vizier applied a precise system of geometric reform to the writing of Arabic and, especially, the collected canon of *al-aqlam al-sittah* (Robertson 1920: 57-83; Abbott 1939a; Abbott 1939b; Welch 1979: 28).<sup>28</sup> The new method proportioned the size and shapes of letters

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<sup>27</sup> According to Pedersen (1984: 85) and Schimmel (1984), rather than using his left hand, Ibn Muqlah bound a pen to his handless right arm and continued to write in that fashion.

<sup>28</sup> Nabia Abbott's *The Rise of the North Arabic Script and its Kuranic Development* (1939) clarifies the contributions of Ibn Muqlah and argues against earlier suggestions that Ibn Muqlah developed new styles of script.

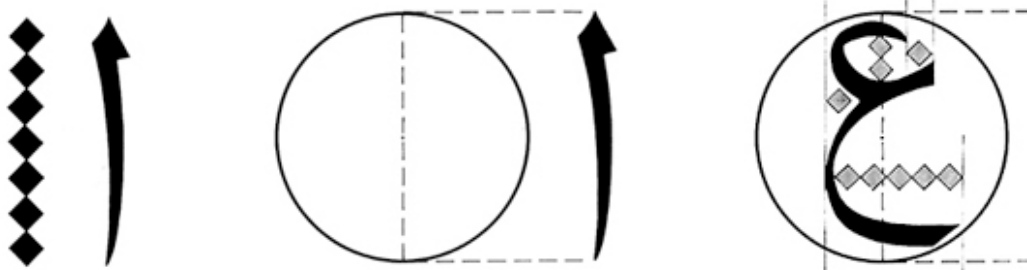
according to three parameters: the rhombic dot of the *nokte*, the height of the *alif*, and the circle (See Figure 2.2):

Starting with the point—a rhombus made by the pen when pressed heavily on the paper, the length of its sides depending on the width of the nib—the scribe placed several vertex to vertex to arrive at the desired length of a given *alif*, which varied in the different pens. Having decided to start with an *alif* the length of which is a given number of points, Ibn Muqlah related (*nasaba*) all other letters to this basic measure. With this simple and ingenious device of straight lines and arcs, both based on the length of the *alif*, Ibn Muqlah placed the art of penmanship on a scientific, mathematical basis (Abbott 1939a: 35)

Ibn Muqlah's system offered a precise system of geometric and typological rules for the relation and construction of Arabic letters. The system became known as *al-khatt al-mansub* (proportioned script). Rather than being a unique script, it was applicable to all scripts and distinct styles became recognizable according to their chosen proportions. *Al-khatt al-mansub* provided Arabic script with a formal consistency of written design, and, over time, it became the foundation of Arabic calligraphic tradition (Abbott 1939b: 79).

When the scribe Ali ibn Hilal Ibn al-Bawwab (d. 1022) discovered a section of a Qur'an penned by Ibn Muqlah, he was so awed by the script that he scoured the library for the remainder of the text. But he could only locate twenty-nine of the thirty Qur'anic sections. He notified Baha al-Dawla, the ruler of the realm, and al-Dawla stipulated a handsome reward should Ibn al-Bawwab complete the text in such a manner that the replacement section was indistinguishable from those of the great master. Ibn al-Bawwab methodically located paper of a similar age and texture, carefully copied the proportions of the original script, and meticulously bound his addition to match the original





**Figure 2.2: *Al-Khatt al-Mansub* of Ibn Muqlah.** A recreation of vizier Ibn Muqlah's (d. 940 C.E.) geometric system for the construction of proportional characters. The system is known as *al-khatt al-mansub* (proportioned scrip), as it measures every letter in relation to the *nokte* (rhombic dot), the height of the *alif*, and the circle. Reproduced from *Islamic Calligraphy* (Safadi 1979: 17).

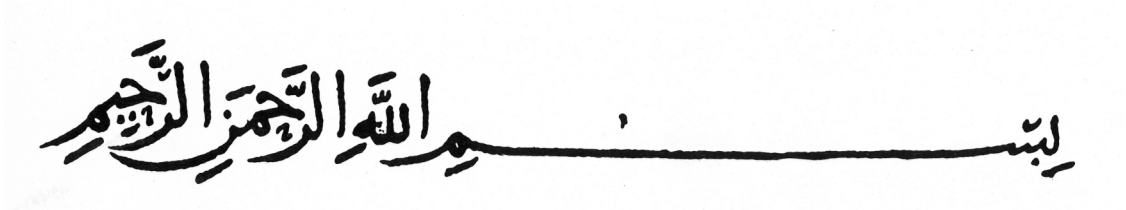
(Rice 1955: 7-8; Bloom 2001: 119-120; Roxburgh 2003: 41-43;). Over a year passed before the scribe presented the court with a completed Qur'an. Al-Dawla and his trusted advisors scrutinized the entire text, but no one could identify the new section. Ibn al-Bawwab requested that he be paid in quality paper rather than coins in order to continue practicing his craft. Al-Dawla agreed and Ibn al-Bawwab soon attained fame as the second of three great calligraphic figureheads.

Ibn al-Bawwab, who was known for both the elegance of his script and the length of his beard, beautified and perfected the geometric system of Ibn Muqlah (See Figure 2.3). Building upon the system of *al-khatt al-mansub*, he elevated *naskh* to the status of a visual and aesthetic art befitting the Qur'an (Abbot 1939b: 77; Rice 1955; Safadi 1979: 18):

Ibn Muqlah no doubt beautified writing, but the beauty lay in geometric design and in mathematical accuracy. His was the art of the mechanical draughtsman. ... Ibn al-Bawwab was an artist with an artist's eye for the rhythm and movement that find expression in the flowing line and graceful curve. As Arab writers say, he 'wove on the loom' of Ibn Muqlah, but he wove a masterpiece of his own (Robertson 1920: 61-62).

As both a calligrapher and a master illuminator, Ibn al-Bawwab is famed for the consistency, elegance, and harmony of his script. Although he was not the first to copy the Qur'an in a *naskh* style, he drafted a beautiful *mushaf* of well-proportioned script, and the number of *naskh* Qur'ans increases dramatically after his example (Rice 1955; Grabar 1992: 77-78).

After the beautification of *naskh* from the hand of Ibn al-Bawwab, the third calligraphic master was Yaqut al-Mustasimi (1242-1258 C.E.). Although



**Figure 2.3: Bismillah of Ibn Al-Bawwab.** The famous *bismillah* penned by master calligrapher Ibn al-Bawwab (d. 1022 C.E.).

he began life as a slave (Schimmel 1984: 21; Pederson 1984: 87), Yaqut became famous for his script, his method of trimming the pen, his prodigious output, and his exemplary teaching. Yaqut is rumored to have copied the Qur'an over a thousand times (Pedersen 1984: 87), and he was so dedicated to his craft that he refused to stop practicing as the Mongols sacked Baghdad. With the city burning around him, he found refuge in a minaret and continued to practice his writing (Bloom 2001: 109). After filling all the available scraps of paper, he began to inscribe the hem of his robes. Yaqut instructed hundreds of scribes in the proper application of *al-aqlam al-sittah* (Ülker 1987: 70). Of his numerous students, six perfected his style to such a degree that they could sign works in the name of their master (Ahmad ibn Mir Munshi 1959: 60).

Yaqut is specifically credited with devising a new method of trimming the *qalam* (reed pen). By cutting the reed at a slightly curved angle, he was able to slow the flow of ink (Welch 1979:30; Schimmel 1984: 21). This new pen provided a greater degree of elegance and an increased variation in tracing the width of the line.

The cynosure of calligraphers (Yaqut) cut the end of the *qalam*. Thus, he altered both the rule and the writing, because writing is subordinated to the *qalam*. For this reason, his writing is preferred to that of Ibn Bawwab for its fineness and elegance, and not for the sake of the basic rules; for the essence of writing, it is the same as invented by Ibn Muqlah from the circle and the dot (Ahmad ibn Mir Munshi 1959: 58)

After Yaqut, Ibn Muqlah's system of proportioned script became established as the centerpiece of Arabic calligraphic tradition. Yaqut's pupils shared both his technical and scribal innovations with generations of scribes, and his style

was widely copied. Due to the number of manuscripts bearing his signature, some sources record that Yaqut lived over 180 years (Ülker 1984: 70). But unlike Ibn al-Bawwab's recreation of the Ibn Muqlah's Qur'an, the copies of Yaqut's work rarely attempted to properly age their paper or replicate the illumination of the master's era (Roxburgh 2003: 42-43).

After two hundred years of calligraphic tradition, Shayk Hamdullah of Amasya (1436-1520) reinvigorated and repopularized the *al-aqlam al-sittah* of Yaqut among Ottoman scribes. Like Hamdullah, Yaqut had also been native of Amasya, and the Shayk's lineage of calligraphic instruction lead back to the old master via Yaqut's disciple Ahmad al-Suhrawardi. Hamdullah, in turn, instructed Sultan Beyazit II, while the later served as governor of Amasya, and after he ascended the throne, the Sultan invited his teacher to Istanbul to serve as palace calligrapher.<sup>29</sup> Beyazit II so admired the Shayk that the Sultan would often hold the calligrapher's inkwell as he worked. During one of their work sessions, Beyazit supposedly asked his teacher if the scripts of Yaqut could be improved. In response, Hamdullah disappeared for forty days and returned with finer proportions governing the writing of *al-aqlam al-sittah* (Atıl1987: 44; Acar 1999: 26-27; Alparslan 2002: 28-29; See Figure 2.4).<sup>30</sup> With these renewed proportions, calligraphy became a celebrated Ottoman practice and a formal

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<sup>29</sup> Sultan Beyazit II is also rumored to have banned printing by Muslim constituencies in Ottoman lands. This ban is examined in Chapter 4.

<sup>30</sup> The handwriting of Shayk Hamdullah's contemporary Sayyid Ismail is reported to have been extremely elegant and may even have matched that of the Shayk. But he failed to establish a formal set of relations and a school of instruction as the size of his belly prevented him from properly placing the writing board across his knees.



**Figure 2.4: Bismillah of Shayk Hamdullah.** This *bismillah* was penned by Shayk Hamdullah of Amasya (1419-1520 C.E.), the founding master of Ottoman calligraphic tradition. Reproduced from *Turkish Calligraphy* (Mahir 1999: 19).

tradition of instruction. And the wonderful designs of Ottoman calligraphy inspired viewers to claim that “The Qur'an was revealed in Mecca, recited in Egypt, and written in Istanbul.”

As court calligrapher, Shayk Hamdullah's life was not without intrigue. When Beyazit II was deposed by his son Sultan Selim “The Grim,” Hamdullah retired from service and refused to scribe Qur'ans for the new sultan. After eight years, Selim was replaced in turn by Sultan Süleyman the Magnificent, and Hamdullah returned to his post (Ülker 1987: 71). He served Süleyman for the duration of his reign and continued to write until the age of eighty-four. In addition to being a master scribe, Shayk Hamdullah was accomplished in archery, falconry, and swimming (Mahir 1999: 31). He is even rumored to have swum the Bosphorus while holding a reed pen between his teeth. For his many accomplishments, Shayk Hamdullah was designated “the *kibla* of calligraphers” after his death.<sup>31</sup> The entire Ottoman tradition flows from his pen, and the instructional genealogies of Ottoman calligraphers are expected to lead back to his tutelage (Schimmel 1984: 36; Ülker 1984: 60; Atıl 1987: 44).

Shayk Hamdullah represents the first in a series of Ottoman celebrity scribes. These master artisans were frequently commissioned and generously rewarded for the design of architectural inscriptions, monumental Qur'ans, display panels, and decorative pieces (Roger and Ward 1988: 55).<sup>32</sup> In addition

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<sup>31</sup> The term “*kibla*” refers to the direction Muslims turn while praying (i.e. toward Mecca). Hence, Shayk Hamdullah's honorific title may also be understood as “the designated attention of calligraphers.”

<sup>32</sup> Orhan Pamuk's historical novel *My Name is Red* (2001) presents a detailed murder mystery set among a group famous court artisans during the reign of Sultan Murad.

to Shayk Hamdullah, this eminent group included Ahmed Karahisari (1469-1556 C.E.), Hasan Çelebi (d. 1594 C.E.), Hafiz Osman (1642-1698 C.E.), who became known as the “second Shayk” after Hamdullah, and Mustafa Rakim (1757-1825 C.E.)<sup>33</sup> Both Ahmed Karahisari and his adopted son Hasan Çelebi worked alongside Shayk Hamdullah in the court of Sultan Süleyman. Ahmed Karahisari became especially well known for his visual experimentation and an aesthetic style that harmonized the ratio of the letters with the whole page (Mahir 1999: 31; Figure 2.5). It is said that the only thing that could match the elegance of his designs was the elegance of his attire (Schimmel 1984: 73). He famously drafted an unbroken *bismallah* without *nokte* where all the letters connect in a single line (Figure 2.6). Aligning the visual with oral recitation, Karahisari would write the entire phrase in a single breath without lifting the pen from the page.

The Arabic calligraphic tradition formalized the visual conventions of writing toward communicative and artistic ends. Scribal changes were highly political and the result of ongoing negotiation. On the one hand, abrupt shifts in writing were perceived as a threat to proper preservation of the Qur’anic text. Formal additions such as the diacritical markings of al-Farhidi and Ibn Muqlah’s system of *al-khatt al-mansub* were first applied to administrative and secular texts and only slowly adopted for religious purposes. On the other hand, aesthetic writing and calligraphic beauty offered a visual technique of

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<sup>33</sup> The contributions of Hafiz Osman and Mustafa Rakim are discussed in more detail in Chapter 5.





**Figure 2.5: The Calligraphic Design of Ahmad Karahisari.** This calligraphic design by Ahmad Karahisari (d. 1556) displays the unbroken *bismillah* for which he is famous bounded by two maze-like inscriptions of square *Kufic*. The top square repeats “Elhamdulillah” four times and the bottom square contains the entirety of the Qur’anic *surah* Al-Ikhlās (Chapter 112, Sincerity). Reproduced from *Turkish Calligraphy* (Mahir 1999: 23).



**Figure 2.6: Unbroken *Bismillah* of Ahmad Karahisari.** This *bismillah* is referred to as “unbroken” because Karahisari (d. 1556 C.E.) wrote the entire phrase without lifting his pen from the page. The continuous line breaks with convention to link words and letters, such as the *alif*, typically left unconnected.

Qur'anic celebration. With the formalization of calligraphic tradition, the Ottoman masters explored the symbolic role of calligraphy for artistic and religious purposes. Their intricate designs became markers of authority and wonder in mosques, grand Qur'ans, and artistic display panels.

### THE GRAMMATOLOGY OF ARABIC SCRIPT

In light of grammatological discussion, Arabic practices of inscription offer an interesting case. Although early Arabic writing adopted Nabatean-Aramaic letters, the script was perfected as uniquely Arabic in relation to a specific text: the recited Qur'an. Many scholars note the centrality of the Qur'an within Arabic practices of writing (Safadi 1979; Harris 1995; Bauer 1996; AbiFarès 2001), and Albertine Guar contrasts the Qur'anic revelation with the economic and material shifts that heralded the adoption of writing in other societies:

In most of the cases ... the stimulus for the advancement of writing had been an upsurge in productivity, commerce, and administration. In the case of the Arabs the stimulus did not come from material advancement, but flowed directly from the creation of the Islamic faith in the first half of the 7th century (Guar 1984: 97).

Since the Prophet Muhammad recited the Qur'anic as an oral revelation, early attempts at preservation sought to maintain the oral quality with which the text was originally recited. But with the loss of reliable *Huffaz* due to battle and age, the Caliph Uthman formalized a written Qur'an. The tools of Arabic script were adopted to represent, beautify, and glorify the Qur'an, and the question of how to properly record and display a divine revelation became an

issue of central importance. The Islamic use of Arabic script is not abstractly related to spoken Arabic, as studies of linguistics might suggest. Arabic script provided a visual technology for recording a specific speech act.

Arabic letters were quickly formalized after the advent of Islam, and orthographies of Classical and Modern Standard Arabic remain remarkably similar (Bauer 1996: 559). Arabic Script development answered the challenge of the Qur'an, which reflexively comments upon the importance of writing for the sake of preservation and knowledge. The first revealed verses instruct:

Recite in the name of your Lord who created  
Created humanity from a clot of blood  
Recite: your Lord is most bountiful  
*Who taught by the pen*  
Taught humanity what it did not know  
(Surah 96:1-5, emphasis added)<sup>34</sup>

A later revelation, entitled *al-Qalam* (The Pen), continues this commentary and begins with the oath: “Nun. By the pen and what is written” (Surah 68:1).<sup>35</sup> In response, Arabic script developed as a “pen” in service to Qur'anic revelation. However, since the Qur'an is a living text, the script could not simply capture Qur'anic content. The Qur'an is not simply a specific oral statement; it offers the *literal* word of God. In attempting to record this Word, the question of writing becomes a spiritual mystery. Can writing visually record and display the energy of revelation? Can Arabic writing, as a technical human process,

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<sup>34</sup> Although this Surah is numbered as Surah 96, it was the first Surah revealed to Prophet Muhammad. The numbering of Surahs in the Qur'an does not reflect the chronological order of their revelation.

<sup>35</sup> The letter *nun*, which begins this Surah is one of the *futuhah* (isolated letters) that appear at the beginning of certain Surahs but do not form conventionally understood words. More discussion and analysis of these *futuhah* letters appears in Chapter 3.

contain and preserve the content and meaning of an uncreated divine text?

Seyyid Hossein Nasr summarizes the dilemma as follows:

The text of the Qur'an reveals human language crushed by the power of the divine word. It is as if human language were scattered into a thousand fragments like a wave scattered into drops against the rocks at sea. . . . The Qur'an displays human language with all the weakness inherent in it becoming suddenly the recipient of the Divine Word and displaying its frailty before a power which is infinitely greater than man can imagine (Nasr 1994: 47-48).

If the divinity of Qur'anic revelation shatters human language, how can the visual representation of language hope to capture the text? Since the Qur'an offers more than human language, a writing that seeks to record that power must also become more than language. Somehow, the writing itself must also explode, and "calligraphy, though not yet codified, began at that moment to establish the Qur'an in its miraculous origin" (Khatibi and Sijelmassi 1976: 28).

This dilemma of a divine object clothed in human language and human script continues to have an enormous impact on the development of Arabic writing. Like practices of memorization and recitation, Arabic script presents the Qur'an in a manner befitting its continuous remembrance, enjoyment, and recitation as a divinely revealed Book. First, orthography preserves the words as they were initially revealed, reflecting their recitation in time as a written line across space. Then, the line of writing is played with, examined, and aestheticized to explore the meaning, presence, and image of the Qur'anic text.

[The Qur'an's] sacrosanct nature precludes any possibility of allowing variations or reformulations that could be construed as altering 'the word' in any particular. But this leads naturally—and it is tempting to say inevitably—to embellishments of a formal nature in the scripts themselves (Harris 1995: 159).

Letters of the Qur'anic text, while remaining consistent, are celebrated and explored through artistic variation and decorative beauty. These techniques visually differentiated the sacred text from the material form of other writings (al-Bagdadi 2005: 95-96). The aesthetic experiments of Islamic writing and Arabic script may be understood, in part, as a written archeology aimed at recovering a specific textual event.

The development of diacritical marks for vocalization emphasizes this unique dynamic. Borrowing characters from the syllabic script of Nabatean Aramaic, Semitic alphabets converted syllabic symbols to representations of consonantal letters. Because vowel differentiation is not essential for decoding the meaning of root words, however, vowels signs were not developed. Later, during the alphabetic reforms of the Umayyad and Abbasid eras, a system of diacritical marks developed to indicate vocalization. But these markings operate as paratextual markers—much like punctuation marks—rather than individual letters. Their presence guarantees proper vocalization when the written Qur'an is recited aloud, but they do not alter the orthography of the script, as that would also have altered the preservation of Qur'an as it was recorded and formalized by the companions of the Prophet Muhammad.

Diacritical vocalization marks store additional information not directly represented by Arabic letters. They are contributive but not essential to the recording of written text. Originally, these new marks were limited to secular texts (Safadi 1979: 14). This visually preserved the Qur'anic text and formally distinguished it from other writings. A learned reader was expected to have

much of the Qur'an committed to memory, and the information represented by vocalization marks may have been deemed unnecessary for reading or recitation. The use of diacritical marks for Qur'anic copying admits imperfect Qur'anic knowledge on behalf of readers, and Islamic scribes may have been hesitant to share the text with unfamiliar audiences.<sup>36</sup> With the expansion of Islam, the loss of *huffaz*, and a growing number of non-Arab Muslim converts, however, the information stored by diacritics proved pedagogically beneficial. Without altering the Qur'anic text, they facilitated memorization of the text in a properly recited form (Milo 2002: 126, n5).

Later, diacritical marks also provided useful tools for transcribing the increasing number of languages written in Arabic script. As developed as Arabic script became for recording the rhythm and language of the Qur'an, it could not sufficiently address all the languages for which Arabic characters were adopted. Arabic script has been adapted to transcribing a collection of non-Arabic languages including Urdu, Farsi, Pashto, Swahili, and Ottoman Turkish, and it is now the second most common alphabetic script in the world after the Latin alphabet (Kaye 1996: 743). Many of these languages employ vowels for morphemic purposes and therefore required the new diacritical marks, or, as is the case in Kurdish, they adapted certain Arabic characters as vowels (*ibid.*: 748-749).

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<sup>36</sup> Similarly, Michael Clanchy notes that tenth century Christian monks "would not have understood the modern demand for mass literacy. There was no point in teaching writing to people who would never have anything worth committing to the permanence of script" (1979: 118).

The nations which accepted Islam . . . adapt[ed] their languages within the limits of Arabic, because the Koran was revealed in Arabic and written in Arabic. However, they added dots or lines to the Arabic characters expressing similar sounds . . . which are not present in the Arabic vocalization (Acar 1999: 30).

As a technology, Islam applied Arabic script in order to transcribe the Qur'an. But that same technology was and frequently is utilized for nonreligious, non-Qur'anic purposes, and non-Arabic purposes. With diacritical vocalization marked, Arabic script can accurately record sounds of the Gettysburg address, despite the fact that those sounds are incomprehensible as a string of spoken Arabic (See Figure 2.1). Techniques of writing and technologies of inscription, once developed, can be applied in a multiplicity of directions. Suggesting that all writings in Arabic script reflect an Islamic or Qur'anic orientation compares with foolishly asserting that gunpowder, which may have originated for use in celebratory fireworks, cannot be applied to warfare, or that techniques of stained glass, which were specialized in Gothic cathedrals cannot depict non-Christian or non-religious images.

Islamic writers often describe writing as one of two tongues (Ahmad ibn Mir Munshi, 1959: 51; Ülker 1987: 58; Grabar 1992: 91; Messick 1993: 212), a sentiment strikingly reminiscent of Leroi-Gourhan's notion of communication as bodily movement. One tongue moves particles in the air to produce sound; the other tongue traces movements of the hand across space. Oral recitation is celebrated as the tongue in which Qur'anic revelation occurred. As beautiful as "tongue of the hand" may become, it cannot replicate the divine sounds of Qur'anic revelation. Instead, the beneficial power of writing is acknowledged



for the preservation and storage of information. Even “as the importance of memorized retention is repeatedly stressed, an interdependence with writings is consistently recognized” (Messick 1993: 29). Writing cannot function as a replacement of speech, but it offers a useful mnemonic aid for recreating speech. Jack Goody (2000: 33) has noted how writing benefits the practice of verbatim memorization. Memorization internalizes a precise text, and writing offers a pedagogical tool for memorization. Although writing visually stores information, the value of that information arises through its embodiment and internalization. Writing offers a *medium* through which a message enters the body, just as food offers a medium through which nutrition enters the body. The parallel is highlighted by Islamic and Arabic practices of swallowing the word by washing the written text from a tablet and drinking the ink (Goody 2000: 105; Schimmel 1994: 52). As material and visual markers of meaning, writing may be tasted, ingested, and internalized. And the tongue of the hand may feed the tongue of speech.

The tongue of the hand moves in many directions, and Arabic writing explored a wide range of graphic possibility to convey additional information alongside the referential content of texts. Some of these traits, like diacritical marking of vowels, were pedagogical. Others indicated the authority of texts, their genre, or their specific function. In descriptions of written texts, Arabic writers place considerable importance on the communicative role of diverse materials and the appearance of script. For example:

Ibn al-Tuwayr tells us that when the Imam went to the mosque of al-Hakim (known as al-Anwar) during Ramadan, textiles near

the *mihrab* were embellished with writing from the Qur'an. He even lists the *suras*. Thus, since he indicated the semantic content of the writing, presumably he saw, read, and understood it. But in telling this story, he gave equally many—if not more—details about the color, materiality, and form of the writing. These factors thus must have been important in conveying meaning to him, and presumably to those to whom he recounted the information in his own time (Bierman 1999: 20).

Visual variations of writing expand the text. Arabic writing practice deployed the material and visual traits of writing as tools of information storage. These contributed to and commented upon the referential content of text. Without forfeiting the linearity of script, a series of visual conventions operated outside and around the line of writing.

An early innovation was the use of color to distinguish among types of signs and information. The diacritical system suggested by Abul Aswad ad-Du'ali and his pupils in the seventh century applied distinctively colored dots to indicate vocalization of spoken Arabic patterns. Although rare in modern writing, Gelb mentions the potential of color to assume significance as a visual convention. Systems of color differentiation exploits a unique trait of graphic communication, and Gelb even suggests that color differences may have been more frequently employed in pre-print systems of writing (Gelb 1952: 18-19).<sup>37</sup> In ad-Du'ali's system, the use of color has a dual purpose. It not only provides information regarding proper vocalization, it also visually differentiates letters of the primary text from later diacritical additions. Generalizing the difference

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<sup>37</sup> Within digital environments, the importance of color as a marker of convention is slowly returning. The Microsoft Office suite, for example, defaults to replacing any text suspected of being a hyperlink with an underlined blue version of the same text. Likewise, a wavy red line indicates suspected spelling errors, and a wavy green line marks suspected grammatical errors.

between primary text and additional commentary, similar color practices may also apply to blocks of writing. Islamic scholarship occasionally traced a *matn*, or primary text, in black ink and its accompanying *sharh*, or commentary, in red (Messick 1993: 32; Khatibi and Sijelmassi 1976: 86-90, 112-115; Acar 1999: 90-92).<sup>38</sup> As a visual convention, color became a novel marker of text relations and types of information.

Writing in multiple colors requires multiple inks and multiple pens and is therefore unsuited for quick or voluminous writings. Over time, as the use of written diacritics increased, color differentiation decreased. In the eighth century, Khalil Ibn Ahmad al-Farahidi replaced colored diacritics with a new system of diacritical *tashkil*. al-Farahidi's new vocalization marks were placed above and below the line of letters. This process comments upon the linearity of writing and provides additional written information through the “principle of position” (Gelb 1952: 19).<sup>39</sup> Thomas Milo (2002: 124) describes Arabic script as a series of horizontal layers, with each layer contributing another function (See Figure 2.7). Beginning from a base line of letters, vowel, cantillation, and decorative marks are added in successive layers. Some of these marks assist the proper pronunciation and recitation of the text. The visual conventions of

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<sup>38</sup> Acar (1999: 90-92) describes how Ottoman scribes expand this practice to include a variety of both script and background colors. In addition to red and black inks, he lists yellow as the proper color for text on black backgrounds, white as the proper color for Qur'anic titles chapters on gilded backgrounds, and green as the proper color for drafting imperial Ottoman privileges.

<sup>39</sup> In the Latin alphabet, the principle of position remains noticeable in the dots of “i” and “j,” as well as a variety umlauts and accents. Conventions of character position are also quite common in mathematical notation.

Skeleton script showing individual archigraphemes.

The addition of dots establishes the identity of ambiguous graphemes

Consonant enhancers identify reduplicated consonant graphemes.

Vowels are identified, or their absence is marked.

Punctuation or cantillation (precise verbalisation) is indicated.

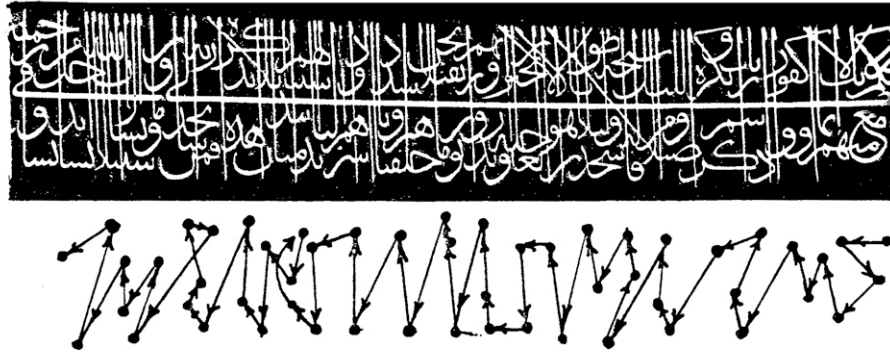
The erroneous placement of illegal dots in copying is blocked.

Ornamental elements are added to aesthetically fill holes in the text.

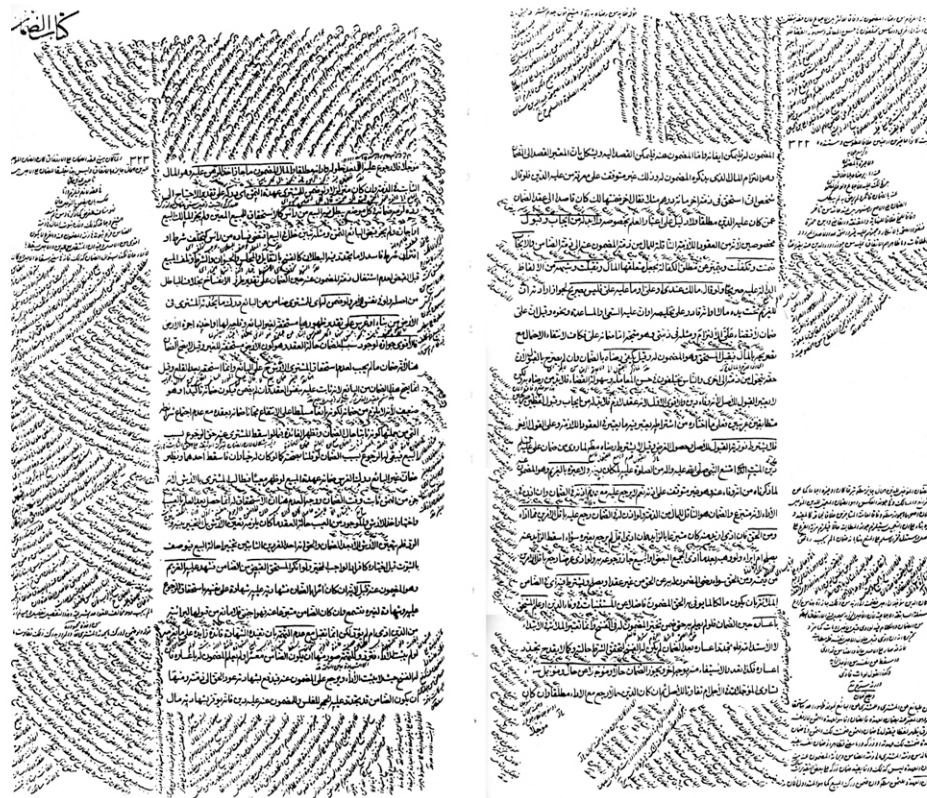
**Figure 2.7: The Layers of Arabic Script.** Thomas Milo describes the structure of Arabic script as a series of horizontal layers constructed around a skeleton script of archigraphemes. The green marks indicate the additions of each successive layer. Reproduced from “Arabic Script and Typography” by Thomas Milo (2002: 124)

other marks remain unspoken. They may balance the image aesthetically or serve as preventive measures against erroneous copying and later additions. Only the basic line of letters and their corresponding *nokte* are required. The other marks, although conventional, are optional. Their addition depends on the role of the text and the precision with which the tongue of the hand must support the spoken word.

Above and below the line of writing, diacritics and decorative marks modified and expanded the text. Decorative inscriptions might break the line even further, jumping across levels of writing or radically shifting direction to preserve aesthetic balance (See Figure 2.8). Or conventions of spatial position, like differences of color, might serve as markers of content and genre. Entire passages or blocks of text entered into spatial and positional relations with the surrounding space and other texts. Beginning between lines of a primary text, textual commentary spilled into the margins, where it often departed at new angles, perpendicular, or even opposite the orientation of the original. As a visual analog to its textual divergence, reading commentary might require physically rotating the page (Khatibi and Sijelmasi 1976: 214-18; See Figure 2.9). Brinkley Messick specifically cites the spatial practice of Yemeni spiral texts. These texts construct the written space of a page depending upon the amount of content. Beginning with a seal in the middle of the page, the text first fills the lower left quadrant. The writing then pivots almost 180 degrees to track up the right hand column, and it pivots again to cover the top half of the page (Messick 1993: 231-237; See Figures 2.10 and 2.11). In spiral texts, the



**Figure 2.8: Calligraphic Layering.** This composition aesthetically balances the letters in the upper portion with those in the lower portion. The diagram below the design traces the line of writing followed by the inscription. Reproduced from *The Art of Arabic Calligraphy* (Ghulam 1982: 52).



**Figure 2.9: Marginal Commentary.** The primary text is an Arabic grammar written by Muhammad Tabizi in 1872. The blocks of marginal commentary organize the graphic space of writing along multiple lines and text directions. Reproduced from *Arabic Script: Styles, Variants, and Calligraphic Adaptations* (Mandel Khan 2001: 141) and *The Splendour of Islamic Calligraphy* (Khatibi and Sijelmassi 1976: 188-189).

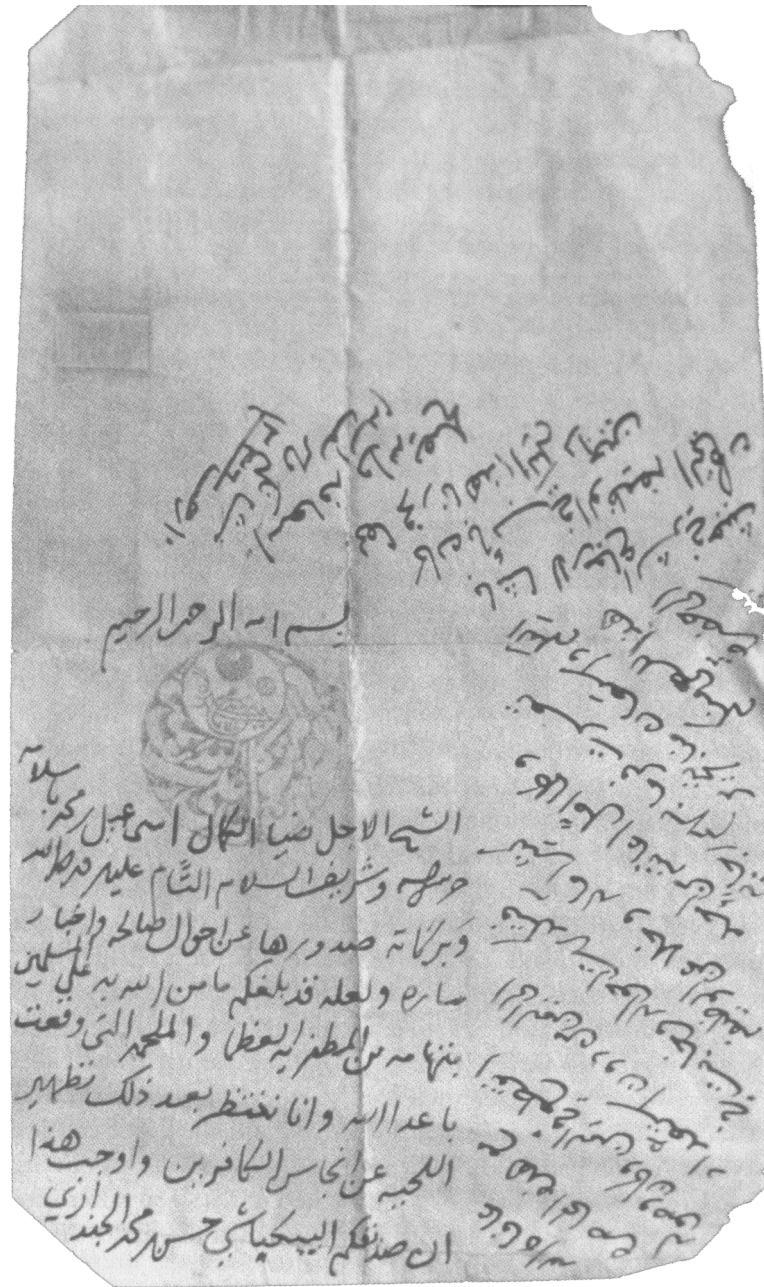
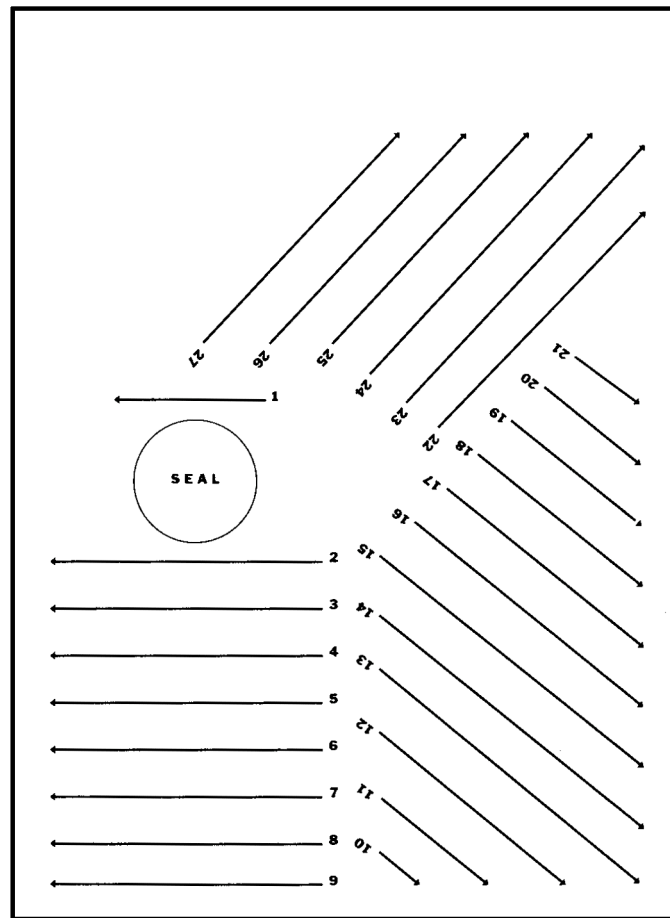


Figure 2.10: A Yemeni Spiral Text. The spiral organization of a Yemeni document. Reproduced from *The Calligraphic State* (Messick 1993: 232).





**Figure 2.11: Spiral Text Diagram.** Brinkley Messick's diagram of textual progression in a Yemeni spiral text. Reproduced from *The Calligraphic State* (Messick 1993: 233).

written content shapes the written space. Reminiscent of the mythogram, they display writing as the multidimensional design of graphic space.<sup>40</sup>

A similar perspective on writing as a practice of spatial design informs Ibn Muqlah's system of geometrical calligraphy. Formal geometry governing principles of position and the shapes of letters inspired a robust calligraphic tradition. Ibn Muqlah's systematic reform, however, was not initially directed toward aesthetic ends. The vizier was a political functionary, and the need for clarity and efficiency in administrative communications influenced his system much more than a religious or artistic calling. The spread and availability of quality paper in the tenth and eleventh centuries increased both the quantity and variety of bureaucratic documents (Grabar 1992: 77; Bloom 2001: 108-109). Responding to these changes, Ibn Muqlah sought to standardize the legibility and appearance of administrative texts:

[T]here was indeed a revolution in ways of writing attributable to or later associated with Ibn Muqlah. That revolution took place during the tenth century, although no dated fragment can be associated with it before the following century. It did not consist in the establishment of what has come to be called calligraphy, of writing for its own sake and for a primarily esthetic purpose. Possibly much more like the typographic inventions of the sixteenth and seventeenth centuries in western Europe, what was created is a series of "types," both in the scientific and in the printing sense of the word. A new standard was elaborated that allowed for variations, as any type would, and the proportions defining each letter gave to the process of writing a mechanical side, which, as in printing, guaranteed quality and consistency (Grabar 1992: 76).

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<sup>40</sup> The writing of a spiral text compares nicely with Leroi-Gourhan's description of Paleolithic art, in which the graphic representation of thought is radially organized.

It is not a stretch to suggest that Ibn Muqlah's technical achievement in Arabic script design was as influential as Gutenberg's achievement of movable type for the Latin alphabet. Ibn Muqlah's invention responded to similar concerns as Gutenberg did centuries later: the increased availability of paper (Bloom 2001: 108-109), the growth of a reading public (Safadi 1979: 14), and a demand for multiple reliable copies of key political and religious documents (Grabar 1992: 70). The formalization of written geometry allowed handwriting to be readily shared and accessible across vast distances and times. Importantly, this work of standardization occurred *prior* to printing with moveable type. As a result, the Qur'an written by Ibn al-Bawwab remains legible to a modern reader over a thousand years after it was produced. This contrasts sharply with the writings of Latin letters, where readers typically have difficulty deciphering handwritten texts more than two centuries old (Bloom 2001: 109). By formalizing a precise set of geometric rules for the writing of Arabic script, Ibn Muqlah laid a foundation for the mass production and letter types five centuries before the application of moveable type.

The history and development of Arabic script unfolded with precision and deliberation after the revelation of the Qur'an. As the applications of the script increased, writers continued to grapple with issues of visual style and graphic representation. Systems of *tashkil* (the marking of Arabic vocalization) developed to represent and teach the Qur'an to those who were not intimately familiar with the sounds of recited Arabic. Similar principles of color and position were later deployed as markers of content and information, without

significantly altering the basic orthography of Arabic script. Within this story, the triumvirate of Ibn Muqlah, Ibn al-Bawwab, and Yaqut al-Mustasimi stand out for their contributions to Arabic script and calligraphic tradition. One devised an orderly typology of proportions and geometric rules (Ibn Muqlah), one beautified the script with artistic craftsmanship (Ibn al-Bawwab), and one perfected the trimming of the pen (Yaqut). As Arabic practices of writing and calligraphy formalized, the grammatological questions of character shapes, visual aesthetics, and material tools were all answered in turn.

#### **LIGATURE: THE SHAPE OF ARABIC LETTERS**

Arabic writing developed alongside Islam as a means for sharing and communicating the Qur'anic revelation. As one of the two “tongues,” writing aided preservation of the Qur'an, but it was not understood as a reproduction or replacement of speech. Arabic grammatology explored an enormous range of visual convention regarding significant uses of color, position, and written style. Some of these innovations visually celebrate the beauty and divinity of the Qur'anic text. Other scribal innovations responded to the administrative and bureaucratic requirements of information and document organization. The multiple aesthetic meanings of Arabic writing and the Ottoman system of scripts will be examined in Chapter 3. With the arrival of print, Arabic scribes encountered a new *type* of visual letter and a new technology of inscription. Ottoman negotiations with this encounter form the basis of Chapter 4, and the textual and symbolic changes of Arabic script that accompanied printing are

examined in Chapter 5. These changes reinvigorated visual experimentation across multiple sites and multiple conventions of Arabic script. Applications of Arabic writing present innovative solutions for the storage, display, and differentiation of information, and the grammatology of Arabic script inspires a variety of conventions for the design of written space.

### Chapter 3:

## Islamic Art and Calligraphy

The artistic and aesthetic innovations of Arabic script emphasize the status of writing as a collection of visual conventions. Chapter 2 addressed this development comparatively, drawing upon the grammatology of Arabic script to introduce a series of issues with relation to practices of writing and design. The present chapter, in contrast, adopts an interpretive and semiotic approach. First, the role of Arabic calligraphy and aesthetic writing is situated within Islamic tradition, the Qur'anic model of communication introduced in Chapter 1, and the wider concerns of Islamic art. Situating calligraphy as an *imagetext*, I explore how Arabic script and Islamic art represent the Qur'an as both a linguistic text and an aesthetic pattern. Arabic calligraphy operates as a locus of multiple semiotic codes, and movement among these codes allows viewers to interpret the visual marks of writing through diverse channels. I present a number of these symbolic codes in order to highlight how multiple visual conventions may operate concurrently within a single written image. Finally, the chapter outlines the variety of scripts employed by the Ottoman calligraphic tradition. The system of Ottoman scripts utilized aesthetic and formal differences as signifiers of textual genre and document role. Like the Arabic letters they inscribed, variations of scribal type became conventional markers of multiple meanings.

## THE PLACE OF CALLIGRAPHY WITHIN ISLAMIC ART<sup>1</sup>

Within the wider system of Islamic arts, calligraphy conveys messages of language, spirituality, tradition, and religion. Both Linguistic and aesthetic channels operate in parallel to convey messages and store information. For this reason, it is useful to think of calligraphic writing as an *imagetext*: a visual work that combines images and words in an ensemble of meaningful relations (Mitchell 1994: 89).<sup>2</sup> The production of calligraphic texts invests writing with aesthetic design, linguistic content, literary allusion, and religious symbolism. The final piece may be viewed or “read” in many ways across multiple sites of display.<sup>3</sup> Not all of these “readings” arise from the legibility of the text; some grow out of the formal graphic or spatial qualities of the piece. Calligraphic analysis uncovers the multiple channels through which the visual and linguistic traits of an *imagetext* communicate concurrently.

Given Islamic proscriptions against figurative imagery, we might be tempted to answer that calligraphy provides a visual substitute for figurative

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<sup>1</sup> For extended discussion on the definition and limitations of the term “Islamic art,” see Grabar (1973), Burckhardt (1976), Nasr (1987), and W. Ali (1996), as well as Nada Shabout’s (1999) introductory section outlining the difference between “Islamic art” and “Arab art.”

<sup>2</sup> The term, *imagetext*, was coined by James Mitchell to address the theoretical divide separating the analysis of pictures and texts. As evidence, he cites Gilles Deleuze’s exposition of *Foucault*: “Speaking and seeing, or rather statements and visibilities, are pure Elements, *a priori* conditions under which all ideas are formulated and behavior displayed” (Deleuze 1988: 222). The theoretical implications of this *a priori* division are addressed by Mitchell’s book *Picture Theory* (1994), especially Chapter 1 “The Pictorial Turn” and Chapter 3 “Beyond Comparison: Picture, Text, and Method.”

<sup>3</sup> Jules-Rosette (1984: 226-229) suggests that an art work’s symbolic exchange value increases when it addresses multiple audiences. The aesthetic and decorative display of Arabic writing, for example, addresses many audiences, including viewers who cannot read or understand the linguistic text (*c.f.* Leaman 2004: 35).

images. But overviews of Islamic art history demonstrate that many Muslim artists did in fact include figurative imagery in their work (Leaman 2004: 17-22; Grabar 1973; Gonzales 2001). The royal portraiture of the Ottoman era, especially, realistically depicts sultans in all their pomp and splendor (Baer 2004: 60-61).<sup>4</sup> More importantly, however, the suggestion that calligraphy, and the abstraction of Islamic art in general, arose from a ban on figurative imagery provides an explanation from the outside. The question should not address whether Islamic artists were capable of figurative drawing, which they were, nor should it inquire whether Islamic figurative art lives up to European ideals of composition and perspective.<sup>5</sup> A proper inquiry asks what Islamic art contributes rather than what it replaces. What do calligraphic *imagetexts* offer *Islamic* tradition? What roles do calligraphic writing and abstraction play within the field of Islamic art? Why did Islam develop a robust calligraphic tradition, and why has calligraphy persisted as a celebrated art even after the arrival of print?

The Qura'nic model of writing and communication offers a useful point of departure. Although the Qur'an was revealed in history, its divine letters,

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<sup>4</sup> A partial list of figurative and human imagery within Islamic art includes miniature painting, royal portraiture, and calligraphy drawn in human forms. Thomas Arnold's *Painting in Islam* (1965) and Eva Baer's *The Human Figure in Islamic Art* (2004) contain extensive discussion of Islamic attitudes toward figurative imagery. For explanations of Islamic artistic concerns as anti-idolatry measures rather than anti-figurative ones, see Burckhardt (1976: 27-30), Pedersen (1984: 89-91), and Ali (1996: 28-33).

<sup>5</sup> See Edward Said's *Orientalism* (1978) for discussion of discursive formations that construct "the Orient" in relation to European culture and Christian tradition: "For the Orient is corrected, even penalized, for lying outside the boundaries of European society" (Said 1978: 67).



words, and verses exist eternally. The written Qur'an presents a visual sign of the eternal divine Qur'an, just as oral recitation presents an audio sign.<sup>6</sup> The Qur'an reflexively states that it offers signs for the discerning. The contents of its verses are signs. Its Arabic letters are signs. Its structures and rhythms are signs. And its sublimely aesthetic pattern is a sign.<sup>7</sup> In works of Islamic art, these sign-patterns are explored, extended, and glorified through abstraction and visual design.

Islamic art is the reflection of the language of the Qur'an with its symmetry and harmony, its repetition and multiplicity, its regularity and variety, and its delicately balanced composition which preserves it from declination and atrophy (Ali 1996: 23).

The ubiquity of the Qur'an works like a spiritual vibration—there is no better term to describe an influence which is both spiritual and sonorous—and this vibration [inspires] the modes and measures of Muslim art; the plastic art of Islam is therefore, in a certain way, the reflection of the word of the Qur'an (Burckhardt 1976: 45).

The signs of the Qur'an operate as much more than linguistic markers. Not only calligraphy, but the entire range of visual and aesthetic production may mirror and explore their significance.

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<sup>6</sup> According to Seyyid Hossein Nasr (1987), "The primordial creative act was at once the Primordial Word which is the origin of all sound and of the Noble Qur'an as a sonoral universe, and the primal Point which is the origin of the sacred calligraphy that is the visual embodiment of the Sacred Word" (Nasr 1987: 17).

<sup>7</sup> Ian Netton (1989) comments that the Qur'an is "a semiotician's paradise," filled with both innumerable signs of the divine and reflexive commentary on those signs. "Yet for all the apparent clarity of those signs throughout the text of the Qur'an, the general inadequacy of language about the Maker of those signs remains." (Netton 1989: 321).

The Qur'an offers a code, or generic space, which Islamic art applies to, or blends with, graphic forms.<sup>8</sup> The aesthetic result offers a visual reminder of the divine message. As a practice of semiotic transformation, Islamic art maps the Qur'anic patterns of sound and verse upon graphic and visual space (Ali 1996: 17). Such transfer of Qur'anic code applies equally to both calligraphy *and* geometric ornamentation. The geometric patterns of Islamic art may be perceived as formal attempts at *writing* the Qur'an, regardless of whether or not they contain visible passages of text. The divinity of the Qur'anic code distances it from simplistic comprehension. Hence, visual art cannot simply replicate or figuratively "represent" the Qur'an if the Qur'an itself displays more than human understanding.<sup>9</sup> Calligraphic *imagetexts* and geometric patterns both struggle with this singular dilemma: How can the aesthetic and linguistic pattern of the Qur'an be faithfully recorded? How can miraculous language be transcribed without giving lie to its implicit perfection (Khatibi and Sijelmassi 1976: 28)?

The capacity to carry both a textual messages and to act independently of that message gives calligraphy a distinct visual quality (Lowry 1986: 102).

A calligraphic *imagetext* inspires contemplation of its display by shifting across

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<sup>8</sup> The understanding of semiotic codes in this section draws heavily upon Umberto Eco (1976) and A.J. Greimas (1987). Similarly, reference to Fauconier and Turner's (2002) terminology of "conceptual blending" is deliberate.

<sup>9</sup> Oleg Grabar (1973: 84) notes that the Qur'an is not particularly suitable for figurative representation because it does not contain any major narrative sequences. Instead, as Titus Burckhardt suggests, the linguistic structure of the Arabic language is similar to a visual arabesque: "In Arabic, the 'tree' of verbal forms, of derivations from certain 'roots' is quite inexhaustible; it can always bring forth new leaves, new expressions to represent hitherto dormant variations of the basic idea" (Burckhardt 1979: 43).

semiotic registers. It may be read in both the registry of written text and the registry of aesthetic imagery. Suggesting that calligraphy replaces imagery, rather than supplementing it, assumes that a similar signifying logic supports both types of artistic work (Gonzales 2001: 96). But calligraphic and figurative forms operate as two distinct systems of signification:<sup>10</sup>

[R]epresentation through material images is determined by a constant, fixed and unidirectional language according to which these images carry exclusively the aesthetic signification... [but] writings and other devices of Islamic works of art define many-sided, mobile and flexible combinations following diverse motivations and an extremely variable signifying power that emanates from both the scripture and the artistic form. This variability is due to what we can designate 'the behavior of epigraphy', depending on whether it fully takes part in the decoration, or whether it invades it or appears separately from it. Both the textual and visual features can equally share, or on the contrary appropriate for themselves, the semantic and perceptual functions in the "language" of the artistic work (*ibid.*: 98).

As an artistic device, calligraphy operates as neither solely a text nor solely an image. Islamic calligraphy presents a "spiritual pattern formed by wordly tools" (Mahir 1999: 3). It may alternatively function within a logic of linguistic signification *or* a logic of visual imagery depending upon its position and visual presentation within a larger composition. The spiritual power of its message can be glimpsed between its shifting semiotic registers.

This semiotic shifting distinguishes Islamic calligraphy from aesthetic writing practices of other traditions. Like illumination, calligraphy operates as

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<sup>10</sup> Hence, just as calligraphy is not explained as a substitute for figurative imagery, it also cannot be explained along purely linguistic lines: "it is perhaps only the modern age and in the West that some people have managed to convince themselves that technical talk about art, however developed, is sufficient to a complete understanding of it" (Geertz 1983: 96).

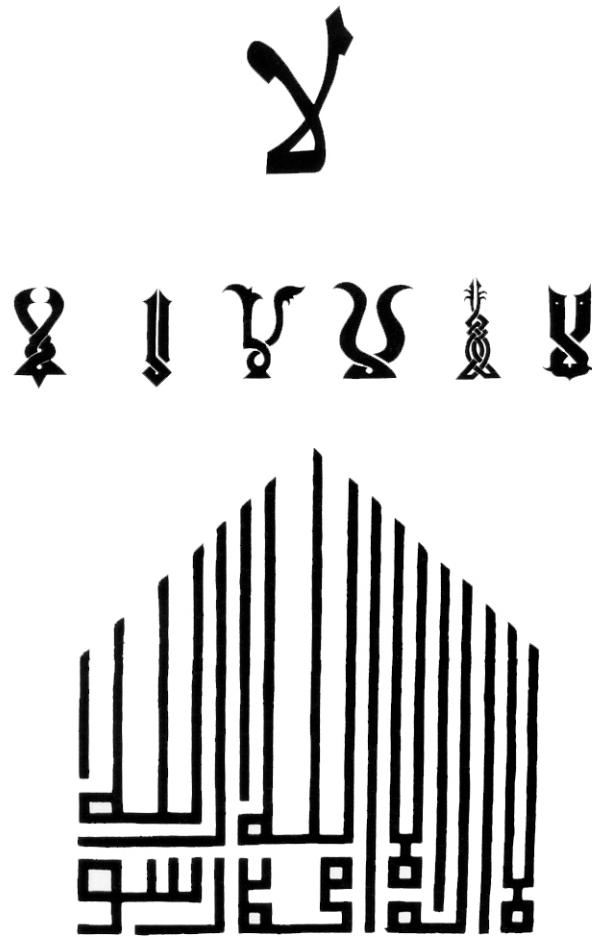
a textual frame. It draws attention to the text and *enlightens* readers of textual import (Olson 1994: 112).<sup>11</sup> But rubricated letters—such as those commonly found in medieval Bibles—visually separate from the uniformity that marks the rest of the text (Grabar 1992: 53). Islamic calligraphy, in contrast, displays Arabic writing and imagery as a continuous rhythm. It integrates with its surroundings fluidly integrates letters as a motif of design (Burckhardt 1976: 47; Acar 1999: 26). In much of Islamic art, script, geometric ornamentation, and arabesques are inseparable. The visual patterns of decoration and text intertwine, rather than separate as distinct channels.

This ability benefits from the formal qualities of Arabic script itself. The twenty-eight Arabic letters are derived from seventeen distinct forms, most of which are composed of three basic strokes: vertical, horizontal, and diagonal (Welch 1979: 24; Lowry 1986: 105).<sup>12</sup> The result is a high degree of written flexibility. Components may be altered, stretched or braided without affecting their basic structure or distinguishing features (Figure 3.1). The fluidity of Arabic script adapts easily to diverse surfaces, and its application may emphasize particular features or textures of that surface. The semiotic significance of the script benefits from its ability to either mesh seamlessly with its visual surroundings or isolate itself from them. It may stand out as a

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<sup>11</sup> “Illumination makes possible the visualization of the spiritual energy which flows from the reading of the Sacred Text: it therefore occupies the margin of the page . . . The illumination is like the halo which surrounds the Sacred Word and the luminosity which is generated by the theurgical presence of the word that is the Word of Light” (Nasr 1987: 30).

<sup>12</sup> The seventeen basic forms become twenty-eight letters through the addition of *nokte* (diacritical dots).



**Figure 3.1: Variations of Lam-Alif.** The glyph at the top is the composite character *lam-alif*. The second row shows variations of this character with intertwined stems and floral motifs. The bottom image emphasizes the verticality of the multiple *alifs* and *lams* of the Islamic *shahada*. A *lam-alif* begins the phrase on the far right. Further discussion of the *lam-alif* character and its metaphorical readings may be found in Irene Bierman's essay "Saying 'No' to Difference: A Case of Arabic Writing on Buildings" (1987).

written passage. Or it may blend with its surroundings as a visual pattern. The ease with which one pattern flows into another produces a sense of unity across text, calligraphy, geometry, and the structure of an object.<sup>13</sup>

Decorative integration of a calligraphic *imagetext* with a wider pattern of arabesques and decoration often complicates attempts to read its referential contents. But legibility may not be its primary communicative channel:

Because calligraphy is writing we stress its relationship to the language in which it operates. But it may not be language which is important to calligraphy, paradoxically it may be that this is the least important aspect" (Leaman 2004: 35).

As a formal and aesthetic composition, the presence of Arabic script may not seek to display the sentiments expressed by words. Both the graphic and the linguistic qualities of calligraphy matter, and the aesthetic communication of calligraphy often plays with the possibilities implicit in the shapes of letters and words themselves (*ibid.*: 48).<sup>14</sup>

In order to partake of their *baraka* (spiritual power), written Qur'anic *mushaf* were often contemplated as visual icons rather than read (Lings 1976: 17). In his analysis of an eleventh century "Qarmatian" Qur'an, Oleg Grabar notes the variety of letter shapes, the vibrant colors of the diacritic marks, the

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<sup>13</sup> The decorative strategy of multiple interwoven motifs is often described as the "*horror vacui*" of Islamic art. Both Grabar (1973: 198-201) and Leaman (2004: 40-44) complicate and reexamine this notion in light of the role played by decoration in Islamic tradition.

<sup>14</sup> Elsewhere in his text, Leaman (2004) makes a stronger claim: "Because calligraphy is writing we stress its relationship to the language in which it operates. But it may not be language which is important to calligraphy, paradoxically it may be that this is the least important aspect of it" (Leaman 2004: 35). The current discussion suggests both the graphic and the linguistic qualities of calligraphy matter. The novelty of the form rests in its ability to shift between these two modes of signification.

rich vegetal background, and the gilded ropelike frame (Grabar 1992: 73-74). These visual traits challenge simple legibility and highlight individual pages as objects of visual contemplation. Grabar concludes that the manuscript provides a range of visual experiences, “which *may* have [but not necessarily] included the experience of reading” (*ibid.*: 74, emphasis original). Although a linguistic reading remains possible, it represents only one point of entry into the visual world of the text.

Elsewhere, Grabar explores how Arabic architectural inscriptions may operate “iconographically” rather than textually. The composition, placement, or choice of a textual passage often highlights a physical or material aspect of its surrounding, or it may elucidate architectural and spatial associations that are not obvious otherwise (Grabar 1992; Welch 1979: 38).

These observations underline two obvious and important facts that one must take into account when studying decorative scriptures in Islam. The first is that the signifying potential of the inscriptions depends upon aesthetic variability. The second is that this potential does not *necessarily* have a link with the textual content itself. (Gonzales 2001: 99, emphasis original).

Islamic calligraphic *imagetexts* do not always operate as legible linguistic signs from which to extract a specific meaning. They may reflect the rhythms and patterns of the Qur’an. They may offer an object of visual contemplation. Or they may draw attention to a significant aspect of their surroundings.

Islamic tradition champions the contemplative aspects of visual art as an invitation to *dhikr*, the remembrance of Allah (Ali 1996; Burckhardt 1976: 83-101; Nasr 1987: 185-194). As viewers interact with visual arrangements,

they become open to divine communication.<sup>15</sup> Calligraphy emphasizes the intellectuality of this interaction. As the display of *written* signs, it explores visual design via the forms and characters of language. Shifting among the layers of foreground and background, image and text, complicates processes of viewing and reading, and invites viewers to struggle with decoding the significance of a text. According to Jale Erzen, if architectural calligraphic inscriptions remain indecipherable, they nevertheless convey an intellectual practice of viewing beyond the “purely visual.” Written language engages the intellect, and visitors do not simply dwell within a space or gaze upon its decoration; they “establish a mutual relationship with the very building itself, at a meta-sensuous and intellectual level” (Erzen 2000: 288).

Ottoman artistic practice emphasized these processes, promoting art as the intellectual and spiritual transformation resulting from an encounter with abstract forms. The absence of figurative imagery was a celebrated principle of aesthetics rather than a measure of prohibition (Ayvazoğlu 2000: 267). By gazing upon complex *imagetexts* and arabesques, viewers merge with an object of attention in intellectual and religious contemplation (*ibid.*: 272). *Imagetexts* operate as symbolic markers of spiritual discovery and religious authority, and calligraphic displays offer an opening through which viewers may enter the contemplation of a visual image or the surrounding space. Calligraphic

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<sup>15</sup> The concepts of extraction and opening are adapted from the “setting upon” and “setting forth” of Heidegger's *Question Concerning Technology* (1977), especially as the essay is clarified and expanded by Samuel Weber (1996). In *Islamic Aesthetics* (2004), Oliver Leaman (2004:165-188) discusses Islamic artistic creation as a visual practice of philosophy which argues for and demonstrates “new ways of seeing.”



art provides an opportunity of self-abstraction.<sup>16</sup> The interplay of decoration and textual content opens upon a field of “visual tactility” (Erzen 2000: 288). Viewers do not “grasp” the intention or meaning of an image, they explore multiple visual planes and “touch” upon a variety of aesthetic and linguistic interpretations. As traces of divine communication, calligraphic *imagetexts* confound simplistic interpretation. Instead, they inspire an intellectual and spiritual attempt to decode them.

#### **MULTIPLE CODES OF THE LETTER**

Written Arabic offers a set of visible signs, and these signs carry diverse messages depending upon which code an interpreter locates them. The mere presence of Arabic script often carries an implicit affirmation of spirituality or Islamic authority (Welch 1979: 23; Ettinghausen 1974; Lowry 1986: 107-108; Schimmel 1994). But the precise meanings and interpretations of letters vary depending upon their location and context. The legibility of a complete text is only one of many possible readings. Contemplative readers may shift from viewing blocks of text, to viewing individual words, to viewing patterns, to viewing specific letters. Each mode provides another layer of meaning, as if one were constantly moving among the geometric levels of an arabesque. The

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<sup>16</sup> Importantly, this principle only applies to spiritual or religious art rather than art in general. As mentioned above, Ottoman society maintained a vital tradition of royal portraiture. These realistic portraits, however, fulfilled a political rather than religious function. As with the system of multiple scripts, which are described more fully at the end of this chapter, Ottoman aesthetic practices differentiated artistic forms according to function.

pleasure of calligraphy appears in the form of writing, which hides a wealth of symbolic and spiritual meaning.

In his instructions to hopeful calligraphers and scribes, Ahmad ibn Mir Munshi claims “the basis of writing lies in the knowledge of single letters” (1959: 52), and the same may be said for contemplative and aesthetic reading. Each letter resides within a matrix of symbolic correspondences, including a precise numeric value, elemental associations, and astrological signification (Schimmel 1984: 92), as well connections with other words in which that letter appears. The letters *alif* and *he*, for example, present the first and last letters of *Allah*, and both may be read as representing the term they bound. And the letter *mim*, which begins the name of Muhammad, may offer a visual symbol or an abbreviation of the Prophet regardless of the word in which it appears. The numerical value of *mim*, moreover, equals forty, and forty marks the age at which the Prophet received the first Qur'anic revelation. Within certain Sufi schools, forty also indicates the number of spiritual and mystical stages that separate humanity from Allah.<sup>17</sup>

Similarly, the science of *jafr* connects words sharing a single numeric value (Cantiens 1991). Thus, Ottoman artists explained the frequent use of tulips in decorative art with the numerical correspondence of *Allah* and *lale* (tulip). Both words contain the same letters and therefore share a value of 66

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<sup>17</sup> For extensive coverage of numeric and symbolic correspondences of various letters see Schimmel (1970; 1984), Welch (1979), and Nasr (1987): “The letters of calligraphy are reminiscent of spiritual beings, and each letter has a personality and symbolism of its own. Thus, calligraphy is partaking and acting as a mediator for spiritual forms in the spatio-temporal matrix” (Nasr 1987: 30).

(Schimmel 1984: 92). The Arabic word *hilal*, the symbol of the Islamic crescent, also shares these letters and further reinforces the symbolic correspondence. Even historical dates may be written as an extended chronogram. The year in which master Ottoman calligrapher Hafiz Osman died, for example, may be remembered with the mnemonic phrase: "Longing for the eternal kingdom, Osman Efendi said He." The numeric value of the Arabic letters composing this phrase add up to 1,110, and Hafiz Osman passed away in the year 1110 A.H./1698 C.E. (Schimmel 1984: 188).

Seeking a reason for symbolically interpreting strings of letters, Muslim readers need look no further than the Qur'an. Twenty-nine of the 114 *surahs* begin with mysterious isolated letters, or *futuhats*. Often, *futuhats* form an entire *ayat* (verse) by themselves. These isolated forms do not form words, but they are integral to the text. Their status as isolated written signs derives from their pronunciation as letters during the oral revelation of the Qur'an. Some *futuhats* could form words if their letters were strung together. However, since they are recited as isolated letters, they are also written as such. As spoken sounds, they contribute to the tonal, rhythmic, and sonoral universe that is the Qur'an. Transposed into written form, they become grammatological or visual puzzles for contemplation and interpretation. Abdelkebir Khatibi and Mohammed Sijlemassi (1976) describe the *futuhats* as a Qur'anic wink of the eye. Via these mysterious letters, humanity is invited to perceive the shards of language shattered by the divinity of Qur'anic content.

*Futuhat* suggest symbolic as well as literal readings, and upon a field of interpretation. The combination *Ha-mim*, for example, begins seven *surahs*, and the letters may be interpreted as an acronym for “*Habibi Muhammad*,” my beloved Muhammad (Schimmel 1994: 152). Alternatively, readings of *futuhat* may examine the appearance and shapes of the letters themselves. Surah 68 opens “*Nun* and by the pen and what they write.” The letter *nun* (Figure 3.2), which begins the *surah*, resembles an inkpot. The shape of the letter holds the *nokte* (dot) of ink, from which the pen draws the remaining letters (Schimmel 1984: 79). The same letter may be visually interpreted as the image of a ship (with the *nokte* as sail) that carries the Qur'anic message upon the oceans of existence, an abbreviation of the word *nur* (light), the closing letter of the *bismillah* (the concluding *nun* of *rahman*, divine mercy), or an open mouth (with the *nokte* as tongue) (Nasr 1987 :25).<sup>18</sup> As both an inkpot and a mouth, the letter *nun* opens both oral recitation and calligraphy as remembrances of the Qur'an. The exact meaning of the letter as a symbolic image remains open to interpretation. But more important than its precise significance is the fact that it *signifies*. As a visual sign, it asks to be decoded. And it can be decoded through a variety of codes and conventions: phonetic, symbolic, pictographic, or otherwise.

Since the cursive quality of Arabic script forms strings of letters into a single shape, similar interpretive strategies also apply to complete words and

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<sup>18</sup> “One implication of these properties of writing is that writing more than speaking is or can be a game” (Grabar 1992: 62). Many of the listed interpretations of the letter *nun* approach it as semasiographic rather than phonographic (Gelb 1952: 10-11), and the games resides in moving between these multiple semasiographic interpretations.



**Figure 3.2: The Letter Nun.** The form of the letter has been aesthetically interpreted as the image of an inkpot, a sailing ship, and an open mouth (Schimmel 1984: 79; Nasr 1987: 25).

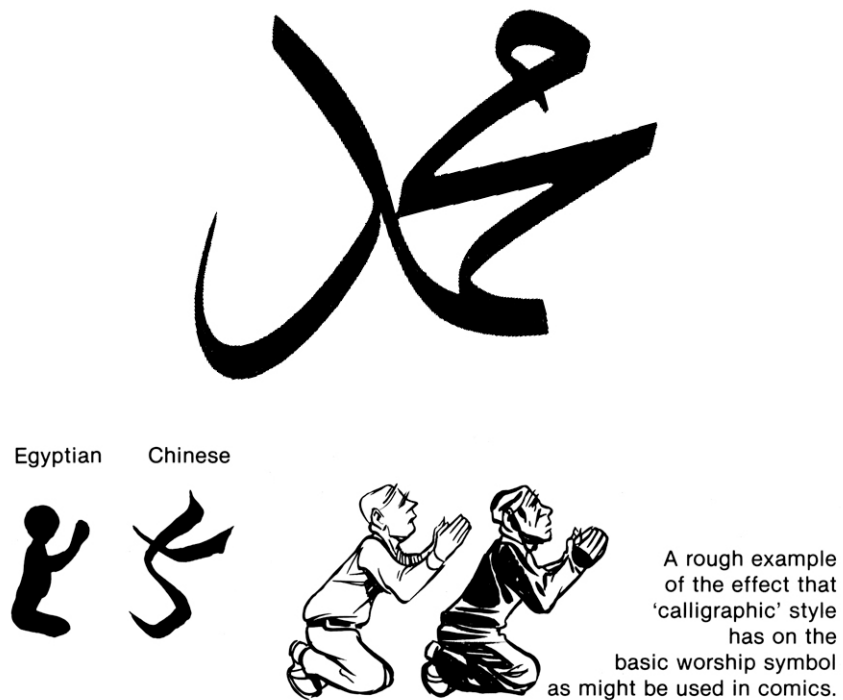
entire phrases. The shape of the name Muhammad resembles a supplicant bowing down in prayer (Figure 3.3; Welch 1979: 25, Schimmel 1994: 141). The name of Adam, the first man and the first prophet, visually presents the three positions of prayer: standing, kneeling, and prostrate (Figure 3.4; Schimmel 1984: 104). The image of the Arabic word “*Allah*” consists primarily of vertical strokes. Visually, this structure displays both the austerity of its contents and the heavenly descent of revelation. The simple yet powerful form of the word is extremely flexible, easily accommodating a wide range of formal and visual manipulation (Schimmel 1970: 3). The same is true of the *shahada*, the Islamic profession of faith: ten of its twelve letters consist of vertical stems (See Figure 3.1). The Qur’anic epigraph of the *bismillah*, in contrast, is strongly horizontal. This composition may be interpreted as marking the compassion and mercy of Allah's reign across the horizon. In other phrases, the calligraphic weaving of vertical and horizontal stems offers aesthetic and symbolic balance:

Thus, ... the horizontal movement of the script, its aspect of 'becoming', tends to confuse and level out the essential forms of various letters; but, on the other hand, the horizontal shafts of these letters 'transcend' and interrupt the flow of writing. The vertical is therefore seen to unite in the sense that it affirms the one and only Essence, and the horizontal divides in the sense that it spreads out into multiplicity (Burckhardt 1976: 47).<sup>19</sup>

The flexibility of this weave becomes increasingly noticeable from the 15th century onward. Entire phrases begin to assume the shapes of birds, animals,

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<sup>19</sup> Alternatively, Nasr (1987: 28): “Islamic calligraphy reflects through the symbolism of its very forms this intertwining between permanence and change that characterize creation itself. The world consists of a continuous flow or becoming, yet becoming is nothing but the reflection of being and the immutable archetypes contained in the Divine Word or Intellect.”



**Figure 3.3: Muhammad in Prayer.** In *Comics and Sequential Art* (2001: 15), Will Eisner presents Egyptian and Chinese calligrams as reflective of the “basic worship symbol” used in contemporary comics. Although Eisner does not mention Arabic calligraphy in his analysis, the resemblance between the shape of the name Muhammad and Eisner’s examples is striking. The Ottoman calligrapher Aziz Effendi (1871-1934) penned the name of Muhammad used for comparison.



**Figure 3.4: Adam.** The three Arabic letters of the name Adam (*alif-dal-mim*) have been aesthetically interpreted as the three positions of Muslim prayer. From right, the *alif* represents standing, the *dal* represents kneeling, and the *mim* represents bowing prostrate (Schimmel 1984: 104).



ships, faces, flowers, and other images (See Figure 3.5). Thus, the calligraphic image of a bird may present, quite literally, the divine compassion and divine mercy expressed by the *bismillah* (See Figure 3.6).<sup>20</sup> The shape of the writing itself operates as a visual commentary on the woven line of letters.

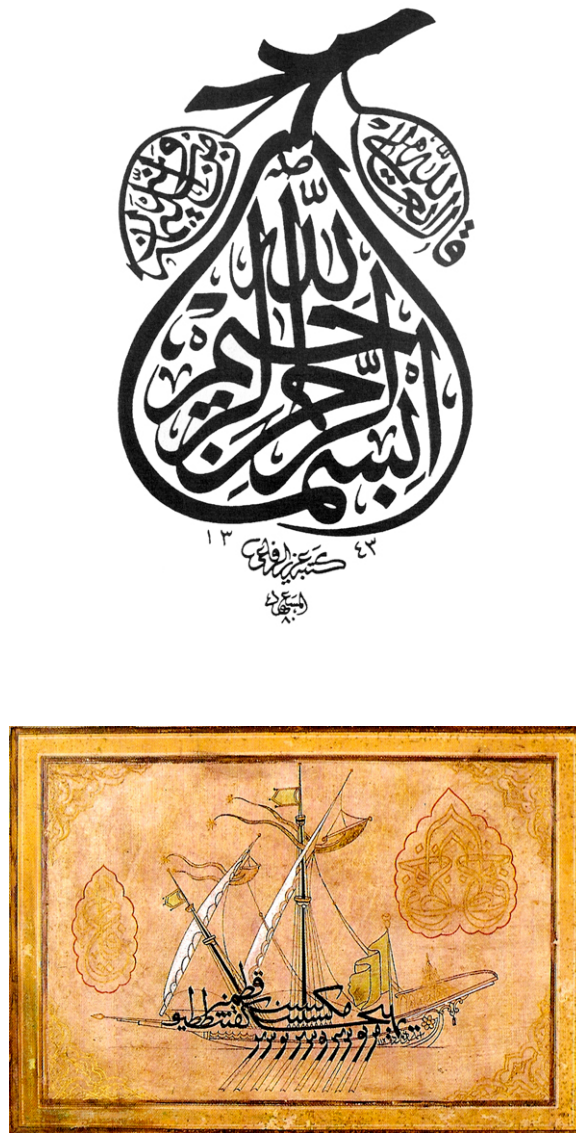
Another semiotic register is the conventional meaning of certain scribal styles. Given the vast possibilities of visual display and interpretation within Islamic tradition, distinct scripts were deployed depending upon the function that a particular communication had to perform (Welch 1979: 31). The proto-Arabic Nabatean script already employed two main styles, and these later developed in parallel as two branches of written Arabic: *Mabsut wa Mustaqim* (the elongated and the straight-angled) and *Muqawwar wa Mudawwar* (the curved and the rounded). More commonly, these two styles are labeled with the shorthand titles of *Kufic* and *naskh*.<sup>21</sup> Early practices differentiated their functions according to appearance. *Kufic* script is angular and monumental,

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<sup>20</sup> The essay "Calligraphy as Recitation: The Visual Expansion of Divine Words" (Osborn 2005) provides a closer reading and more careful visual analysis of the *bismillah* in three calligraphic images.

<sup>21</sup> Neither of these shorthand labels is strictly correct. Rather than a general angular style, *Kufic* specifically refers to the writing popularized in Kufa (modern day Basra) during the second decade of the Muslim era. The so-called "*Kufic*" styles were greatly developed in that city, but they did not originate there. The earliest written copies of the Qur'an utilized the scripts of *Makki* and *Madini* after the names of the holy cities. Like the later *Kufi* styles, these too were *Mabsut wa Mustaqim*.

Similarly, the term "*naskh*" precisely labels one of *al-qalam al-sittah*, and is therefore only one of many variants of *Muqawwar wa Mudawwar*. Since scholarly discussions of Arabic calligraphy in English tend to utilize *Kufic* and *naskh* as general labels for the two styles, rather than *Mabsut* and *Muqawwar*, the current discussion does likewise.



**Figure 3.5: Two examples of Rezim Yazı.** The *bismillah* in a pear-shaped composition and an Ottoman painting by Ismail Derdi. The Derdi painting is dated 1690 C.E. and displays a phrase of *thuluth* script which mimics the shape of a boat. The pear is reproduced from *Arabic Script: Styles, Variants, and Calligraphic Adaptations* (Mandel Khan 2001: 158), and the Derdi piece is reproduced from *Turkish Calligraphy* (Mahir 1999: 37).



**Figure 3.6: *Bismillah Hawk*.** The *bismillah* in the form of a hawk by the Ottoman artist Ahmet Naili Galatali (d. 1831 C.E.). Reproduced from *The Splendour of Islamic Calligraphy* (Khatibi and Sijelmassi 1976: 206-207) and *Arabic Script: Styles, Variants, and Calligraphic Adaptations* (Mandel Khan 2001: 156). Osborn (2005: 20-23) contains focused commentary and analysis of this image.

and therefore accentuates the static form of Arabic letters. It quickly adopted a hieratic status as the preferred script for Qur'anic transcription:

Slow-moving and dignified, exacting in its application and requiring skill to read, [Kufic] bore the connotation of eternity and visually defined Islam's perception of the holy book (Welch 1979: 31).

For nearly four hundred years, Qur'ans were not scribed in the more slender and rounded *naskh* style. Although the writing of *naskh* was common during this period, its use was limited to practical and administrative correspondence (Schimmel 1970: 4; Safadi 1979: 10-14).<sup>22</sup> The formal qualities of scribal styles were themselves semiotic codes, and their appearances indicated differences of content and genres of document.

As the number of script variants increased and the use of diverse styles became increasingly systematized, these practices became collectively referred to as *khatt*. Although the term is commonly translated as “calligraphy,” it does not carry the same implications of qualitative or aesthetic judgment as the English word. Rather, the root *khatta* indicates the process of “drawing a line,” “outlining,” or “marking out” (Grabar 1992: 66; Wehr 1994: 283), and the term offers a closer analogy to graphic design than calligraphy.<sup>23</sup> Within this broader category, Ibn Muqlah’s system of *al-khatt al-mansub* (proportioned script) became especially formalized. Rather than designing a new variant of

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<sup>22</sup> Interestingly, the angular *Kufic* styles were also less likely to be adopted for non-Arabic languages. If languages adopted the use of Arabic script, they tended to only adopt the *naskh* styles (Schimmel 1970: 6).

<sup>23</sup> The word “*khatt*” may also be translated as “trace,” in both the colloquial and Derridean sense.

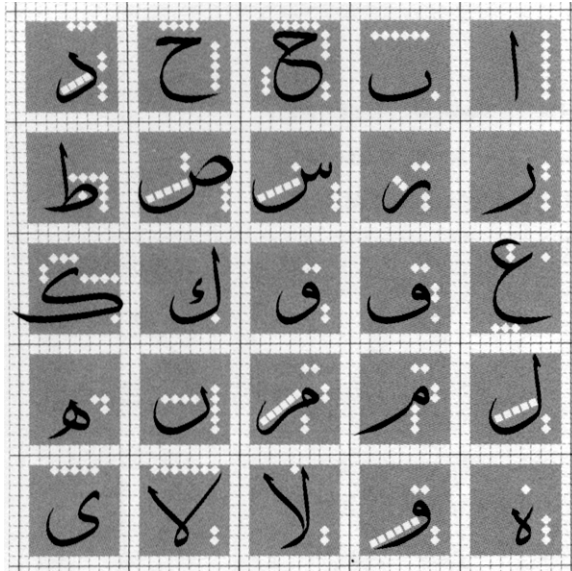
script, Ibn Muqlah constructed a new method of geometric design applicable to already existing variants of *naskh* (Abbott 1939b: 79). The vizier's *Epistle* on writing reads much like a manual of proper penmanship: "observe the laws of proportion; clearly distinguish geometric forms according to their movement, horizontal, vertical, oblique, and curved; observe carefully the thickness and thinness of the line; keep the hand firm but relaxed when handling the pen so that there is no unsteadiness in the line" (Khatibi and Sijelmassi 1976: 134).<sup>24</sup>

In Ibn Muqlah's system of proportioned design, the shapes of letters are strictly related to three measurements: (1) the size of the *nokte* (a rhombic dot resulting from touching the nib a reed pen to paper) (Figure 3.7); (2) the height of the *alif* (the first letter of the Arabic alphabet, which is measured in *nokte*); and (3) the circle (with a diameter equal to the height of the *alif*) (Figure 3.8).<sup>25</sup> The visual unity of a script is also preserved by the repetition of similar shapes across letterforms, such as shared measures for all letters containing "bowls" or "tails" (Figure 3.9). As a result, distinct styles of script became recognizable in relation to their adopted proportions and the base *nokte* measurement of the *alif*. Thus, the *alif* in *muhaqqaq* script measured nine *nokte* tall; the *alif* in *thuluth* measured seven, and the *alif* in *naskh* measured five. In proposing these rules, Ibn Muqlah hoped to facilitate the exchange of written communication among

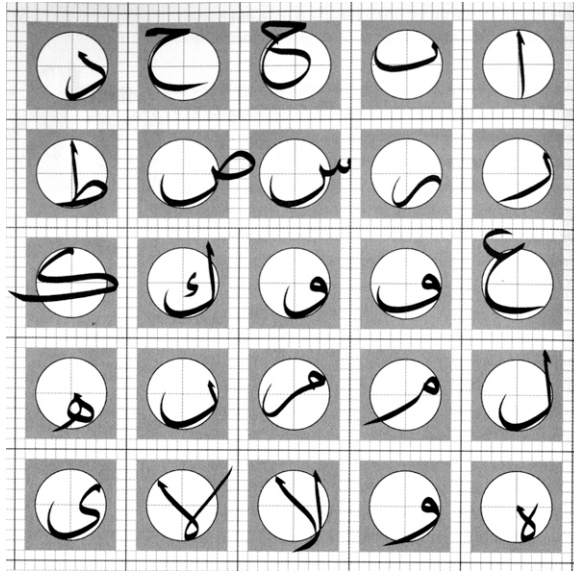
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<sup>24</sup> Ibn al-Bawwab's brief poem on calligraphic practice reads similarly (Süleymaniye Kütüphanesi, Index Number: Ayasofya 002002). For a more recent manual based upon the geometric system of Ibn Muqlah, see Mustafa Ja'far's *Arabic Calligraphy: Naskh Script for beginners* (2002).

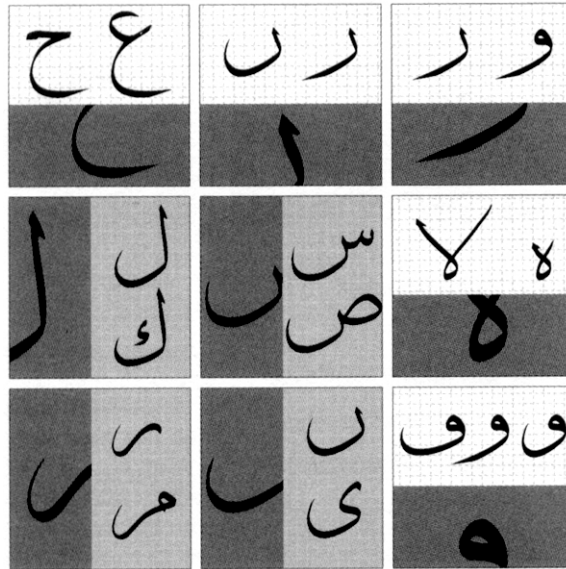
<sup>25</sup> Critchlow (1976) displays how the complex geometric patterns of arabesques may also be built from the three measures of point, line, and circle.



**Figure 3.7: Nizam al-Nuqat (The System of Nokte).** Ibn Muqlah's geometry of *al-khatt al-mansub* constructs each letter in proportion to the size of the *nokte* (rhombic dot). *Nokte* measurements of individual letters vary from one script to another. Reproduced from *Arabic Typography: A Comprehensive Sourcebook* (AbiFarès 2001: 98).



**Figure 3.8: Nizam al-Dairah (The System of the Circle).** Ibn Muqlah's geometry of *al-khatt al-mansub* relates each letter to a consistent circle. The diameter of the circle equals the height of the letter *alif*. Reproduced from *Arabic Typography: A Comprehensive Sourcebook* (AbiFarès 2001: 96).



**Figure 3.9: *Nizam al-Tashabuh* (The System of Resemblance).** Ibn Muqlah's system of *al-khatt al-mansub* constructs visual unity by repeating the measurements and shapes of similar letter parts across multiple letters. Reproduced from *Arabic Typography: A Comprehensive Sourcebook* (AbiFarès 2001: 98).



a quickly expanding scribal community. By standardizing the shape of Arabic letters, the new system provided visual consistency across multiple sites of writing, multiple scribes, and multiple texts.

Although Ibn Muqlah suggested *al-khatt al-Mansub* as an administrative aid, it also provided a formal key, “in the musical sense” (Grabar 1992: 70), for the composition and enjoyment of harmonious Arabic writing.<sup>26</sup> Just as the same instrument may produce melodious harmonies in one set of hands and cacophonous notes in another, the same script may appear either balanced or ungainly depending upon the scribe. Well-formed scripts—writing which clearly displayed the rules of *al-khatt al-Mansub*—became a visual mark of moral and spiritual character.<sup>27</sup> Letters became a visual sign of their scribe’s sincerity. Conversely, poorly formed words became a sign of immorality or, worse, false claims. After viewing a petitioner’s writing, ‘Abdallah ibn Tahir, once passed the following judgment:

We were willing to accept your excuses, but in view of your bad handwriting we changed our mind. If you had been truthful in the stating of your case, the movement of your hand would have aided you (Rosenthal 1971: 40).

According to Franz Rosenthal, “Handwriting is spiritual geometry by means of a corporeal instrument” (*ibid.*: 27), and the moral association of finely crafted *al-khatt al-mansub* set the stage for copies of the Qur’an penned in *naskh*.

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<sup>26</sup> Islamic writers commonly stress the formal analogy between *al-khatt al-Mansub* and music. See, for example, Rice (1955: 7) and Rosenthal (1971: 30).

<sup>27</sup> For more discussion of the moral character of fine writing, see Welch (1979: 23-24), Geertz (1983: 109-120), Guar (1984: 165-167), and Leaman (2004: 36-40), as well as the collections of Ahmad ibn Mir Munshi (1959) and Abu Hayyan At-Tawhidi (Rosenthal 1971: 20-49).

The aesthetic balance of well-proportioned script became a reflection of the balance and the divinity of the text. In the eleventh century, Ibn al-Bawwab penned and illuminated a beautiful Qur'an in *naskh*, which displays incredible consistency of form and sophistication of design. Ibn al-Bawwab's writing carefully reproduces the strict proportions of *al-khatt al-mansub*. Nearly ten centuries after its inscription, the continuing legibility of the Ibn al-Bawwab manuscript testifies to both the skill of the scribe and the geometric innovation of Ibn Muqlah. The standardization of letters not only allowed texts to be shared across space; it has also allowed them to be shared across time.

In light of these changes, the semiotic system of Arabic script variants was rearranged. As the geometrically standardized and easily legible styles of *naskh* became the norm for both religious and administrative texts, *Kufic* writing became increasingly decorative. The visual design of Ibn al-Bawwab's Qur'anic manuscript actually consists of numerous writing styles, both *Kufic* and *naskh*. He effectively navigates multiple scripts and employs differences of style to visually distinguish the body of the text from section titles, indexical tables, and paratextual markers (Rice 1955: 12). Alongside *al-khatt al-mansub*, *Kufic* variants were revitalized as a decorative and symbolic motif. New *Kufic* styles emphasized visual and aesthetic form rather than legibility, including complicated woven, geometric, floriated, and zoomorphic designs (Schimmel 1970; Sakkal 1993a). This experimentation was especially common for fabric, architecture, ceramics, metal, and a variety of other materials on which the communicative role of writing was primarily aesthetic or symbolic rather than

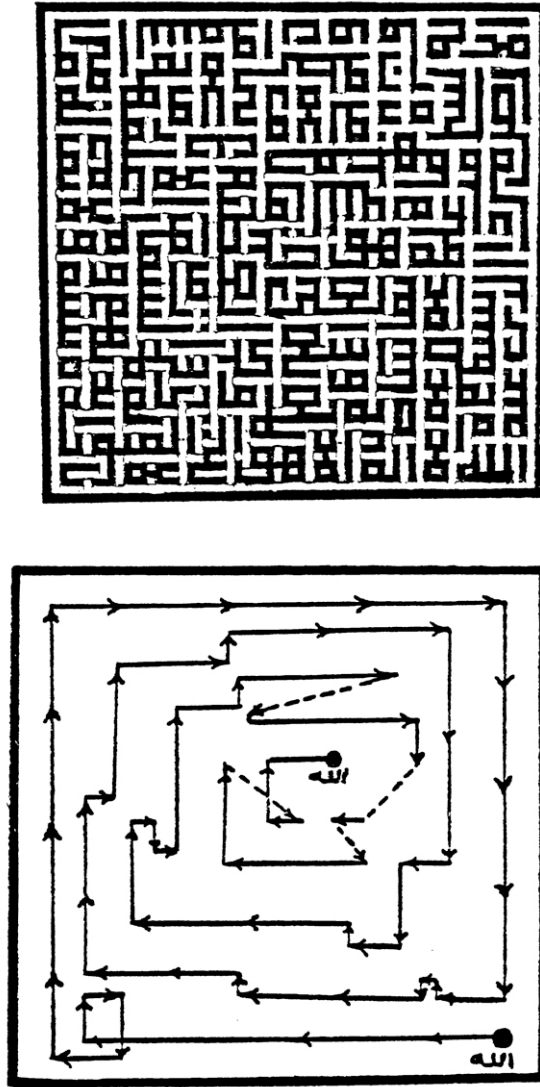
informational (Schimmel 1970: 5). Stylized *Kufic* might present Qur'anic *ayat*, religious phrases, or the names of religious figures as a running inscription or it might shape religious content in the form of elaborate visual puzzles (See Figure 3.10). As the legible styles of *naskh* became markers of textual content, balance, and moral standing, a resurgence of *Kufic* design rediscovered the flexibility of Arabic script and reminded viewers of divine mystery.

### THE OTTOMAN SYSTEM OF SCRIPTS

Ottoman scribal practice further systemized the application of Arabic script variants. Visual conventions of writing and reading interpreted formal aspects of script design alongside textual content. Differences of script style became visual markers of genre, audience, and authorial source. Certain types of document were only drafted in certain scripts, or formal aspects of layout and document design might determine which script was to be used in which section. Without fundamentally altering the alphabet, the visual appearance of letters varied from one script to another, much like the diversity of available fonts in current word-processing programs. But the uses of these Ottoman “fonts” were formalized, with each script having its own particular functions and purpose (Ülker 1987: 57; Acar 1999).<sup>28</sup>

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<sup>28</sup> Thus, in Ottoman practice, the use of *this font style* might indicate a series of specific functions. And *this font style* would be reserved for different purposes. According to M. T. Clanchy (1979: 98), 14th century English scribes employed similar practices of script differentiation. And David Levy (2001: 7-20) notes that documents continue these conventions, albeit in less formalized fashion. The textual body and “content” of a newspaper, magazine, or book, for instance, is more likely to be printed with a serif font. Receipts and computer displays, on the other hand, are more likely to have sans-serif fonts.



**Figure 3.10: A Square Kufic Word Puzzle.** The top image displays the Qur'anic "Throne Verse" (2: 255) in the form of a *Kufic* puzzle made of brickwork. The verse begins in the bottom right corner of the puzzle and spirals inward in a clockwise direction. The diagram below the image traces the line of writing followed by the inscription. Reproduced from *The Art of Arabic Calligraphy* (Ghulam 1982: 61).

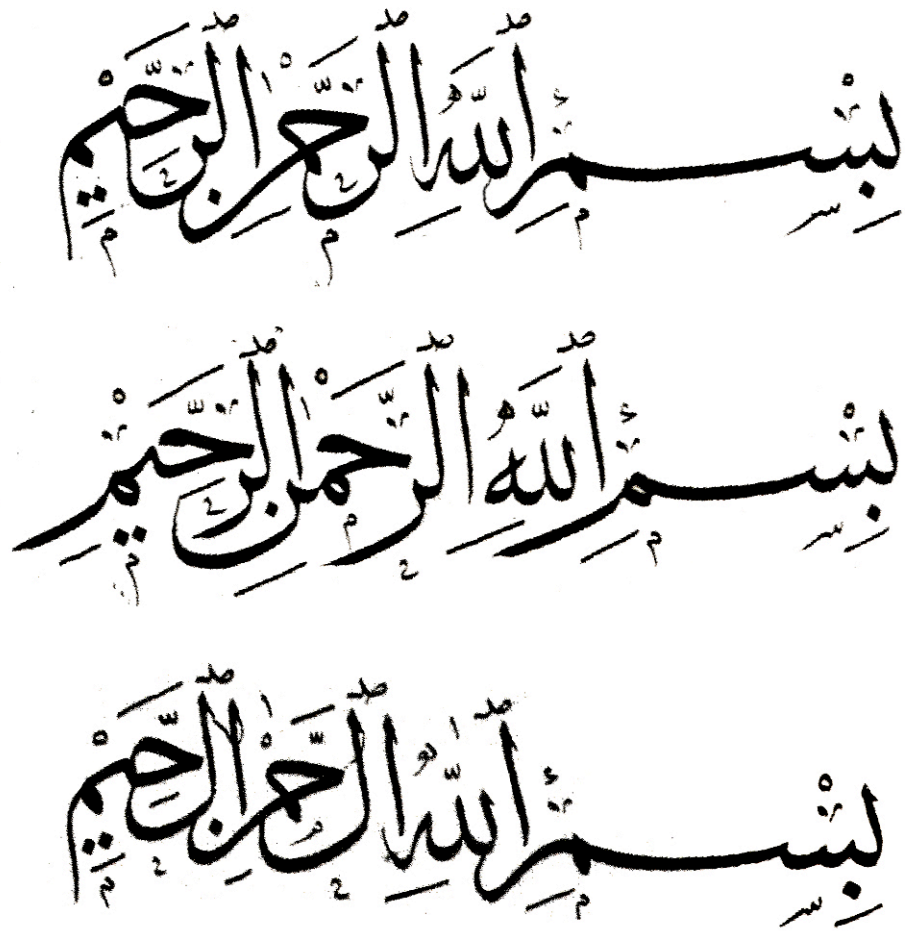
The Ottoman system of scripts was based upon the six scripts known as *al-aqlam al-sittah*. Ottoman tradition traced these scripts to Yaqut al-Mustasimi (d. 1292 C.E.) and Shayk Hamdullah of Amasya (1429-1520 C.E.), who refined and repopularized the six pens among Ottoman scribes. *Al-aqlam al-sittah* became formalized as three pairs of sister scripts: *Thuluth-Naskh*, *Muhaqqaq-Rayhani*, and *Tawqi'-Riqa'*. Each pair consisted of a larger decorative variety and smaller script of finer line. The visual differences distinguishing the styles are subtle but easily discernible to a trained eye (Figure 3.11). Although some scripts were more common than others, familiarity with all six classical styles was expected of Ottoman elites who practiced the art of writing for pleasure and moral enrichment (Atıl 1987: 44; Roger and Ward 1988: 55).<sup>29</sup> The use and construction of each style is defined as follows:

1. *Thuluth*:<sup>30</sup> By far the most celebrated Ottoman script, *thuluth* may be described as the base script of Ottoman practice. It is characterized by an elegant fluidity and relatively thin strokes. Completed compositions maintain proportions of roughly four straight segments to two curved segments (Ahmad ibn Mir Munshi 1959: 56; Ülker 1987: 63). Rarely used for writing the body of a text, *Thuluth* was primarily a decorative script in manuscripts and inscriptions. The script's close association

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<sup>29</sup> Many Ottoman sultans were themselves accomplished calligraphers including Beyazıt II, who studied with Shayk Hamdullah, and Ahmed III, who occasionally drafted his own *tugrah*.

<sup>30</sup> Due to the lack of a “th” sound in modern Turkish, many Turkish texts, as well as their English translations, refer to this script as “sülüs.”



**Figure 3.11: Thuluth, Muhaqqaq, and Tawqi'.** These three scripts display the visual variety of *al-aqlam al-sittah*. Differences can be noted in the sharpness of points and the proportions of straight to curved segments. To complete the six scripts of *al-aqlam al-sittah*, each of these scripts is paired with a sister script of similar proportions and a finer line. *Thuluth* is paired with *Naskh*; *Muhaqqaq* is paired with *Rayhani*, and *Tawqi'* is paired with *Riqa'*. All three scripts displayed above were written by Hakkâkzade. Reproduced from *Başlanğıctan Günümüze Türk Hat Sanatı (The Art of Turkish Calligraphy from the Beginning up to Present)* by Muammar Ülker (1987: 250).

with Qur'anic headings and freestanding Qur'anic inscriptions provides it the aura of a hieratic script (Safadi 1981: 19). It was also the preferred script for inscriptions on public monuments, portals, tombstones, and framed decorative pieces (Ali 1996: 44; Ülker 1987: 57).

2. *Naskh*: The name of this script, which is also a general term for all the rounded styles, may derive from its popularity, which *naskh* (cancelled) the other styles (Ahmad ibn Mir Munshi 1959: 56). As a companion to *thuluth*, it formed the body of many texts in which the larger script was used for textual headings. It maintains similar proportions of straight segments to curved segments as *thuluth* but is characterized by shorter horizontal strokes and straighter verticals. *Naskh* became the preferred script for copying the body of the Qur'anic *mushaf*, and it was often referred to as *khadim al-Qur'an*, the servant of the Qur'an, by Ottoman scribes (Ja'far 2002: 5). Its legibility also fostered application across a variety of realms, including prayer books, histories, general knowledge, and scientific texts (Ülker 1987: 57; Ali 1996: 44; AbiFarès 2001: 35-36). After the adoption of printing, handwritten *naskh* became the standard model for Ottoman typefaces.
3. *Muhaqqaq*: The name “*muhaqqaq*” means meticulously produced. It is the most angular of *al-aqlam al-sittah*, with proportions of four and half straight to one and half curved segments (Ahmad ibn Mir Munshi 1959:

56).<sup>31</sup> These proportions are emphasized with finely pointed letters, extended upstrokes, and very few sub-linear flourishes (Safadi 1979: 20; AbiFarès 2001: 36). Due to its compact word structure and clarity, it was favored for large Qur'ans and rarely, if ever, used as a chancery script (Schimmel 1984: 23; Mahir 1999: 12). In decorative pieces, the sharpness of *muhaqqaq* often contrasts with the fluidity of *thuluth*.

4. **Rayhani:** Although named after its legendary creator, the name of this script is often interpreted as a visual similarity with delicate leaves of “sweet basil” (*rayhan*) (Ahmad ibn Mir Munshi 1959: 56; Safadi 1979: 20). Paired with *muhaqqaq*, it displays similar proportions and finely pointed letters, but the size of *rayhani* is smaller and its downstrokes more exaggerated (AbiFarès 2001: 36). *Rayhani* is also distinguished by the marking of its diacritics, which were traced with a finer pen than that used for the script.
  
5. **Tawqi':** The name “*tawqi'*” (signature or confirmation) reflects its early role as the official signature script of the Abbasid caliphs (Safadi 1979: 20). It is the most rounded of *al-aqlam al-sittah*, with proportions of half straight segments and half curved segments (Ülker 1987: 57; Ahmad ibn Mir Munshi 1959: 56). *Tawqi'* is also marked by fine ligatures that

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<sup>31</sup> In the listing of script proportions, Ülker (1987) incorrectly reverses this proportion in his English translation.



connect the final letters of one word to the initial letter of the following word (AbiFarès 2001: 37). It was often employed for official documents or important occasions, such as permissions, imperial orders, textual signatures, and letters of reference (Ülker 1987: 66).

6. *Riqa'*:<sup>32</sup> This script is also called *ruq'ah* (small sheet), from which it gets its name (Safadi 1979: 20). It was marked by round fluid curves and short strokes, and its proportions resemble those of *tawqi'*. *Riqa'* was originally used primarily for personal correspondence but later became an important script for drafting Ottoman *ijaza* (diplomas). In order to obtain an *ijaza* in the calligraphic writing of *thuluth* or *naskh*, apprentice calligraphers would copy the work of a master. If the apprentice's teacher approved the copy as nearly identical to the original, he/she would scribe approval below the piece in *riqa'*. After obtaining an *ijaza*, a scribe could apply his or her signature to future works. For this reason, *riqa'* is occasionally referred to as *ijaza* script (Acar 1999: 206; Gündüz and Taşkale 2000: 14; Mahir 1999: 17).

In addition to *al-aqlam al-sittah*, Ottoman scribes adopted a variety of other scripts. The function and appearance of some scripts were determined by the size. Thus, the intricate script of *ghubar* was properly proportioned for

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<sup>32</sup> The official script *riqa'* should not be confused with the shorthand chancellery script *riq'a*, which later developed from *diwani*.

compactness and small surfaces. Ottoman scribes used *ghubar* script to pen messages carried by pigeon and small amulet-like Qur'ans which were hung from flags and military standards (Khatibi and Sijelmassi 1976: 170; Safadi 1979: 20; Acar 1999: 195). The monumental *tumar* script, in contrast, was the first *naskh* style applied towards copying the Qur'an. For this reason, later scripts (such as *thuluth* or "third") often based their measurements upon the height of the *alif* in *tumar*. By Ottoman times, however, the use of *tumar* was rare. Instead, Ottoman scribes and architects derived a series of large scripts known as *jali*, in which the proportion and composition of letters were better organized for large intricate displays. *Jali* scripts are not unique styles, but proportional modifications of other scripts (Derman 2002: 15-16). The most common variant was *Thuluth-jali*, which modified the proportions of *thuluth* in order to facilitate reading of large inscriptions. It became the standard script for running borders and the inscribed interior domes of mosques.

The literary style of *talik*, which developed in Timurid Persia, was also common in Ottoman society, and *ijaza* certificates were offered for its proper execution (Figure 3.12; Acar 1999: 206).<sup>33</sup> In contrast to the official religious scripts of *al-aqlam al-sittah*, *talik* was employed for the writing of literary and poetic texts, as well as decorative pieces drawn from these sources (Atıl 1987: 35; Mahir 1999: 12). Due to its slightly downward motion, *talik* is sometimes

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<sup>33</sup> The Persians developed two distinct styles: *talik* and *nastalik* (a combination of *naskh* and *talik*). In Ottoman usage, however, both styles were gathered together under the generalized term "*talik*." The name may also be transcribed as "*taliq*."



The image shows the Bismillah (Bismillah) written in Talik Script. The text is 'Bismillah ar-Rahman ar-Rahim'. The script is characterized by its smooth, sweeping lines that flow from the upper right towards the lower left. The letters are connected in a fluid manner, with no sharp bumps or teeth. The overall appearance is elegant and graceful.

**Figure 3.12: Bismillah in Talik Script.** The words of *talik* begin in the upper right and swing to the lower left. Letters such as *sin* lack bumps (teeth) and letters such as *mim* are “blind” (i.e., they lack open loops). The result is a smooth, sweeping style of script.

referred to as a “hanging” style. It is marked by an absence of “teeth,” or bumps, and filled-in, or “blind,” letters

As the formalized *naskh* styles of *al-aqlam al-sittah* replaced *Kufic* and the grand *tumar* as preferred scripts for copying the Qur'an, they were distanced from their administrative origins and adopted a hieratic status. Meanwhile, new chancellery scripts developed to visually distinguish bureaucratic and administrative text. These included the shorthand *siyakat*, exclusively used for Ottoman financial and land registers, and the famous Ottoman script *diwani* (Ülker 1987: 65; Safadi 1979: 30).<sup>34</sup> The name *diwani* arises from its official role of transcribing *diwan-i Humayun* (the imperial register). It was developed by Ibrahim Munif in the fifteenth century and later refined by Shayk Hamdullah (Safadi 1979: 30; AbiFarès 2001: 38).<sup>35</sup> Visually, *diwani* presents an excessively cursive and super-structured script (Figure 3.13). Like *talik*, it includes both “blind” and “toothless” letters. Its letters join in unconventional fashion, and the entire line of script may rise at the end like the prow of a ship.

*Diwani* was employed by the chancellery for drafting Ottoman *fermans* (permissions), statements of honor, and royal patents (Ali 1996: 45; Ülker 1987: 65; Schimmel 1984: 16; See Figure 3.14). A *ferman* provided an elaborate visual marker with which to act on behalf of the sultan, and the complexity of *diwani* made these documents difficult to forge. Its complexity benefited application

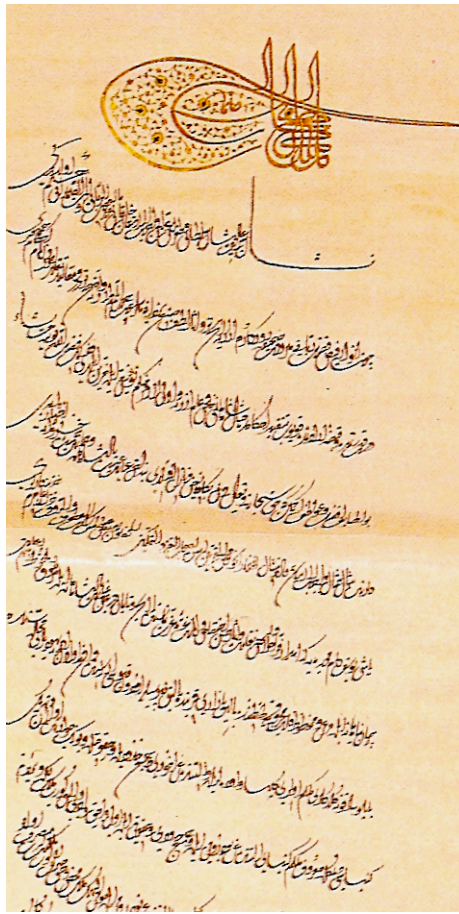
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<sup>34</sup> Similar developments occurred in Timurid Persia, where *shikasteh* replaced *al-aqlam al-sittah* as the preferred chancellery script.

<sup>35</sup> Since *diwani* was a chancellery script and Shayk Hamdullah specialized in the classical styles of *al-aqlam al-sittah*, there may be reason to doubt these claims.



**Figure 3.13: Diwani Script.** This line of decorated *diwani* emphasizes the compactness, complexity, and precision of the script. *Diwani* was employed for the drafting of official Ottoman pronouncements, and the structure of the script prevented later tampering with the written content.



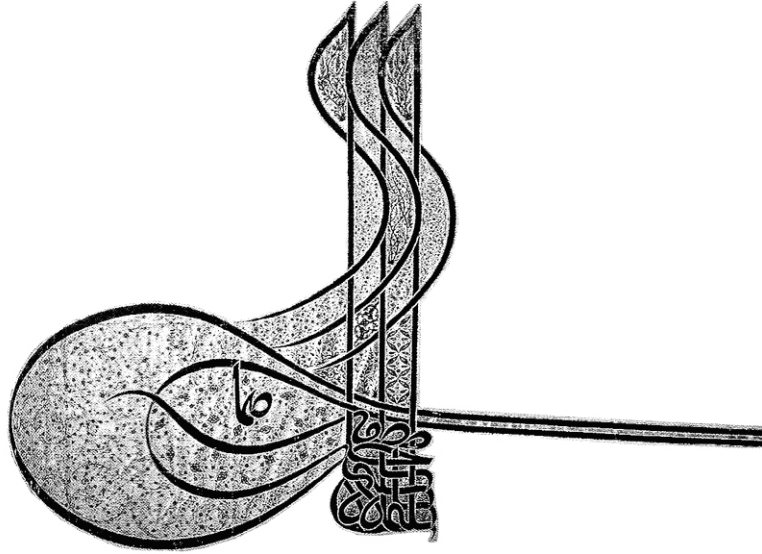
**Figure 3.14: An Ottoman Ferman.** The first few lines of an Ottoman *ferman* written in *diwani* script on a rising line. The calligraphic *tughrah* seal of Sultan Beyazit II crowns the *ferman*. The original document is contained in the Topkapı Sarayı Müzesi Arşivi (Item Number 7711). Reproduced from *Turkish Calligraphy: Materials, Tools, and Forms* (Acar 1999: 180).

to documents in which establishment of legal authority and precise wording required great care. The compactness of *diwani* letters prevented the addition of fraudulent material, which would visually disrupt the careful progression and subtle incline of the text (Alparslan 2003: 838; Rogers and Ward 1988: 55). Difficult to write and difficult to decipher, the requisite precision certified a document's origin at the hand of a highly trained chancellery scribe and, by association, an Ottoman administrator. Likewise, the literacy to decipher a complex *diwani* document was restricted to trained civil servants within the official Ottoman bureaucracy.

Official documents were made yet more secure by addition of the royal *tugrah*. The *tugrah* is a unique Ottoman calligraphic form, presenting the name of the sultan as a highly stylized calligraphic seal (See Figure 3.15). The first *tugrah* is dated 724 A.H./1324 C.E, the year in which Sultan Orhan founded the dynasty (Atıl 1987: 36), and later sultans would choose a *tugrah* design from those shown to him on the day he ascended the throne. Once chosen, the *tugrah* composition would remain consistent throughout a sultan's reign (Acar 1999: 228).<sup>36</sup> Although the seal became slightly more complex over time, its major elements were repeated for almost six hundred years: the *sere* (palm) or *kursu* (throne), the *beyze* (ovals), the *tuğlar* (standards or tails), the *kollar* (arms), and the *zülfeler* (locks) (Figure 3.16). With the exception of the final flourishes (*zülfeler*), all visual elements display integral components of the Sultan's title. Or the form of the *tugrah* may be read as a symbolic image of Ottoman rule,

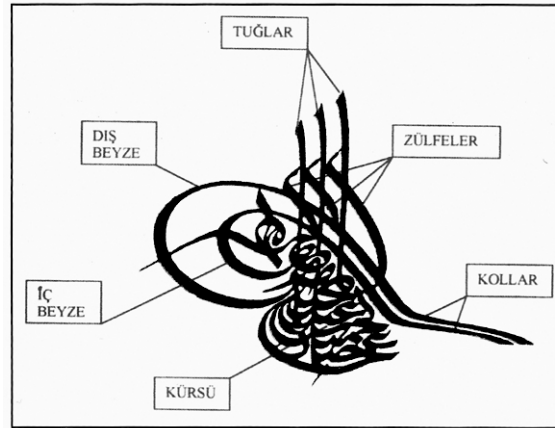
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<sup>36</sup> Thus, a *tugrah* is also useful in estimating the placement of undated documents.



**Figure 3.15: The *Tugrah* of Sultan Süleyman the Magnificent.** This illuminated *tugrah* displays the monogram of Sultan Süleyman I. A sultan's *tugrah* served as a visual mark of authority on official decrees and permissions. Reproduced from *Turkish Calligraphy* (Mahir 1999: 27).





**Figure 3.16: Components of an Ottoman *Tugrah*.** This diagram labels the written components of a *tugrah*, the calligraphic seal of Ottoman sultans. Şinasi Acar (1999: 225) translates these components as basis (*kursu*), inner oval (*iç beyze*), outer oval (*diş beyze*), horestails (*tuğlar*), lovelocks (*zülfeler*) and arms (*kollar*). Reproduced from *Turkish Calligraphy: Materials, Tools, and Forms* (Acar 1999: 163).

with its authority descending in vertical strokes and proud bearing spreading over the horizon.

The task of drafting official Ottoman documents and attaching a *tugrah* seal was handled by the *Cematt-i Katibann* (writer' guild). Depending on their qualifications, scribes were employed to either copy texts in one of the *al-aqlam al-sittah* or draft official chancellery documents in *diwani*. Salaried scribes who belonged to the guild could only draft official documents in the styles—such as *naskh*, *thuluth*, or *talik*—for which they had obtained the proper *ijaza*. The important role of affixing a *tugrah* where necessary was specifically assigned to the *nisanci* or *tugrakesh*, a high-ranking scribe also knowledgeable in legal matters (Rogers and Ward 1988: 58; Acar 1999: 226; Welch 1979: 100). Once the contents of a document were verified and approved, the *nisanci* would inscribe the royal seal (Atıl 1987: 36). On especially significant or momentous documents, the displayed *tugrah* might also be illuminated or gilded.<sup>37</sup>

#### LIGATURE: INCORPORATING PRINT INTO THE SYSTEM OF SCRIPTS

Masterpieces of Ottoman calligraphy inspired the oft-repeated Turkish aphorism: “The Qur'an was revealed in Mecca, recited in Egypt, and written in Istanbul.” But Ottoman considerations of visual form were not limited to

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<sup>37</sup> The illumination of a *tugrah* would be handled by the *nakishane* (imperial painting studio), which coordinated the decoration of manuscripts and official documents with the *Cematt-i Katibann* (Atıl 1987: 34; Ayvazoğlu 2000: 263). Sultan Mehmet Fatih established the *nakishane* shortly after the capture of Constantinople in 1453 C.E./987 A.H. to attract both Asian and European artists to the new capital. For a collection of sample registers listing the wages, duties, and specializations of *nakishane* artists during the reign of Sultan Süleyman I (1520-1566), see the appendices of Atıl (1987).

the display of religious texts. Equally beautiful and complex writings, such as *tugrah*-crowned *diwani fermans* and meticulously produced *ijaza* certificates, trace the functioning of Ottoman bureaucracy rather than Islamic religiosity. Ottoman scribal practice created complex artifacts of visual communication, where the choice of script conveyed more than an aesthetic fondness or a preference of design.

Drawing upon Islamic visual tradition, the Arabic letters of Ottoman scribes operated simultaneously within a variety of semiotic registers. Writing reflected a series of conventional codes, and formal aspects influenced how a viewer was to interpret and interact with a written display. *Al-aqlam al-sittah* and the Ottoman chancellery scripts formed a semiotic system in which visual appearance contributed to the communicative and functional role of writing. Scribal variation provided visual conventions for encoding document genre, the pragmatics of textual use, and an expected audience.

When the new technology of printing with moveable type arrived in Ottoman lands, it interacted with this already established system of script variation. Print technology did not unseat the Ottoman system of scripts, but it slowly altered relations among its constituent parts. Issues related to this shift form the focus of the next chapter, and Chapter 5 reflects upon the wider implications of print adoption. These studies explore the changing authority and symbolism of written texts which accompanied print adoption, as well as the differentiation of calligraphic and printed letters as distinct tools.

## Chapter 4: The Ottoman Adoption of Print

In 1453, the Ottomans acquired Constantinople under the leadership of Sultan Mehmet Fatih (“The Conqueror”). During the same decade, Gutenberg perfected the art of printing with moveable type. And as Ottoman power became solidified in its new capital, print technology spread across Europe. But the Ottomans did not officially begin printing until 1726, when Ibrahim Müteferrika opened a print shop with the blessings of Sultan Ahmed III and the religious authorities. During the three centuries separating Gutenberg and Müteferrika, the Ottomans were familiar with print technology, but they did not embrace its potential for sharing and storing information as earnestly as Christian Europe. This chapter will explore the reasons for this reluctance and examine how the Ottoman administration negotiated the spread of print both beyond and within its lands.

The apparent delay in print adoption is commonly explained under the rubric of religious and scribal resistance to print on behalf of the Islamic *ulema*, or learned community. But Ottoman imperial aspirations sought to unify the knowledge of both Islamic and European traditions under a single banner after the conquest of Constantinople,<sup>1</sup> and Ottoman society was flourishing

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<sup>1</sup> Caroline Finkel notes: “For western contemporaries, the exchange of Christian rule for Muslim in Constantinople was described as ‘the Fall.’ For the Ottomans, it was ‘the Conquest’” (2005: 49). The following chapter continues to refer to the Ottoman capital as Constantinople rather than Istanbul, because this is the imprint used for both Ottoman and foreign books printed in the city.

intellectually during this period. Such incongruities beg for further discussion beyond a simple explanation of religious resistance. The Ottoman negotiation of print was a political game, and hesitation toward full-scale print adoption reflected the concerns of a bureaucratic state: secure administration over a large region and a wish to verify and control printed material. These traits contrast sharply with the lack of political unity and competing religious views that characterized Christian Europe during the “printing revolution.”

The following chapter explores these themes within the specific history of Ottoman print adoption. First, the pre-history of Ottoman printing looks at Ottoman interaction with print technology prior to official adoption in 1726. This includes both the printing of non-Arabic books within Ottoman lands, as well as imports of foreign books printed with Arabic type. Next, I examine the political changes and reforms that set the stage for the Mütetferrika print shop. Finally, the trajectory of Ottoman printing is analyzed in comparison with European models. Doing so helps to clarify diverse uses of print as a technology of visual inscription. Printing with movable type offered a new medium for the storage and presentation of written information, and opened the question of what purpose and for what information this new medium and its new type of letters were applicable.

#### **THE PRE-HISTORY OF OTTOMAN PRINTING**

The Ottoman conquest of Constantinople and the contemporaneous advent of moveable type in Europe offer more than a historical coincidence.

The new method of inscription was quickly employed by Christian printers to help contain the threat of Ottoman invasion, and a unified Christian stance against the Turks, rather than the Reformation, provides the “first religious movement” to make use of print (Eisenstein 2005: 303; Abdulrazak 1990: 78). The famous Gutenberg Bible of 1455 was preceded almost a year earlier by an anti-Turkish tract offering indulgences for those willing to crusade against the Ottoman advance. Gutenberg printed the tract, entitled *Eine Mahnung der Christenheit wider die Türken* (A warning for Christendom against the Turks), on behalf of the defenders of Cyprus (Füssel 2003; Lunde 1981; Eisenstein 2005: 375n). Without denying the commercial viability, popular appeal, and religious significance of the Bible, the choice to print the Christian holy book may also be interpreted as a challenge to Ottoman aspirations.<sup>2</sup>

In *The Printing Press as an Agent of Change*, Eisenstein repeatedly notes the concurrence linking the rise of printing and the “fall of Constantinople.” She wishes to challenge historical explanations that this “fall” resulted in the transfer of Greek knowledge to European shores. In a key quote, Eisenstein cites Maria Boas’ summation and critique of this trajectory:

One of the strangely persistent myths of history is that humanist study of Greek works began with the arrival in Italy in 1453 of learned refugees from Constantinople who are supposed to have fled the city in all haste, laden with rare manuscripts. Aside from the improbability of their doing any such thing, ... there is the testimony of the humanists themselves that the fall of Constantinople represented a tragedy to them. Characteristic is

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<sup>2</sup> Religious scripture is by no means the obvious choice for an initial printing. When Muslim communities adopted print, for example, the Qur’an was often one of the last printed texts. For more discussion on differences between the Bible and the Qur’an as models of written communication, see Chapter 1.

the cry of the humanist Cardinal Aeneas Sylvius Piccolomini ... :  
 'How many names of mighty men will perish! It is indeed a  
 second death to Homer and to Plato. The fount of the Muses is  
 dried up forevermore' (Boas 1962: 24, *c.f.* Eisenstein 2005: 220).

Nevertheless, this “strangely persistent myth” retains import for Eisenstein’s analysis. In *The Printing Press as an Agent of Change*, the resurrection of Greek knowledge was not simply a product of arriving on European shores. Instead, that resurrection was mediated through print’s powers of dissemination and preservation. Via the new technology, classical works—like the defenders of Cyprus—gained new life in their flight from and fight against the ‘illiterate’ Turks (Eisenstein 2005: 303). For the first time, Eisenstein suggests, the “fall” of civilization heralded a rebirth of knowledge rather than a descent into the ignorance of “a dark age.” (*ibid.*: 220). It was the new medium of print that made this possible.<sup>3</sup>

Attempting to isolate the specific effects of printing, Eisenstein seeks to disentangle the new technology from geopolitical discussions addressing the rise of Ottoman power. Due to her historical re-focus upon the *European* and *Christian* effects of the new technology, she understandably fails to examine the Ottoman case. But a similar approach may usefully address the Ottoman perspective and elucidate the technological history of printing in relation to Ottoman society. For just as histories of European printing disregard post-print developments in “fallen” Constantinople, texts of Ottoman history rarely

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<sup>3</sup> “Surely Ottoman advances would have been *catastrophic* before the advent of print. Texts and scholars scattered in nearby regions might have prolonged the study of Greek but only in a temporary way” (Eisenstein 2005: 220, emphasis added). For whom would this advance have been catastrophic? Certainly not for the Ottomans.

mention the printing and information revolution that swept Europe during the pinnacle of Ottoman culture.<sup>4</sup> Ottoman concerns with print technology only enter the picture when Ibrahim Müteferrika, a “Christian convert” and “Hungarian renegade,” opens the first officially sponsored Ottoman printing establishment in 1729.<sup>5</sup> But due to its political and economic relations with Christian Europe, not to mention its military entanglements, Ottoman society certainly came into contact with the new technology during the intervening three centuries. What, then, was the Ottoman relationship with printing?

Print technology was known within Ottoman lands as early as the reign of Sultan Mehmet Fatih, the Conqueror of Constantinople (1451-1481 C.E.).<sup>6</sup> Mehmet’s reign coincides with the printing of the Gutenberg Bible in Europe, and, by the end of his reign, the royal Ottoman library at Topkapı contained a number of incunabula (Kreiser 2001: 13). These included a profession of faith addressed by the local Orthodox Christian Patriarch to the conquering sultan.

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<sup>4</sup> In Eisenstein’s tome, Turkey is only mentioned in connection with fears of Ottoman advance. Aside from a single remark on the “fall” of Constantinople and the flight of Greeks to Europe, Febvre and Martin do not mention the Ottomans at all. And S.H. Steinberg only mentions the Turkish situation in passing.

<sup>5</sup> References to Ibrahim Müteferrika’s conversion and his description as a “Hungarian renegade” are almost a mantra in scholarly accounts of Ottoman printing (c.f. Berkes 1964: 41; Steinberg 1996: 172; Kreiser 2001: 14, Kinross 1977: 381). Common emphasis on Ibrahim’s Christian conversion implicitly supports arguments of Islamic resistance toward the new technology, as if a Christian origin alone precipitates interest in print technology and European knowledge. For a more nuanced examination, including discussion of the reasons a Hungarian might *opt* to join the Ottoman bureaucracy, see Niyazi Berkes’ *The Development of Secularism in Turkey* (1964: 36-45).

<sup>6</sup> Prior to the Ottoman era, Turkish Muslim constituencies had utilized block printing for seals and amulets. But the practice was uncommon by Ottoman times. For more information, see Richard Bulliet’s “Medieval Arabic Tarsh: A Forgotten Chapter in the History of Printing” (1987).



Mehmet specifically requested that this document be translated into Turkish, and the translation was later printed using the Greek alphabet (Kut 1960: 800).

The Sultan displayed a deep personal interest in learning from both the Eastern and Western frontiers of his realm. He formed the office of *nakishane* to gather European, Persian, and Arab artisans as a signal of Ottoman imperial position. He commissioned a number of translations from Greek manuscripts into Ottoman Turkish. He hired the Venetian painter Gentile Bellini for a royal portrait (Kinross 1977: 155). He supported the new study of astronomy. And his armies adopted a variety of European military techniques (Bloom 2001: 221).<sup>7</sup> Subsequent sultans extended this strategy of technological and artistic incorporation. Mehmet's immediate successors—Sultans Beyazit II and Selim I ("Selim The Grim")—were patrons of art and scholarship. When Sultan Selim I conquered Tabriz in 1514, he supposedly demanded a levy of 1,000 skilled craftsman and illustrators rather than material riches, and these artisans were subsequently employed in the royal workshops (Levey 1975: 60; Atıl 1987: 31). The reign of Sultan Süleyman the Magnificent (1520-1566 C.E.), which followed that of Selim I, is often considered the golden age of Ottoman civilization, art, and technological achievement.

These contrasts separating the Ottoman and European situations are instructive. During the spread of print in Europe, the two regions exhibited considerably different political and religious situations. In Europe, scattered

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<sup>7</sup> According to Caroline Finkel, Mehmet's conquest of Constantinople was the first time artillery rather than a blockade led to the capture of a city (2005: 52).

political constituencies struggled with religious reform, the rise of humanism, and the threat of Ottoman advance. During the same period, the Ottoman state was an organized political dynasty at the peak of military, political, and artistic achievement. If, as Albertine Guar (1984) suggests, printing did not offer a new form of writing as much as a new medium of information storage, then the question of print adoption must assess which situation would benefit from this new method of storage.

Given his big appetite for Western artifacts, it seems reasonable that if he [Sultan Mehmet] had wanted or needed printing he would have purchased the machine, hired the people necessary to run it, and used it as a propaganda tool himself (Abdulrazak 1990: 80).

Although Sultan Mehmet was aware of the new technology, he did not adopt it. The Ottoman state was flourishing at this time, and perhaps the Conqueror of Constantinople neither *needed* nor *wanted* printing. A large scribal class was organized around the court, and those workers answered the Ottoman demand of information management without recourse to movable type. The organization, efficiency, and mode of Ottoman scribal techniques, may have initially rendered the benefits of print adoption unnecessary (c.f. Kunt 2005: 10).<sup>8</sup> Whereas print widely shares texts, Ottoman rule retained a high degree of secrecy and control. Scripts such as *diwani* protected privileged documents, and the public scrutiny of information was not widely perceived as beneficial to the governance of the state.

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<sup>8</sup> This should not suggest that the scribal practices in Europe were less efficient or less developed than Ottoman practices. The current discussion does not challenge the important administrative role played by scribes in either setting. The posed question asks what role, if any, print offered the state.

The textual output of the Ottoman scribes was extremely vast, but the state had little need for the mass production and multiple printings of a single document. The Ottoman court administered the realm through the issue of imperial *fermans*, specific permissions granted in response to specific requests. Since *fermans* were individually addressed, printing would not have benefited their production. Printing distributes multiple copies of identical documents across multiple locations. Aspects of the *ferman*, such as the imperial *tugrah* seal were repeated across a variety of documents, and mechanical aides or stencils were utilized to quicken the process (Rogers and Ward 1988: 58-59). But due to the individual content of each *ferman*, the final decoration was still completed by hand in order to guarantee authenticity. Although print could efficiently reproduce multiple copies of identical texts, it could not substitute for a large numbers of specialist scribes, each penning a unique document of individual permission.

Payroll registers from the reign of Süleyman the Magnificent indicate that the *nakishane* employed over one hundred and forty artists between the years 1526 and 1566 C.E. (Atıl 1987: 30-31, 289-297). These artists decorated and illustrated written texts, but they were not scribes. Thus, the number of scribes was in all likelihood significantly higher. The textual output of the period reflects this.<sup>9</sup> During the reign of Sultan Süleyman I, the Ottoman administration issued over 150,000 *ferman* documents, which corresponds to a

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<sup>9</sup> Atıl (1987) contains payroll registers listing the names and salaries of Ottoman court artists. I suspect payroll registers for administrative scribes also exist, but I have been unable to examine these records at this point.

yearly average of 3,400 or almost ten *fermans* per day (*ibid.*: 34). Since *fermans* were issued for administrative reasons only, this number does not include Qur'ans, religious texts, or scientific manuals drafted during the same period.

Ottoman methods of textual production and information management are rarely mentioned in examinations of print history. Instead, the Ottoman attitude is often summarized by a crucial decree issued by Sultan Beyazit II in 1483 C.E. Beyazit's decree supposedly banned the printing of Arabic within Ottoman lands. In 1515, Sultan Selim "The Grim" allegedly renewed the ban, and Ottoman society lingered without print until 1727, when a *ferman* from Sultan Ahmed III finally authorized the establishment of an Ottoman printing house. However, neither the original decree nor its renewal can be located, and the exact contents of these prohibitions are prone to much speculation.<sup>10</sup> In the extreme, the decrees are claimed to threaten the execution of anyone engaged in the work of printing, and the punishment is commonly reported as only applicable to Ottoman Muslims or the printing of Arabic. The reasons for these distinctions remain vague, however, and little explanation is provided other than speculation of Islamic conservatism. Thomas Carter engages in a prime example of such speculation:

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<sup>10</sup> In initial archival research, the current author has been unable to locate either the ban of Sultan Beyazit II or the renewal of Selim I and none of the consulted works provide direct references to their location within the imperial ledgers. In a personal correspondence, John-Paul Ghobrial has informed me of his own attempts to locate the documents, which were similarly unsuccessful. The citation trails pointing to these decrees usually return to Günay Alpay Kut's article on "matbaa" (printing) in the *Encyclopedia of Islam*. Kut's brief article mentions both decrees without offering sources.

The reason for this prejudice is uncertain. It has been suggested that the Moslem suspected hog's bristles in the brush used for cleaning the block, and that to touch the name of Allah with this brush seemed to him the height of blasphemy. It is more probable that mere conservatism was at back of the prejudice (Carter 1955: 150).

Carter dismisses concerns over hog-bristle brushes as irrelevant and offers the "more probable" explanation of "mere conservatism," despite the fact that the composition of bristles can be subjected to material examination, whereas ideological conservatism cannot. If the brushes were a problem for Ottoman printing, they could have been easily replaced with alternative brushes. But Carter does not consider this, nor does he examine Ottoman texts themselves to see if this was indeed the primary issue.<sup>11</sup>

The best discussions of the documents in question are found in Turkish sources, most notably Selim Nüzhet Gerçek (1939) and Osman Ersoy (1959), as well as the Tunisian text *Le Début de l'imprimerie arabe à Istanbul et en Syrie: Évolution de l'environnement culturel (1706-1787)* by Wahid Gdoura (1985). Both Gerçek and Ersoy doubt the veracity of the decrees and powerfully cite their absence from the historical record. Given the importance of the ban and its renewal, the documents themselves would merit close scrutiny. The absence of both the initial ban and its renewal become especially conspicuous given the frequency with which later Ottoman print-related texts are reproduced in scholarly sources. Not having the text itself, Gerçek therefore traces mention of the bans to *Essai sur la typographie* by the French typographer Ambrosie

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<sup>11</sup> Joseph Dane (2003: 3-9) argues that such discursive strategies are common in the history of the book, where abstract cultural narratives tend to overshadow material evidence.

Firmin-Didot (Gerçek 1939: 17-18). The essay was published in *l'Encyclopédie moderne* of 1855 and claims that Beyazıt II made Arabic printing punishable by execution (*ibid.*: 18).<sup>12</sup> Supposing that the missing *ferman* could be located to verify the accuracy of Firmin-Didot's report, Gerçek asks what the ban would prove. Little evidence exists that the Ottoman Muslim population suffered under the ban, and there are no records of punishments resulting under its aegis, nor are there stories of attempts to work around it. Writing in 1652, a Jesuit in Constantinople wrote that he preferred to work with handwritten tracts since printed matter was regarded as foreign and 'Frankish' even by Ottoman Christians (Faroqhi 2000: 95). These remarks suggest a popular and cultural suspicion towards print on a much wider scale and much more effective than official pronouncements.

Critiquing a series of articles published by the *Tarih-i Osmanlı Encümeni Mecmuası* (The Ottoman Historical Society Review), Osman Ersoy similarly advocates a need for a more complex social explanation. Noting the lack of sources outlining Ottoman Muslim attempts to print, he suggests the "rumor" of prohibitions may hold some weight. But Ersoy is still not willing to posit the decrees as the sole explanation, and he directly doubts the rumored threat

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<sup>12</sup> Firmin-Didot's reference to Sultan Beyazıt is incredibly brief. But the printer also served at the French Consulate in Ottoman Constantinople, and his diaries and other writings may hide additional information regarding the location and date of these *fermans*. However, Firmin-Didot was also an active supporter of the Greek revolution against Ottoman rule, and he provided the Greek resistance with its first printing press. His strong statements and condemnation of Ottoman printing may have been partially fueled by his support of the Greek resistance.

of execution. Instead, historical explanation ought to examine the traces and discrepancies hiding behind such rumors:

It has been claimed that in 1483 Beyazid II produced this *ferman* and Selim the Grim renewed it. ... [The *Tarih-i Osmanlî Encümeni Mecmuası*] articles still did not end the rumors and explain the truth about these documents.

... Since no printed books can be found to answer the contrary, this *ferman* is claimed to have truly existed. But despite these obstacles to the art [of printing], numerous Jewish printers operated in Ottoman lands from the time of the *ferman* until now. This cannot merely be a coincidence.

Ersoy moves discussion away from speculation regarding Beyazid's intentions for drafting the rumored *fermans*, and toward an examination of what can and cannot be found as part of the historical record. Indeed, no books printed by Ottoman Muslims have been discovered prior to the eighteenth century. On the other hand, the printing of Hebrew, Greek, and Armenian texts occurred in Ottoman lands, and these productions have been carefully documented as early as the sixteenth century. Any explanation of Ottoman printing ought to account for both of these facets.

In a detailed and careful comparison of print adoption in Istanbul and Syria, Tunisian scholar Wahid Gdoura shares the skepticism of his Turkish counterparts. Gdoura further complicates the origin of the rumored decrees by uncovering a French mention that precedes Firmin-Didot by almost two centuries. But Gdoura's assessment of the source remains highly critical. For an article on Gutenberg in his *Histoire des plus illustres et savans hommes de leur siecles* (1671), André Thevet wrote:

Le que m'en rend plus asseure, dit-il que les Grecs, Arméniens, Mingréliens, Abyssins, Turcs, Mores, Arabes, et Tartares, n'écrivent leurs livres qu'à la main. Le, qu'entra autres les Turcs, ont pratiqué par l'ordonnance de Bejazeth second du nom leur empereur, publié l'an quatorze cens quatre vingt trois, portant défense sur peine de la vie de n'user de livres imprimer, laquelle ordonnance fut confirmée par Selim, premier do nom son fils, l'an' mil cinq cens quinze.

[The one who assures me, he says that the Greeks, Armenians, Mingrelians, Abyssinians, Turks, Moors, Arabs, and Tartars write their books by hand. Those, among others the Turks, have practiced by an ordinance of their emperor Beyazit II published in the year 1483 bearing a penalty of death to not use printed books, which was confirmed by his son Selim I in 1515.]<sup>13</sup>

Like the host of later writings which repeat similar claims, the essay does not elaborate and Gdoura notes that the author was known for exaggerating his claims.<sup>14</sup>

Gdoura continues to wonder why Sultan Beyazit's reaction to print was so violent (1985: 86-87). Nicknamed "The Pious," Beyazit II was noted for an iconoclastic and religious demeanor as well as a deep respect for traditional calligraphy and Islamic arts of the book (Kinross 1977: 156-166; Levey 1975: 56-57).<sup>15</sup> Thus, there may be anecdotal evidence in support of his issuing such a strong statement. But Beyazit II was also a contemplative Sultan, respectful of scholarship in both arts and sciences, and he communicated frequently with

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<sup>13</sup> I am grateful for the assistance of Etienne Pelaprat in reviewing and editing the English translation of Thevet's text.

<sup>14</sup> Citing Volume 41 of Michaud's *Biographie Universelle* (1841), Gdoura comments that Thevet had a reputation for stretching the truth and exaggerating his descriptions of foreign lands. See also Mukerji (2006: 665n2).

<sup>15</sup> See Chapter 2 for discussion of the relationship between Sultan Beyazit II and the master calligrapher Shayk Hamdullah.



European powers (Levey 1975: 57; Gdoura 1985: 87; Erünsal 2000: 870; Faroqhi 2000: 117; Finkel 2005). If he did indeed issue such a harsh decree, it therefore seems likely that he would also have provided a legal justification or a series of Islamic arguments alongside it.

Even if Beyazit II forbade printing with Arabic letters, he incongruously allowed the quick establishment of a Jewish press during his reign. After their expulsion from Spain in 1492 C.E., Beyazit II welcomed the Sephardic Jews to his realm and quipped that King Ferdinand was foolishly “impoverishing his country while enriching [the Ottoman] dynasty” (Finkel 2005: 88). Immigrant Jews may have brought presses with them from Spain or Portugal (Tamari 2001: 9; Finkel 2005: 366).<sup>16</sup> The earliest Hebrew printing from Constantinople is dated 1493, and Don Yehuda Gedalya, a refugee from Lisbon, produced an edition of the Torah in 1504 (Tamari 2001: 9).

The famous Jewish printer Gerson of Soncino relocated from Italy to Constantinople in 1527, and later moved his operations to Ottoman Salonika. In 1546, the Soncino press issued an Arabic translation of the Pentateuch, with the Arabic text phonetically printed in Hebrew characters (Krek 1979: 209).<sup>17</sup>

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<sup>16</sup> Finkel interestingly presents information regarding the Jewish immigration and the mysterious bans in reverse order. Such a presentation suggests that Beyazit II’s 1483 ban was issued in response to the 1493 printing of Jewish immigrants, even though the latter occurred of ten years after the first. Finkel also attributes the existence of the printing bans to “contemporary Jewish sources” (2005: 366), but she also does not provide specific references to these sources.

<sup>17</sup> The use of Hebraic characters to print both the Arabic and Persian languages, as well as the earlier use of Greek letters for the printing of Turkish reflects DeFrancis’s argument regarding “The Diverse Oneness of Visible Speech” (See Figure 2.1 of the present document).

Jewish presses in Constantinople had printed well over a hundred titles by the end of the sixteenth century alone, and the city established itself as a center of Jewish and Hebrew printing on par with Venice and Amsterdam (Abdulrazak 1990: 76; Tamari 2001: 9-10). By the mid-seventeenth century, Hebrew presses were also successfully operating in the Ottoman cities of Fez, Cairo, and Safad (AbiFarès 2001: 65; Steinberg 1996: 53).

The Ottoman relationship with print during the first few centuries of movable type was complex. Although there is no indication of books being printed with Arabic characters during this time, there is also no trace of the key decrees that allegedly made such activity punishable by death. Despite the exact wording (or even existence) of these decrees, print technology was applied in Ottoman lands for the printing of non-Arabic works. As early as the 15th century, Hebrew presses were operating in Ottoman lands, and in 1567, Ottoman Armenians opened a press in Constantinople. The Armenian community shared their press with local Dominicans, who imported Latin fonts from Venice for their own publications (Bloom 2001: 221; Kut 1960: 799). None of these presses appear to have posed problems to Ottoman sensibilities. Such acceptance of non-Arabic printing invites an explanation beyond the simplistic claim of Islamic conservatism, especially since the key decrees have yet to be found.

## FOREIGN IMPORTS AND SEEDS OF CHANGE

As the output of European printed material increased, Ottoman patrons grew more accustomed to materials printed with Arabic type. But the Arabic orthography of European-printed texts was poor, and the number of linguistic errors compared weakly with Islamic traditions of Qur'anic preservation and careful scribal copying (Mahdi 1995). Ottoman readers, moreover, did not suffer from a dearth of texts. Although books were praised by those who could read, the number of readers remained low (Faroqhi 2000: 96-96; Kunt 2005b; Erginbaş 2005: 19-20). Few texts were widely circulated and popular texts were in ample supply for the elite circle of readers. In Constantinople, specific days were reserved precisely for copying at public libraries (Nuhoglu 2000: 86-87). This allowed scholars, students, and the Ottoman elite to build their own libraries. Through commissioned work, students could supplement their income, and the volume of popular texts in circulation remained high. Consequently, most attempts to market printed imports ended as financial failures. Only later, as the texts and applications of print differentiated their audiences from works of scribal production, did the new technology become an acceptable alternative and a new method of visual inscription.

The earliest attempts at foreign printing with Arabic type followed a Reformation model, focusing upon the production of religious material. In 1514, a Book of Hours (*Kitab Salat al-Sawa'i*) was printed in Fano, Italy under the sponsorship of Pope Julius II (Krek 1979; AbiFarès 2001: 45; Bloom 2001:

219, Pedersen 1984: 131).<sup>18</sup> The audience of the book remains uncertain, but it appears to have been intended for Arabic Christians of the Levant or Egypt, in hopes of gathering them beneath the banner of Rome. Often listed as the first text printed with moveable Arabic type, the Book of Hours was printed and set by typographer Francisco Griffo (AbiFarès 2001: 45; Figure 4.1), but there are no traces of the typefaces being reused for any other printing. The printed text displays “an occasional blur as a result of wood chips” broken during the process of engraving, leading Fawzi Abdulrazak to suggest that the book was printed from carved wooden blocks rather than metal type (1990: 67-68).

Thirty years after the Fano printing, Italy was also the site of the first printing of the Qur’an. The Venetian Alessandro Paganino printed the book in 1537 or 1538 C.E.<sup>19</sup> The entire text is printed in Arabic with no translation or commentary, which indicates that the printer intended it for export (Nuovo 1990: 285). Perhaps he hoped to stake an early claim on Islamic markets by quickly distributing a large number of Qur’ans similar to the “poor man’s Bible,” but the project ended a financial failure (Nuovo, 1990: 286; Abdulrazak 1990: 67; Bloom 2001: 220). The printing contains numerous textual errors, including the replacement of *kesrah* or *sukkun* with *fetha* in the marking of

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<sup>18</sup> Miroslav Krek (1979) suggests the book may have actually been printed in Venice with a false Fano imprint. This may have been done in order to sidestep a printing permission which had already been granted to another printer.

<sup>19</sup> Angela Nuovo provides extensive discussion of the printing and disappearance of this text in her article “A Lost Arabic Koran Rediscovered” (1990, translated from a 1987 Italian article).



**Figure 4.1: An Arabic Book of Hours.** The opening pages of the first book printed with moveable Arabic type. Francisco Griffo printed this Book of Hours in Fano, Italy in 1514. Reproduced from *Arabic Typography: A Comprehensive Sourcebook* (AbiFarès 2001: 45).

diacritic vocalization, confusion of the letters *dal* for *dhal* and *ayn* for *ghayhn*,<sup>20</sup> and the placement of *alif* in words where the Arabic language disregards it (Abdulrazak 1990: 66-67; Mahdi 1995; see Figure 4.2). And this list reflects the errors noticeable on the first page alone! Such disregard for Islamic traditions of Qur'anic preservation leads Muhsin Mahdi to suggest that pious Muslims might assume "only the Devil himself could have produced such an ugly and faulty version of their Holy Book" (1995: 1-2; *c.f.* Nuovo 1990: 286). Applying the new technology to poor reproduction of the carefully monitored Qur'anic text emphasized criticism, especially when faulty printed versions originated from a Christian Europe militarily aligned against Islam.<sup>21</sup>

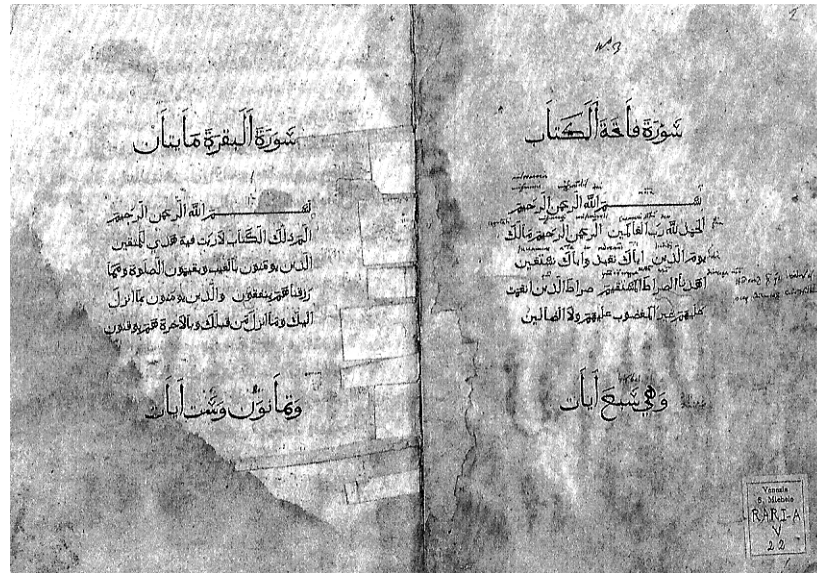
For more cautious (or wiser) European merchants, forays into Ottoman and Arabic markets rested on less sensitive, and nonreligious, material. In 1588, Sultan Murad III provided two Italian merchants by the name of Anton and Horatio Bodoni with a *ferman* allowing the import of books printed with Arabic, Persian, and Turkish characters into Ottoman lands.<sup>22</sup> Murad's *ferman*

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<sup>20</sup> The two letters of each pair share the same stem, but the latter is differentiated in both cases by a *nokte* placed above the stem. A comparable error in English printing might view the cross mark differentiating the letters "l" and "t" as insignificant.

<sup>21</sup> Unlike copyist errors, with each error being unique and easily corrected by an alert reader familiar with the text, printed mistakes are more likely to fall into the hands of those unaware of the error. "From [an Islamic] religious point of view, it seemed unacceptable that the holy text should be subjected to error-strewn duplication through the printing press" (Faroqhi 2000: 95).

<sup>22</sup> Christopher M. Murphy (1995) presents a complete English translation of the 1588 *ferman*. But interestingly, the print version only reproduces textual contents of the *ferman*. The *tugrah* seal, by which those contents are authorized, was not printed. The sedentary and domestic Sultan Murad III was also a patron of the arts, with a special interest in illuminated manuscripts. Orhan Pamuk offers a rich discussion of the artistic landscape of Murad's era in his historical novel *My Name is Red* (2001).



**Figure 4.2: The First Printed Qur'an.** Alessandro Paganino printed the first edition of the Qur'an in 1537/1538 C.E. The venture was a financial failure, and the text contains numerous errors. Reproduced from *Paper Before Print: The History and Impact of Paper in the Islamic World* (Bloom 201: 220).

protected the imported books from seizure, verified the Bodoni brothers as legitimate vendors, and stipulated that the merchants should receive proper compensation for the cost of their wares. The *ferman* indicates that printed materials belonging to the Bodoni brothers were already being mishandled and seized by Ottoman port authorities. The imports must have therefore begun prior to the Sultan's authorization. An allowance for the foreign import of printed works indicates that official Ottoman opinion was neither rigidly nor religiously opposed to print technology at this time.

The *ferman* may have been more a product of the Bodoni brothers' good business sense than a grand shift in Ottoman perceptions of print. By end of the sixteenth century, the Venetian book market was in decline (Febvre and Martin 1958: 190-191; Mukerji 1983: 103), and enterprising book merchants were beginning to look elsewhere, with the hope of opening vernacular and foreign markets. The request of permissions to print in certain languages or access certain markets was not unique to Ottoman lands, and the Bodoni brothers may have simply been trying to corner a potentially large market.<sup>23</sup> Aside from its use of a non-Latin alphabet, the Ottoman realm presented a unique economic opportunity.

The first Bodoni import was a 1594 Arabic edition of Euclid's *Elements*. The book contains Murad's *ferman* as its final sheet, and the Bodonis may have hoped that sales of the book would benefit from an official pronouncement

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<sup>23</sup> By the end of the fifteenth century, the Venetian Senate provided permissions for the exclusive right to print or distribute particular books, especially those with non-Latin typefaces (Steinberg 1996: 53; Krek 1979: 208-209).



vouching for its contents (See Figure 4.3; Lunde 1981). Inclusion of the *ferman* implies that the authorities conducting the seizures would respect an imperial decree and abide by its terms. If the threat of seizure could be overcome, the Bodonis wagered, the size, stability, and orderly regulation of Ottoman lands offered the promise of potentially large financial returns. Despite such hopes, however, the imports continued the trajectory of faulty Arabic orthography (Mahdi 1995: 1, 3). And they too produced little financial return.

The Bodoni imports were printed in Rome at the *Typographie Medicea* (Medici Press), which began as an effort to strengthen the Christian mission in the Middle East. When Gregory XIII assumed the Papacy in 1572, he sought to rebuild a strong Catholic base in wake of the Reformation. In order to do so, he hoped to gather Arabic and Ottoman Orthodox Christians within the Catholic fold, and his moves to improve relations with Middle Eastern Christians produced a series of educational projects (Lunde 1981; Vervliet 1981). These included the founding of a Maronite College in Rome and the establishment of a foreign language press, which was supervised by Cardinal Ferdinando Medici (Lunde 1981; Bloom 2001: 220).<sup>24</sup>

The new press was charged with a dual mission: acquainting Middle Eastern Christians and Muslims with the benefits of print and associating those benefits with the glory of the Catholic Church. Production emphasized the distribution of Catholic material in Arabic, Syriac, Coptic, and Ethiopian,

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<sup>24</sup> Graduates of the Maronite college later played significant roles in the history of Arabic printing and publishing. Yaqup Ibn Halal (Giacomo Luna), who succeeded Robert Granjon as chief Arabic typesetter at the Medici Press, was a member of the first graduating class (AbiFarès 2001: 48-49).



**Figure 4.3: The 1588 Ferman of Sultan Murad III.** The *ferman* granted to the Bodoni brothers by Sultan Murad in 1588 C.E. The image displays the *ferman* as it was reproduced on the final page of Euclid's *Elements*. Interestingly, the Sultan's calligraphic *tugrah* seal, which officially authorizes the text's decree, was not reproduced in the printed version. Reproduced from *Türk Matbaacılığı*, 1. *Müteferrika Matbaası* (Gerçek 1939).

on one hand, and the printing of Arabic scientific texts on the other. This later set was shared with Muslim scholars to showcase the learning and power of the Church. The Medici press was quite active during the 1590's, but later financial difficulties and troubles with piracy prevented the operation from surviving the death of its founder Giovanni Battista Raimondi in 1614. In addition to the initial Bodoni import of Euclid in Arabic translation, the press also published an edition of Ibn Sina's famous medical treatise *al-Qanun*. The work was much in demand in Constantinople, but the print edition still sold poorly, even at a lower price than it demanded in Europe (Gdoura 1985: 97; Faroqhi 2000: 94; Sakal 2000: 898).

The greatest successes of the Medici Press, therefore, was visual rather than financial. Cardinal Medici appointed Raimondi to oversee the press, and the scholar was well suited to the task. Raimondi had traveled extensively in the Middle East and he was familiar with a variety of Oriental languages. For the new press, he inherited a set of Arabic fonts cut by the Jesuit Giambattista Eliano in 1564. The pope had requested the fonts for use at the *Tipographia del Collegio Romano*, and they surpassed the formal clarity and aesthetic quality of earlier specimens.

After fifteen years of heavy use, Eliano's types were noticeably worn and required replacement. Raimondi therefore enticed the famous French typographer Robert Granjon (c. 1513-1590 C.E.) to cut a new Arabic typeface. Raimondi collected an extensive number of calligraphic examples during his travels, and he offered these to Granjon as models of Arabic script. Intrigued

by the challenge, Granjon accepted the offer and moved to Rome in 1578.<sup>25</sup>

Drawing upon earlier work with cursive Roman italics, Granjon produced three sets of fully ligatured Arabic type (Figure 4.4). All three typefaces were beautifully displayed in *Alphabetum arabicum*, a 1592 publication of the Medici Press. In this short text, which also contains a Latin essay addressing Arabic writing, “clarity and elegance of form were, for the first time, harmoniously combined in a design of Arabic printing types” (AbiFarès 2001: 48).<sup>26</sup>

Shortly after the folding of the Medici Press, the political implications of print technology erupted in the Ottoman capital.<sup>27</sup> In 1627, Cyril Lucaris, the Orthodox Patriarch of Constantinople, opened a Greek language press.<sup>28</sup> The Patriarch wished to educate the local Orthodox Christians, combat Roman Catholicism in Ottoman lands, and reform the local Church (Roberts 1967: 13). As a youth, he had worked in Poland helping to organize Polish Orthodox

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<sup>25</sup> Although Granjon worked on papal commission, it is not certain that his religious allegiances fell with the Catholics. Prior to his employment in Rome, Granjon lived and worked in Lyons, where he published a series of devotional manuals considered heretical by the local Catholic orthodoxy (Febvre and Martin 1976: 312).

<sup>26</sup> In addition to outlining the orthography of written Arabic, this wonderful treatise highlights the regional variation of Arabic script. It presents a list of Arabic letters used for the transcription of non-Arabic languages and explains the major differences separating *magribi* writing from the *al-khatt al-mansub* of the Eastern Muslim world.

<sup>27</sup> The final printing of the Medici Press occurred in 1610, the same year that the first Arabic book was printed in the Middle East. This book, a bilingual Psalter in Arabic and Syriac, used Syriac letters for both languages. It was printed at the Monastery of Wadi Quzhayya on Mount Lebanon by graduates of the Maronite College established by Pope Gregory XIII (Lunde 1981).

<sup>28</sup> Lucaris was a highly politicized figure, and his eighteen-year tenure (1620-1638) as Patriarch of Constantinople was rife with intrigue. For more on Lucaris’ life, see Runciman (1968: 259-288). Roberts (1967) offers a more focused look at the products of Lucaris’ press and their connection with his various political agendas.

وَهَذَا النَّيْلُ لَهُ خَصَّتَانِ الْأُولَى بُعْدُ مَرَمَاهُ  
 الْمَعْبُورَةِ نَهْرًا أَبْعَدَ مَسَافَةً مِنْهُ لِأَنَّ مَبَادِيئَهُ  
 جَبَلِ الْقَمَرِ وَزَمَمُوا أَنَّ هَذَا الْجَبَلَ وَرَاءَ حِطِّ

اعلم ان الإنسان مفتقر بالطبع الى ما يقوته ويمونه في حالاته واطواره  
 من لدن نشوة الى اشدّه الى كبره والله الغني وانتم الفقراء والله سبحانه  
 خلق جميع ما في العالم للانسان وامتن به عليه في غير ما آية من  
 كتابه فقال خلق لكم ما في السموات وما في الأرض جميعاً منه ويختر

**Figure 4.4: The Arabic Fonts of Robert Granjon.** From 1578-1589, Robert Granjon cut three sets of fully ligatured Arabic type. The displayed samples are *Arabica Grande* on the top and *Arabica Piccolina* on the bottom. Reproduced from *Arabic Typography: A Comprehensive Sourcebook* (AbiFarès 2001: 45).

Christians against Rome (Runciman 1968: 263-265). These events introduced Lucaris to the Polish Protestant community, strengthened his anti-Catholic stance, and shaped his theological views along Calvinist lines (*ibid.*: 266-274, Faroqhi 2000: 69). He later promoted these ties as Greek Orthodox Patriarch. During his tenure, Lucaris maintained close relations with local Protestant representatives in Constantinople, and he actively worked to resist Jesuit influence among local Christians.

When Lucaris decided to establish his Greek Orthodox press, both the British and Dutch ambassadors to the Ottoman court supported the endeavor (Runciman 1968: 269, 271). The British ambassador Thomas Roe helped move necessary equipment through customs, and the Greek printer Nicodemus Metaxas, who had been working in London, was hired to handle the printing and typesetting. Metaxas was lead to believe the new press would follow the example of his London operation, which published tracts for local Orthodox education (Roberts 1967: 16). But the Constantinople press veered from this purpose. The press primarily promoted Lucaris' personal religious views, and its published works included strong sentiments of anti-Catholicism and anti-Semitism. One of the inflammatory tracts contained an incidental passage criticizing Muslim opinions, and the local Jesuits quickly brought this to the attention of the Grand Vizier.<sup>29</sup> As a result, the Janissaries stormed Metaxas'

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<sup>29</sup> The establishment of a Greek Orthodox press especially angered the Jesuits, who had founded their own Greek press only a year earlier (Runciman, 1968: 272).

workshop, halted all printing operations, and destroyed the press machinery (Runciman 1968: 272-273; Faroqhi 2000: 70).

The Ottoman administration may have feared the consequences of print becoming a political tool to enflame local factions. This fear was heightened during the seventeenth century, as the divergent interpretations of Christian doctrine erupted in the Thirty Years War (Faroqhi 2000: 96; Gdoura 1985: 90-91; Erginbaş 2005: 19). The Ottomans did not want similar conflicts to spill over among the Christian populations of their realm, and they worked quickly to contain the situation. The founding of Lucaris' Orthodox press, moreover, coincided with an incredibly volatile time in Ottoman history. When Sultan Ahmet I died in 1617, Mustafa I ascended the throne. But the new sultan was deposed only three months later by the first palace coup in Ottoman history (Finkel 2005: 197). Mustafa was subsequently replaced by Sultan Osman II, who ruled for four years before becoming the first Ottoman victim of regicide (*ibid.*: 201). Sultan Mustafa I ruled another sixteenth months, before being deposed yet again in 1623 C.E. A similar pattern of weak Sultans and military depositions continued throughout much of the seventeenth century.

Within this milieu, destruction of the Lucaris press and the similar fate of an Armenian press in 1698 are offered as twin examples of severe Ottoman censorship (Finkel 2005: 366; Mystakidis 1911). But the controversial story of the Greek press does not end with its destruction. After closely reviewing the inflammatory "anti-Islamic" tract, a local Islamic *mufti* claimed that both the Grand Vizier and the Janissaries had acted too brashly. The Christians, he

ruled, were entitled to circulate and debate their beliefs in whatever format they wished, even if those statements were contrary to Islam. As a result, four of the French Catholic emissaries who had enticed destruction of the Orthodox press were sentenced to prison, and the Patriarch was granted permission to continue his project (Runciman 1968: 273). By this time, however, Lucaris had already found willing printers in Geneva, and he therefore did not re-establish the Constantinople press.

Lucaris' activities and the ensuing ruling certainly raised the visibility of printed material among the Ottoman elite. The scandal shed light on the political implications of the new technology, and Ottoman scholars began to re-examine printing as a method of copying and inscription. Writing in 1640, the Ottoman historian Ibrahim Peçewi (Ibrahim of Pech) included a section on the new art in his chronicles:

European histories write that in 1440 an intelligent man by the name of Ivan [*sic* for Johannes] Gutenberg invented publishing books by print-writing. In the two hundred years since then nearly all non-Muslim books have been printed. At first, putting all the separate letters in place takes as much time as hand-copying but then a thousand copies can be printed easily, with less trouble than making a single copy by hand.<sup>30</sup>

Ibrahim precedes these remarks with a careful description of the European book economy, including the seeking of patron sponsorship by authors, the distribution of books by traveling merchants, and the licensing of publications in order to protect against falsities (Kunt 2005: 3). Given the financial failure

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<sup>30</sup> The translation is adopted from Metin Kunt (2005b) with minor edits and additions based upon reading of the original Ottoman.



of the Bodoni imports and the persistence of a large scribal class, such specific focus upon the economics of book production is interesting. The Ottoman book industry did not adhere to a model of mass commercialization (Erginbaş 2005: 19). And unlike European circles, where literary patrons supported the new technology, Ottoman elite tended to eschew printed works in favor of fine calligraphy and illuminated manuscripts (Faroqhi 2000: 94-96; Kunt 2005: 9). By examining the economy of European printing, Ibrahim Peçewi may have become astutely aware of the economic, political, and societal shifts the new technology might inspire.

#### **THE ADVENT OF OTTOMAN PRINTING**

By the eighteenth century, similar suggestions of utility and change had become more viable. A sense of urgency was heightened by the technological, economic, and military ascendancy of Europe and the corresponding Ottoman decline. During the reign of Süleyman the Magnificent, Ottoman advance into Christian Europe appeared inevitable; it was now all but forgotten. Once, the Ottoman navy operated with ease across the Mediterranean and even engaged Portugal in the Indian Ocean. But three centuries of European navigation, and colonization had shifted the equation. The primary European trading routes now circled the horn of Africa and crossed the Atlantic Ocean, rather than the Mediterranean. As a result, the overland trade of the silk and spice roads that transected the Ottoman realm was considerably reduced. If the printing press

was initially employed in Europe to resist a powerful Ottoman state, a similar utility could now help a declining Ottoman state resist the rise of Europe.

Due to the legacy of Ottoman magnificence, as well as Ottoman rule over the majority of Muslim lands (including the holy cities of Mecca, Medina, and Jerusalem), many European changes circumvented Ottoman society, both figuratively and literally. But the practical and 'real politik' implications of these changes could no longer be denied after 1699. Reversing four centuries of expansion, a weakened Ottoman military signed the Treaty of Karlowitz and forfeited much of their Balkan territory (Finkel 2005: 318-321; Shaw 1976: 223-225). The treaty represented the first settlement in which the Ottomans lost holdings on the European continent, and the lesson of Ottoman decline was repeated in 1718 with the Treaty of Passarowitz (Shaw 1976: 231-233; Lewis 1961: 36-37). Nevşehirli Damad Ibrahim Pasha, witnessed the signing of this later treaty, and it informed his policies when he became Grand Vizier under Sultan Ahmet III.

As Vizier, the reform-minded Ibrahim attempted to halt the Ottoman decline through a series of programs heralded as *Lâle Devri* (the Tulip Period). The period is notably marked by its lavish entertainment partially aimed at distracting the fickle young Sultan. At the same time, Ottoman bureaucracy was modernized and scholarship reinvigorated along European models. The vizier promoted an increase in translation activities and founded numerous public libraries (Sarıkavak 2000; Kreiser 2001: 13; Kunt 2005: 4-5; Erginbaş 2005: 14). Although Ottoman scribes continued to produce a large number of

manuscripts, restrictions were placed on the export of Ottoman manuscript copies in 1716. European libraries, often with considerable funding from royal sponsorship, sought to establish large Oriental collections (Kunt 2005: 5). As a result, the price of handwritten texts increased quickly, and large manuscript collections were removed from local markets. Ibrahim's export restrictions sought to stem the tide of economic and textual loss, in hopes of reviving and protecting traditional modes of Ottoman scholarship.

In another significant change, foreign relations moved away from an emphasis on direct military confrontation, and Ottoman ambassadors were granted greater powers of negotiation. Ties with France, which was now the Ottoman trade partner, were especially close (Finkel 2005: 341). In 1720, a special envoy under the direction of Yirmisikiz Mehmet Çelebi visited the French court of Louis XV.<sup>31</sup> His official purpose was the announcement that the Sultan had granted France permission to repair the Church of the Holy Sepulchre in Jerusalem (*ibid.*: 342). But Mehmet was also instructed "to visit fortresses and factories, and the works of French civilization generally and report on those which might be applicable" within Ottoman lands (Berkes 1964: 33; Kinross 1977: 380).<sup>32</sup> Additional Ottoman envoys were sent to Vienna in 1719, Moscow in 1722, and Poland in 1730, all of whom were charged with reporting on potentially useful European sciences and developments.

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<sup>31</sup> Mehmet is referred to as Yirmisekiz (Twenty-eight) because he was a member of the twenty-eighth order of the Janissaries.

<sup>32</sup> Although Lord Kinross' 1977 work does not cite Berkes' book from 1964, many of Kinross' passages contain nearly identical wording as his predecessor.

Accompanied by his son Said, Mehmet Çelebi toured French military establishments, observatories, hospitals, schools, botanical gardens, theaters, and operas, describing all he witnessed “as if he had discovered a new world” (*ibid.*). Mehmet made the acquaintance of Saint-Simon during his travels and confided his plans to establish a printing press in Constantinople (Saint-Simon 1887: 249). Upon his return home, Mehmet reported his discoveries before the imperial council. He presented a collection of material gifts and visual aids, including French architectural drawings, engravings displaying the gardens of Versailles, and a set of astronomical tables from the Paris Observatory (Finkel 2005: 346; Kunt 2005: 4). The tables were copied from the work of fifteenth-century Persian astronomer Uluğ Bey, and Mehmet regrettably offered the council only a manuscript copy, sadly remarking that the tables “were not yet printed” in France (Berkes 1964: 34).

Around the same time (1719-1720 C.E.), a small printed map displaying the Sea of Marmara was circulated in Constantinople. The map was dedicated to the Grand Vizier Ibrahim Pasha and inscribed with a brief note: “If your Excellency my master so commands, larger ones can be produced” (Kut 1960: 800; Erginbaş 2005: 39). Apparently the Vizier did indeed like the map, as printed maps of the Black Sea, Iran, and Egypt quickly followed. All three maps were designed, engraved, and printed from woodblock by Ibrahim Müteferrika, an Ottoman dignitary who would later operate the first official Ottoman press.

Ibrahim was born in the Transylvanian town of Koloszvar between 1672 and 1675 (Berkes 1964: 36).<sup>33</sup> In an early autobiographical work, Ibrahim records how his Unitarian leanings and dislike of the papacy led to Islamic conversion.<sup>34</sup> But Ibrahim's primary scholarly interests were shaped by his diplomatic career, rather than religious convictions. He was especially fond of geography and military tactics, and he found the printing press a useful tool of modernization in both regards. Ibrahim joined the Ottoman bureaucracy as a young man and later received the title of "mütefferika" (court steward) for his distinguished service (Kunt 2005: 6; Erginbaş 2005: 9-10). He briefly served as a diplomatic envoy for negotiations with Austria, and he frequently worked as a liaison officer and translator for diplomatic visitors due to his knowledge of European languages (Berkes 1968: 68; Carlson 1979: 20; Faroqhi 2000: 94).

In 1726 C.E., with the backing of Yirmisekiz Mehmet Çelebi and his son Said, Ibrahim drafted a petition requesting the establishment of an Ottoman print shop. The petition was forwarded to the Grand Vizier Ibrahim Pasha, who subsequently shared it with the Sultan. In his treatise, Ibrahim offers a series of historical, economic, and technical arguments regarding the import and utility of print:

I read a number of histories of ancient nations and works of various religious men; like an ant I industriously studied, but achieved only a poor understanding. There came to me a

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<sup>33</sup> Vefa Erginbaş (2005: 14) suggests that Ibrahim's interest in printing may have been influenced by a Unitarian printing house opened by Miklos Kiss in Kolosvar in 1867.

<sup>34</sup> Mahmud Esâd Coşan published a modern Turkish translation of this work with the title *Matbaacı Ibrahim-i Mütefferika ve Risâle-i Islâmiye* (1982). However, Vefa Erginbaş (2005: 11) notes that the authenticity of the text cannot be verified.

sudden, clear inspiration, that there are means and instruments that societies and groups of people could use for benefiting the organization of important human matters (Murphy 1995: 286).<sup>35</sup>

The petition was later developed into an insightful essay entitled “Wasilat at-Tiba’a” (The Means of Printing) and included as an introduction to the first Ottoman printing. It explores the importance of writing for the preservation of law, the sharing of knowledge, and the maintenance of community. To reap the benefits of writing, Ibrahim concludes, the contents of books must be accurately copied for publication. In this light, printing contributes “a noble profession and beautiful calling.”

Ibrahim emphasizes the importance of the new art by listing a series of historical incidents in which valuable knowledge was lost. He begins with the books of sacred tradition: the Torah was lost after destruction of the Ark of the Covenant; the heedless collation and contradictory accounts of the Christian Gospels have resulted in misunderstanding and quarrels over dogma (i.e. the Reformation). Learning from these earlier mistakes, Islam took great care in preservation of the Qur’an, and Islamic tradition recorded genealogical chains of textual transmission, memorization, and copying. As a result, the Qur’anic text has been guarded and well preserved. But other Islamic classics were lost when the Mongols plundered Baghdad and the Spanish captured Andalusia. Poor storage facilities and the ravishes of time have claimed even more texts.

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<sup>35</sup> The quoted translations of the “Wasilat at-Tiba’a” are those of Christopher Murphy (1995). I have also examined the Ottoman text with the help of Mehmet Fatsa, and the summary combines Murphy’s work with some of our insights.

To prevent further loss, accurate copies should be made and distributed from the few that remain. And printing offers a means for doing so.

Ibrahim then describes printing as a method of inscription “analogous to the action of engraving and writing by the pressing of words and lines on a page, it is like coining money or inscribing walls, or like the impression from a signet ring when pressed down upon a document.” (Murphy 1995: 289). He follows this definition with ten specific benefits of the new art:

1. Print will answer the need for educational texts, especially for the study of Arabic, history, astronomy, logic, political science, and geography.
2. The reprinting of classic works will reinvigorate Islamic scholarship.
3. Printing can produce and widely distribute books of beautiful design (*khatt*) and composition. These accurate editions facilitate learning and save students the necessity of comparing multiple manuscript copies. Moreover, printer’s ink is more durable and resistant than the ink of manuscripts.
4. With the printing of multiple identical copies, the price of books will decrease, and books will become an item of commerce.
5. Through the inclusion of indexes, summaries, tables of contents, and reading aids, information will be more readily accessible to readers.
6. Widespread distribution of printed material will reduce ignorance.<sup>36</sup>

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<sup>36</sup> As Kreiser (2001: 13-14) notes, this argument anticipates the writings of Count Volney. Between 1783 and 1785, Count Volney toured the Arab provinces of the Ottoman state and blamed the lack of printed material for the “ignorance” and “barbarsim” of these regions.

7. Students in rural areas will have access to better libraries, which will strengthen and educate the Ottoman territories.
8. As the leaders and protectors of Islam, the Ottoman dynasty matches Europe in military technology. A profusion of books further glorifies the state's subjects "in the shadow of royal happiness" (*ibid.*: 290).
9. Christian countries already print works in Turkish, Arabic, and Persian, but their editions are full of errors and poorly designed type. Moreover, the financial benefits of selling these books flow to foreign merchants rather than local markets.
10. Printed books will also benefit foreign Muslims, and, having overcome the difficulties of perfecting the art, the Ottoman state will attain glory in the eyes of all Muslims worldwide.

The essay concludes with a summary of these arguments, requesting that his Majesty, the Sultan, consider the usefulness of print. Ibrahim further requests an opinion from the Sheyh ul-Islam, the highest religious authority. Both the royal *ferman* and the religious decision, or *fetwa*, may then be printed with the proposed books. These documents will serve to clear the doubts of skeptics and indicate that "in every way printing conforms to Holy Law" (*ibid.*: 292).

Both the *ferman* of Sultan Ahmed III and the religious *fetwa* of Sheyh ul-Islam Abdullah Effendi were produced as requested, and both were favorable toward the endeavor (Figure 4.5). In terms of content, these decrees closely follow the wording of the original petition. Indeed, the *ferman*, the *fetwa*, and Ibrahim's petition are so similar that they almost appear as drafts of a single



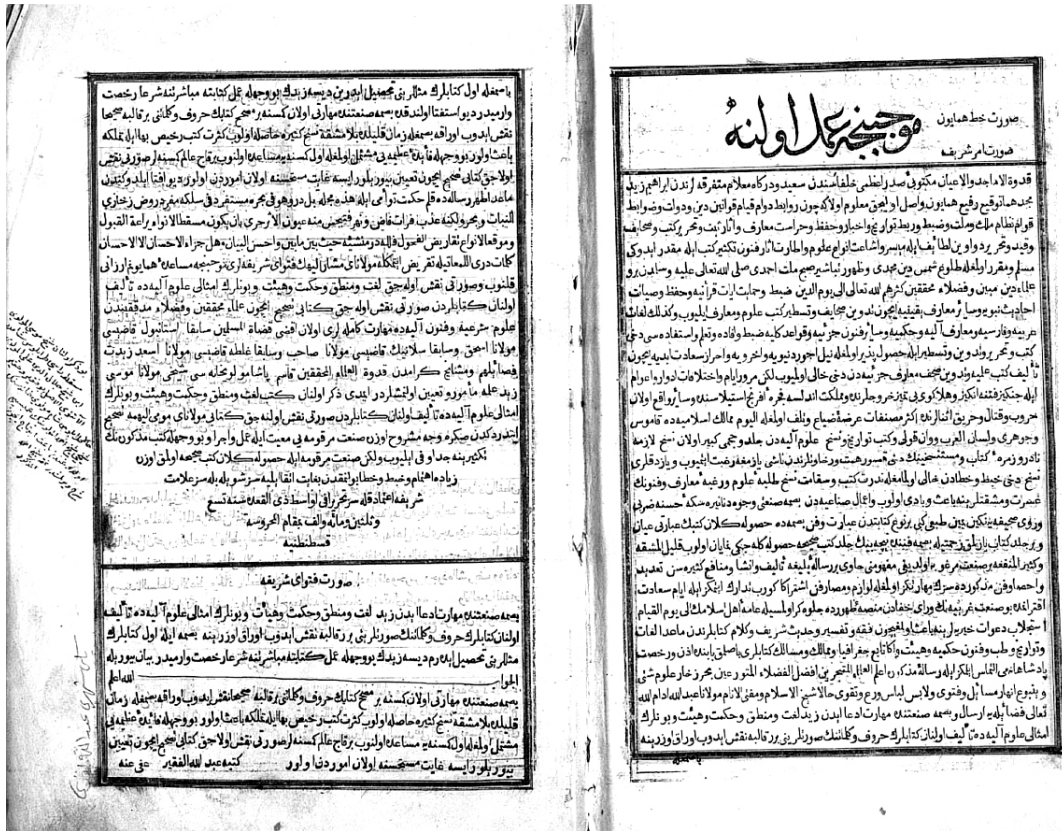


Figure 4.5: The 1726 Ferman of Sultan Ahmed III and the Fetwa of Sheyh ul-Islam Abdullah Effendi. The key documents granted to Said Çelebi and Ibrahim Müteferrika Ibrahim which allowed them to establish the first Ottoman press. The ferman and fetwa are displayed as they were printed in the opening pages of the Müteferrika press' Vankuli dictionary.

argument, of which the essay offers the fullest expression. Such resemblance suggests that the decision to open a press was previously agreed upon, and the official documents were simply the final steps after years of preparation (Kunt 2005: 7). Both Ibrahim's earlier printing of maps and Mehmet Çelebi's disclosures to Saint-Simon concerning his hopes of establishing an Ottoman press support this suggestion. The *ferman* and *fetwa* simply finalized these earlier decisions. In proper bureaucratic fashion, the precise contents of these various documents may have been less important than their separate issue from the requisite sources.

The documents present the end of a discussion rather than a discussion in progress, taking great care to avoid any mention of contentious issues. The printing of Qur'an is never suggested, much less requested, even though such a suggestion adequately falls within Ibrahim's argument. The *ferman* of Sultan Ahmet, similarly, does not specifically prohibit religious texts. Instead, the *ferman* follows Ibrahim's example and emphasizes the useful distribution of certain nonreligious texts (i.e. dictionaries, histories, medical texts, books of astronomy and geography, travelogues, and manuals of logic) for the benefit of Ottoman knowledge and science. Discussion focuses upon the benefits of printing *these* texts, foregoing any specific mention of religious works. The *ferman* contains a passing phrase "excepting books" of a religious nature but only as a preface to a list of texts specifically requested by Müteferrika himself.

The wording of Sultan Ahmet's *ferman* reaffirms that the original petition did not mention religious texts, nor did it request permission to print them.<sup>37</sup>

Similarly, Sheyh ül-Islam Abdullah's *fetwa* declares that printing with movable type offers great advantages to the Islamic community. But it does not specifically mention either religious texts or content. Consistent with its legalistic form, the *fetwa* addresses a carefully worded inquiry, followed by a deliberate answer:

A certain man has cast metal letters in order to print the classical works of literature and science, such as dictionaries, works on logic, philosophy, astronomy, and so on, and has offered to undertake to print them. Can he, in accordance with the rules of justice, execute his design?

The Answer:

If such a man has mastered the art of printing the aforesaid works correctly with metal characters, providing a sure means of saving work and of making multiple copies at low cost, thus making their acquisition easy and less costly, then I rule that this art, because of its great advantages, must be encouraged. In order to avoid misprints, able and intelligent men must be chosen, who, before the books issue from the press, shall correct them, by comparing them with the best available manuscript texts.<sup>38</sup>

With this judgment, religious authorities appear to welcome the innovation rather than resist it. When worded in such delicate fashion, however, opinion of the religious community is difficult to extrapolate. The religious question of print resistance is rather eloquently sidestepped. Since permission to print

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<sup>37</sup> The specific types of religious books listed are *fiqh* (religious law), *tafsir* (Koranic exegesis), *Hadith* (traditions of the Prophet), and *kalam* (theology).

<sup>38</sup> This translation of Abdullah's *fetwa* is taken from Paul Lunde's article "Arabic and the Art of Printing" (1981). Text of the original Ottoman documents, along with Modern Turkish transcription can be found in Gerçek (1939) and Ergürbüz (1947).

religious material is not requested, *that* specific question is neither endorsed nor condemned by the verdict.

Furthermore, the *fetwa*'s mention of proofreaders, which has often been interpreted as a form of religious censorship (Kunt 2005), repeats and affirms another of Ibrahim's suggestions. The original petition specifically requests the appointment of individuals, who shall insure that printed books are "free of any defect or mistake in respect to the perfection of [their] composition and language" (Murphy 1995: 292). The royal *ferman* responds by naming four judges and religious scholars, and the *fetwa* voices its support of this action. The assigned proofreaders took great care to diminish the number of errors in printed works. When they noticed that the manuscript used as the model for their first publication contained multiple mistakes, they halted all typesetting until the contents of the original text could be corrected and verified (Erginbaş 2005: 24).

The *ferman* was issued to Said Çelebi and Ibrahim Müteferrika in the middle of *Dhu'l Ka'da* in 1139 A.H. (1727 C.E.), and Ibrahim's foresight proved beneficial. His essay states that although the requested permissions cannot ease the technological challenges of printing, they might silence critics of the endeavor. Resistance to the new press was primarily economic rather than religious, and scribal opposition did indeed attempt to sway public opinion (Gerçek 1939: 58-59, Berkes 1964: 19). The scribes feared that printing would be the death of their profession, and they demonstrated by carrying a casket holding the effigy of a manuscript through the streets of the capital (Gerçek

1939: 59; Abdulrazak 1990: 87, note 29). But neither the scribes nor the *ulema* could launch an effective counter argument. The religious *fetwa* supported the endeavor, and the royal *ferman* was only issued “in accordance with the noble *fetwa*” (Kunt 2005: 7). Permission was granted, moreover, for the printing of precisely the types of texts which professional scribes tended to avoid as less than lucrative (Berkes 1964: 41).

With both *ferman* and *fetwa* in hand, Ibrahim and Said set to work. The *ferman* addresses Said Çelebi first, but he primarily played the part of a literary patron. As a member of the official retinue of the Grand Vizier (Kunt 2005: 6), he provided financial backing for the enterprise and bureaucratic connections that facilitated the decrees. Ibrahim Müteferrika, on the other hand, handled the management and technical operations of the press, which operated out of his home in the Sultan Selim quarter of Istanbul (Shaw 1976: 236; Sabev 2004; Erginbaş 2005: 13).

How, when, and where the partners acquired the necessary machinery remains a mystery, but the types were almost certainly cut under Ibrahim’s supervision. The Swedish diplomat Edvard Carlson visited the printing office in 1735 and wrote a brief description of the accomplishment. After mentioning Sultan Ahmet III’s supportive *ferman*, Carlson continues:

Subsequently in a short while Ibrahim Effendi set up the works. He had then already acquired some indispensable workers from Germany together with some type founders, who made the characters, so he was able to start working immediately (1979: 21).

Ibrahim employed a number of local Jewish printers, some of who may have been German immigrants (Abdulrazak 1990: 87; Kreiser 2001: 14). The chief typesetter was Yonah ben Yakov Ashkenazi (Shaw 1991: 146; Ersoy 1959: 35), and he remained employed by the press until Ibrahim's death in 1746 (Sabev 2004).

In "Wasilat at-Tiba'a," Ibrahim specifically noted the poor appearance of European-made Arabic typefaces: "There is no one finding in his hands a book in Western letters and style, who will see in it any semblance of beauty and decoration or correctness in spelling and orthography" (Murphy 1995: 291). In addition to textual and linguistic errors, this may refer to the look of the fonts themselves. European foundries often modeled early Arabic types on the *magribi* scripts of North Africa and Andalusia, which do not abide by the formal calligraphic rules of Ibn Muqlah (Safadi 1979: 22, Kunt 2005: 3-4). These styles appeared "decidedly unlovely" to discerning eyes of Ottoman patrons, who were accustomed to the visual harmony of *al-khatt al-mansub* (Faroqhi 2000: 94, Gdoura 1985: 99ff).

Working with Yonah, Ibrahim produced a typeface that more carefully reflected the contemporary *naskh* style of Ottoman scribes (Lunde 1981; Berkes 1964: 41). The letters measure slightly heavier than a sixteen-point font, and they do not resemble any of the earlier European models (Gerçek 1939: 60). Examination of the printed works reveals a sophisticated set of type in which common letter combinations, words, and even phrases were sometime cast as single forms. The full set of type employs over 500 glyphs (Berkes 1964: 198),

and the placement of letters often reflects vertical arrangement reminiscent of handwriting rather than the horizontal placement of discrete forms. This is most notable in the invocation of the *bismillah* phrase, which maintains visual consistency across appearances despite its complex structure of ligatures and kerned letters. The compactness of the word “Allah” also resembles a single casting, as the word’s twin *lams* are shorter in appearance than individual *lams* elsewhere. The appearance and design of the Mütefferika fonts represent a remarkable technical achievement, and they closely resemble the standard *naskh* typefaces in use today (Berkes 1964: 41; Lunde 1981: AbiFarès 2001: 66).

The initial preparations of casting and setting the type took three years, and the first book printed under official Islamic auspices rolled off the presses in 1729 C.E. Upon viewing the product, Sheyh ül-Islam Abdullah reaffirmed his earlier decision and commented: “This book must be regarded as a pearl” (Lunde 1981). The press continued to issue seventeen works, in twenty-three volumes over the next thirteen years (Table 4.1).<sup>39</sup> In line with the original proposal, the content of texts remained administrative and secular, and they do not address religious topics. Three are concerned with language, eleven are histories, and the remainder cover the “useful sciences” of military tactics, magnetism, and geography (Watson 1968: 436). The corpus of texts closely resembles the interests of Ibrahim himself, with an emphasis on geography,

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<sup>39</sup> Watson (1968) contains the fullest bibliographic description of the Mütefferika printings in English. In 1735, the Swedish diplomat Edvard Carlson described the initial printings of the print shop, which he visited in Constantinople. Carlson’s comments were reprinted with both English and Turkish translations in 1979.

**Table 4.1: Books of the Müteferrika Press**

Date	Book Description
Receb 1141 (1729 C.E.)	<i>Sihah (Kitap-i lught-i Vankuli)</i> by Abu Nasr Isma'il al-Jawhari (translated by Mehemmed ibn Mustafa el-Vani). Two volumes in folio: 666 and 756 pages; 1000 copies printed. An Arabic-Turkish dictionary with over 22,000 entries. Volume 1 contains Ibrahim Mütefferika's essay "Wasilat at-Tiba'a" (The Means of Printing), the <i>ferman</i> of Sultan Ahmet III, and the <i>fetwa</i> Sheyh ül-Islam Abdullah Effendi.
Zü-l-kade 1141 (1729 C.E.)	<i>Tühfet ül-kibar fi esfar al-bihar</i> by Katip Çelebi (Haji Khalifah). 75 pages in folio; 1000 copies printed. Contains an introduction by Ibrahim Müteferrika and five illustrations.
Şefar 1142 (1729 C.E.)	<i>Tarih-i seyyah der bayan-i zuhur-i Agvaniyan ve-inhidam-i devlet Sefeviyan</i> by Tadeusz Juda Kruzinski (edited and translated Ibrahim Müteferrika). 97 pages in folio; 1200 copies printed. Contains an introduction by Ibrahim Müteferrika.
Ramazan 1142 (1730 C.E.)	<i>Tarih ül-Hind il-Garbi</i> by Mehmed ibn Hasan üs-Su'udi. 91 pages in quarto; 500 copies printed. Contains an introduction by Ibrahim Müteferrika, three maps, and fourteen illustrations.
Zü-l-kade 1142 (1730 C.E.)	<i>Tarih-i Timur Gurkan</i> by Ibn Arabshah (translated by Nazmizade Murteza ibn Ali). 129 pages in quarto; 500 copies printed. Contains an introduction and indices by Ibrahim Müteferrika.
Zü-l-hicce 1142 (1730 C.E.)	<i>Tarik-i Misr il-cedid ve Tarih-i Misr il-kedim</i> by Ahmad ibn Ali ibn Zunbul. Two volumes in quarto: 65 and 51 pages; 500 copies printed.
Şefar 1143 (1730 C.E.)	<i>Gulsen-i hulefa</i> by Ibn Arabshah (translated by Nazmizade Murteza ibn Ali). 130 pages in folio; 500 copies printed.
1730 C.E. (1143 A.H.)	<i>Grammaire turque ou Methode courte &amp; facile pour appendre la langue turque, avec un recueil des noms, des verbes, &amp; des manières de parler les plus nécessaires a sçavoir, avec plusieurs dialogues familiers</i> by Jean Baptiste Holderman 194 pages in quarto; 1000 copies printed. Primary text printed in Latin characters but also contains material printed with Arabic typefaces.



**Table 4.1: Books of the Müteferrika Press (continued)**

Date	Book Description
Şa'ban 1144 (1732 C.E.)	<i>Usül ul-hikem fi nizam il-umem</i> by Ibrahim Müteferrika. 48 pages in quarto; 500 copies printed.
Ramazan 1144 (1732 C.E.)	<i>Fuyuzat-i miknatisiye</i> (Translated by Ibrahim Müteferrika). 23 pages in quarto; 500 copies printed. Most likely a translation of a European text. Contains a double-page illustration of the marine compass.
Muharrem 1145 (1732 C.E.)	<i>Jihan-nüma</i> by Katip Çelebi (Haji Khalifah). 698 pages in folio; 500 copies printed. Contains an introduction by Ibrahim Müteferrika, additional text by Abu Bakr Dimashqi, twenty-six maps, and thirteen illustrations.
Muharrem 1146 (1733 C.E.)	<i>Takvim üt-tevarih</i> by Katip Çelebi (Haji Khalifah). 247 pages in folio; 500 copies printed.
Muharrem (Vol. 1) and Cumada (Vol. 2) 1147 (1734 C.E.)	<i>Tarih</i> by Na'ima. Two volumes in folio: 701 and 711 pages; 500 copies printed. The first installment in a trilogy of official Ottoman histories. Volume one covers the years 1001-1050 C.E. (1592-1640 A.H.). Volume two covers the years 1051-1070 C.E. (1641-1659 A.H.).
Zül-hicce 1153 (1741 C.E.)	<i>Tarih</i> by Raşid. Three volumes in quarto: 277, 194, and 114 pages; 500 copies printed. The second installment in a trilogy of official Ottoman histories. Volume one covers the years 1071-1115 C.E. (1660-1703 A.H.). Volume two covers the years 1115-1130 C.E. (1704-1717 A.H.). Volume three covers the year 1130-1134 C.E. (1718-1721 A.H.).
Zül-hicce 1153 (1741 C.E.)	<i>Tarih</i> by Çelebizade İsmail 'Aşim. 158 pages in quarto; 500 copies printed. The third installment in a trilogy of official Ottoman histories. It covers the years 1135-1141 C.E. (1722-1728 A.H.).
Muharrem 1154 (1741 C.E.)	<i>Ahval-i gazevat der diyar-i Bosna</i> by Ömer Effendi (Corrected and annotated by Ibrahim Müteferrika). 62 pages in quarto; 500 copies printed.
Şa'ban 1155 (1742 C.E.)	<i>Lisan ül-'ajam (Ferheng-i Su-uri)</i> by Şu'uri. Two volumes in folio: 454 and 451 pages; 500 copies printed. A Persian-Turkish dictionary. over 22, 550 entries.

history, and diplomacy.<sup>40</sup> Interestingly, none of the issued works address medicine or logic, both of which were listed among the specific requests of Ibrahim's petition.

The press' first publication was the celebrated Arabic dictionary *Sihah* (The "Sound" or "Correct") by Jawhari. The printed version of the dictionary was an Ottoman Turkish translation, and it is therefore also referred to as *Vankuli* or *Vankulu* after its translator, Mehmet of Van. As an inaugural print, the choice of an Arabic dictionary presents a subtle argument. It showcases the utility of print by widely distributing a useful reference while reaffirming the traditional importance of learning proper Arabic. The tome consists of two volumes in folio: the first measuring 666 pages, the second measuring 756 pages. The book contains over 22,000 root words, all illustrated in proper usage through quotations of poetry (Lunde 1981: 33). The first volume also contains extensive front matter, including the *ferman* of Sultan Ahmet III, the *fetwa* of Sheyh ül-Islam Abdullah, Ibrahim's essay on the utility of print, and favorable reviews from sixteen respected members of the *ulema*. The costs of printing were partially subsidized by the court, and Sultan Ahmet personally set an affordable student price of 35 *kurush* for both volumes (Carlson 1979: 22; Kreiser 2001: 14).

The next six books were historical and geographic studies, beginning with a history of Ottoman naval battles by the seventeenth century scholar

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<sup>40</sup> In an examination of probate documents, Sabev (2005) discovered that, at the time of his death, Ibrahim owned approximately 100 titles of Turkish, Persian and Arabic books as well as 35 books with Latin characters. Most of these books address history, astronomy, and geography. The books with Latin type books are primarily atlases.

Katib Çelebi.<sup>41</sup> Ibrahim supplemented the text with a personal introduction, four regional maps, and a detailed illustration of a dual mariner's compass (Watson 1968: 437; Lunde 1981). The introduction stresses the importance of maps and military history for the proper governance and continued glory of the Ottoman state (Erginbaş 2005: 24). Next, Ibrahim published a history of Afghanistan, which he personally translated from a Latin Jesuit text and, in 1730, he printed *Tarih ül-Hind il-Garbi*, a book on the history and geography of America. In addition to geographic and cosmographic maps, *Tarih ül-Hind il-Garbi* displays floriated borders, astronomical charts, and thirteen figurative illustrations highlighting the strange flora and fauna of the distant continent. Depicted oddities include people growing from trees, horses with elephantine trunks, and a group of mermen engaged in battle.<sup>42</sup> This work was followed by historical studies of Tamerlane, Egypt, and the Islamic Caliphate, all of which contained indices and introductions prepared by the printer.

The eight publication of the Müteferrika press was an Ottoman Turkish grammar written in French by Jean Baptiste Holdermann. Produced on behalf of the French Embassy, the text contains Ottoman Turkish material printed in both Arabic characters and Latin transliteration (Watson 1968: 439). It was the first Ottoman publication to offer Latin equivalents of Arabic letters (Erginbaş

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<sup>41</sup> Katib Çelebi (also known as Haji Khalifah) was a contemporary of Ibrahim Peçewi, with a fervent interest in European methods of science and technology. Abdulrazak (1990: 81-85) presents Çelebi as an important predecessor to Ibrahim Müteferrika.

<sup>42</sup> These illustrations are consistent with manuscript copies of the text, which contain similar images. For a focused study and full English translation of this work, see *The Ottoman Turks and the New World: a study of Tarih-i Hind-i garbi and sixteenth-century Ottoman Americana* (1990) by Thomas Goodrich.

2005: 29). According to Ibrahim's preface, the characters for both the Latin and Arabic typefaces were cast locally.

After a brief lull in printing, Ibrahim printed his ninth book: a political treatise on the organization of nations which he authored himself. The text draws heavily on the writings of European political thinkers and discusses monarchy, aristocracy, and democracy as three distinct forms of government. Although it falls short of directly criticizing the Ottoman political structure, Ibrahim clearly argues for modernization of the military along European lines, and the text was submitted to Sultan Mahmud I with this recommendation (Berkes 1964: 42-45; Lewis 1961: 47; Shaw 1976: 237).

The next publication was a brief work on magnetism and the compass, and this was followed by the grand geographic survey *Jihan-nüma* ("Mirror of the World") by Katib Çelebi. The beautifully illustrated *Jihan-nüma* contains thirty-nine illustrations and maps, and Ibrahim's introduction reiterates the strategic and political importance of printing accurate maps. The preface also offers the first Ottoman discussion of Galileo, Copernicus, and Tycho Brahe (Lunde 1981; Watson 1968: 440). The *Jihan-nüma* was highly prized in Europe because it provided the latitude and longitude measurements of many Asian towns with more precision than was previously available (Lunde 1981).

Of the final five publications, three were official multi-volume Ottoman histories and one was a short chronicle of the Bosnian war of 1736-1739. The Bosnian chronicle reaffirms the importance of well-organized armies and the proper protocols of combat (Erginbaş 2005: 38-39). And the final printing was

a grand Persian-Turkish dictionary, reflecting the 1729 edition of the Arabic-Turkish *Sihah (Vankuli)* in both scope and stature. The overall corpus of texts is highly didactic. They implicitly propose a program of reform through the study of history, geography, military tactics, and language. Their contents suggest that European methods of organization and information management had surpassed Ottoman practices, and the printing press itself offered a key example in this regard. In order to regain their former glory, Ibrahim believed that Ottoman scholars must familiarize themselves with the latest military, scientific, and technological developments. Particular emphasis targeted the utility of print for the rising importance of geography, military tactics, and governance. Printing was not proposed as a substitute for an efficient scribal tradition of Qur'anic preservation. It exemplified, rather, the tactical adoption of new visual methods and new technologies for modern purposes.

#### **ANALYSIS OF THE OTTOMAN PRINTING TRAJECTORY**

A rough parallel may be drawn between the “fall” of Constantinople to the Ottoman Turks in 1453 C.E and the “fall” of Granada to Spanish Christians in 1492 C.E. forty years later. In Elizabeth Eisenstein’s summary, one carries a “persistent myth” of Greek scholars fleeing the Islamic Ottoman threat. The Byzantine Greeks escape to Europe laden with classic texts. Europe welcomes the fleeing scholars, and their humanist studies spark a cultural and artistic Renaissance. Countless valuable manuscripts, which were nearly lost to the

advancing Ottomans, are reissued, preserved, and disseminated through the new technology of print.

A similar narrative could apply to the “fall” of Granada. The Spanish conquest leads to the expulsion of Jews, and numerous Sephardic Jews settle in Constantinople, where their contributions enrich the golden age of Ottoman learning under Süleyman the Magnificent.<sup>43</sup> In his essay on the utility of print, Ibrahim Müteferrika specifically mentions the loss of Islamic manuscripts at Granada: “In the lands of Islam, it is a fact that these books [which were lost at Granada] are rare and only a handful remain” (Murphy 1995: 288). Printing, he continues, provides a method of preserving and distributing these now rare texts. Their distribution, in turn, would reinvigorate Islamic scholarship and extend the glory of the Ottoman state.

The analogy, of course, is simplistic and highlights the risk of sweeping statements in the presentation of ‘print culture.’<sup>44</sup> Rescued Greek manuscripts were not the only texts disseminated by print, and some of the first printed

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<sup>43</sup> For a discussion of Jewish contributions to Ottoman society, see Shaw (1991).

<sup>44</sup> In his fascinating bibliographic study *The Myth of Print Culture* (2003), Joseph Dane criticizes the notion of “print culture” and claims that studies of the topic often begin with the assumption that such a “culture” exists:

The most important conclusions are contained within Eisenstein’s initial assumption of the coherence of the term ‘print culture.’ Once that coherence is assumed there is a level of abstraction to which all material evidence must be subordinated, a level that reduces oppositional voices to the quibbling of ‘specialists’ and ‘typographers’ (Dane 2003: 15)

Dane forwards similar criticisms for Adrian Johns, Harold Love, and Lucien Febvre and Henri-Jean Martin. All of these scholars, he suggests, subordinate the level of concrete bibliographic evidence beneath the umbrella of more abstract arguments of sweeping cultural change. But the connection linking the two levels is often specious.

tracts actively enflamed anti-Ottoman sentiment. The relocation of Spanish Jews, moreover, unlike the flight of Greek scholars, resulted from a forceful edict. When the Moors ceded Granada to the Spanish, Terms of Capitulation stated that local Muslims and Jews would be free to practice their respective religions. Within three months, the Spanish abrogated those agreements, and non-Christian inhabitants of the region were either forced into conversion or expelled (Menocal 2002: 244-52). The displaced Jews brought presses with them to Constantinople, and they quickly established a local print shop.

But the Jews' new Ottoman hosts were hesitant to adopt the new print technology for their own communication. Why was this the case? Although, the press may be remembered as a useful tool for the preservation of Greek knowledge, it was also quickly deployed as a weapon of Christian resistance against an encroaching Ottoman threat. The role of early print in anti-Turkish propaganda provided a strong textual argument for Ottoman distrust of the new technology.

This is especially the case since printing was invented in Christendom and was to be applied to Islamic texts at a point in history when Muslims, exemplified by the Ottoman Empire, had a clear superiority over Europeans who were in the early stages of their awakening (Abdulrazak 1990: 80).

Ottoman resistance to print should not simply be seen as technological refusal of foreign inventions. The Ottoman Turks were quick to adopt new methods and technologies if they answered practical needs and did not disrupt existing societal and cultural structures (Finkel 2005: 342; Faroqhi 2000: 14-15). But if

Ottoman modes of the book were firmly rooted in scribal tradition, and that tradition was flourishing, what benefits could printing offer?<sup>45</sup>

The Ottomans were perched at the peak of their power during the early centuries of print, and information needs of the Ottoman state were already handled in an efficient and productive manner. Moreover, the tradition of scribal copying adequately answered a number of technical questions that remained problematic in early printing. Complicated chancellery scripts such as *siyakat* and *diwani* safely guarded the contents of sensitive information from unauthorized distribution, and the copyist scripts of *al-aqlam al-sittah* carefully reproduced the Qur'an and popular devotional texts.

In comparison, print offered a poor substitute for scribal accuracy. The new technology multiplied the distribution of faulty copies, and instances of textual corruption actually increased with the new technology (Johns 1998: 31; Mahdi 1995: 4). The separation of typesetting and writing as distinct spheres aggravated these issues. As late as 1631, English proofreaders failed to catch the egregious typesetting error contained in the famous Wicked Bible, which erroneously lists the Sixth Commandment as "Thou shalt commit adultery."<sup>46</sup> Of course, errors also occurred in scribal copying. But they were limited to

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<sup>45</sup> The term "mode of the book" is borrowed from Carla Hesse (1997), who attentively warns against conflating a *means of cultural production* (the printing press) with the historical development of a *mode of cultural production* (1997: 21, emphasis original).

<sup>46</sup> Steinberg (1996: 98) contains a list of additional Biblical misprints, most of which are drawn from M.H. Black's essay "The Printed Bible" in *The Cambridge History of the Bible* (1963). But, as Adrian Johns (1998: 31) notes, Eisenstein brashly dismisses such printing errors as irrelevant to her wider argument.



single copies and could be easily corrected.<sup>47</sup> Print errors, in contrast, were distributed as widely as the text. Rather than submit texts to error-strewn printed duplication, Ottoman constituencies continued to prefer manuscript copies well into the nineteenth century (Garnett 1909: 181; Faroqhi 2000: 95). To Ottoman eyes, the new technology of print may have offered a useful tool for societies struggling with self-protection and a loss of knowledge, such as a weakened Christian Europe and the displaced Jews immigrants. But a robust Islamic empire did not require this error-strewn technological crutch.

As Harold Innis (1972) has outlined, the organization of communication and information channels is closely aligned with the administration of empire. And Ottoman decisions regarding print technology were not simply religious and intellectual opinions. They were also rooted in the practical problems of governing and uniting a quickly expanding state. When Sultan Mehmet Fatih died in 1481, the dynastic line of succession was not clear. Sultan Beyazit II assumed the throne with the aid of the Janissaries. But the Grand Vizier and Ottoman aristocracy supported Beyazit's brother Cem, who also staked a claim to the Sultanate. In the fraternal wars that followed, Prince Cem was eventually exiled to Europe and taken under the custody of Pope Innocent VIII. The Pope thought Prince Cem might be useful in organizing a military crusade against the Ottoman state, replacing the current sultan with a ruler indebted to Christian Europe (Finkel 2005: 81-89; Shaw 1976: 70-71; Kinross

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<sup>47</sup> If a copyist overlooked a word while copying the Qur'an, the scribe would insert a paratextual mark (the equivalent of an asterisk). This would direct readers to the margin, where the missing word would be listed (Bloom 2001: 55).

1977: 161-163). To protect his position and prevent further revolts, Sultan Beyazit II adeptly balanced European diplomatic relations with a vigilant control over local elites. Just as print thrived in Reformation Europe, where rival printers cultivated competing religious and political challenges, it may have been equally disruptive to the political and religious unity of Ottoman lands. Lacking the proper caution and supervision, the new print technology might have fermented dissent by circulating tracts favorable to Cem. Such concerns may have contributed to initial restrictions on the printing of Arabic characters, if Beyazit did indeed issue such a decree.<sup>48</sup>

The constitution of Ottoman society contrasted with that of Europe in a number of ways. European presses and printers notably benefited from the political disunity of the European continent:

Taking advantage of plural jurisdictions and diverse local regulations, enterprising printers established local offices and outlets in different towns. They found it relatively easy to keep turning out banned books and tracts despite strong censorship edicts issued by the most powerful rulers [and religious authorities] in Europe .... Such opportunities were multiplied by the existence of late medieval walled cities and city-states, communes and petty principalities that acted as independent political units during the early modern era. We are accustomed to regarding large-scale commercial activity as an enemy of particularism but free-wheeling merchant publishers had good reasons to avoid well-ordered consolidated dynastic realms and to fear the extension of central control (Eisenstein 1979: 405)

European printers and booksellers frequently circumvented local regulations for economic gain. But Ottoman rule secured a much larger area than any of

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<sup>48</sup> In addition to the challenges posed by Prince Cem, Beyazit II also struggled with the Kızılbaş (“red head”) Shia movement in Anatolia. Whereas Cem challenged the political unity of the realm during Beyazit’s reign, the Kızılbaş revolt challenged the religious unity of orthodox Ottoman Sunnism.

the European states, and a similar model of distribution was much riskier in Ottoman lands. Since Ottoman jurisdiction covered such a wide area, heavy books unsuited to local markets, or otherwise objectionable for publication or sale, would have to be moved much farther.

The distribution and sale of printed texts in Ottoman lands demanded a significant investment of merchants and publishers. Financial risks were high, and early imports often ended in failure. To distribute Arabic scientific texts published by the Medici press, therefore, the Bodoni merchants requested a royal permission for the import of approved books. With official permission, transport of their wares was protected and guaranteed to reach the Ottoman markets. But even these imports fared poorly, due to the fierce competition of a large class of trained copyists. After visiting Constantinople in the late seventeenth century, the Bolognese scholar Luigi Fernando Marsigli (1658-1730 C.E.) claimed that over 80,000 scribes and copyists worked in that city alone (Oman 1960: 795; Bloom 2001: 222, Faroqhi 2000: 96). As the Ottoman historian Ibrahim Peçewi had emphasized, the European model of circulation did not reflect Ottoman needs. The Ottoman mode of the book centered upon an economy of copyists and patrons, rather than publishers and authors. And the output of hired copyists met the considerable demands for both popular texts and the special requests of elite readers (Faroqhi 2000: 7, 290 n28).

A large class of copyists, however, should not suggest a large Ottoman reading public. Books such as the Qur'an were frequently copied and widely circulated, but the Ottoman book circuit primarily targeted limited groups of

elite readers. Ottoman readers often read, re-read, and discussed key texts, contemplated them, memorizing them if possible, rather than reading widely across many texts. Such practices drew upon the Qur'anic tradition of oral recitation, but they developed as a model of scholarship and education that applied to written materials more broadly.<sup>49</sup> Ottoman intellectual attitudes held that not all who could read could understand (Kunt 2005: 11). Thus, textual practices emphasized elite reading groups rather than a generalized reading public. Such groups were often organized around intellectual salons or dervish lodges. The close-knit structure of these circles limited intellectual discussion to trained individuals who *could* understand the texts, but they also afforded more freedom in discussion and speculation. As long as intellectual debates were kept within small groups, the Ottoman authorities were unlikely to intervene, and critical members of these groups may have feared a loss of freedom if books were more widely circulated and subject to strict censorship (Faroghi 2000:96).

Ibrahim Müteferrika and Said Çelebi catered to a similarly elite group of readers when they established the first Ottoman press. Their publications targeted a limited group of diplomats and statesmen, and their publishing platform appealed for reform without interrupting the efforts of professional copyists (Abdulrazak 1990: 87). Instead of distributing competitively priced

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<sup>49</sup> Nasr (1995) provides a good introduction to these methods in traditional Islamic education, and Pedersen (1984: 20-46) discusses them in relation to traditional Arabic practices of publishing and authorship. Brinkley Messick's text *The Calligraphic State* (1993) offers a rich historical study of similar practices in nineteenth century Yemen and the ways in which the introduction of print technology altered them.

popular texts, the press produced elite books for an elite audience: massive dictionaries, royal histories, geographical references, and studies of military science. Print runs began at a thousand per edition, but quickly declined to sizes of 500 for later texts. In thirteen years of activity, only seventeen editions were printed, with a grand total of less than 13,000 copies (Kunt 2005: 12; Sabev 2004). With the exception of the initially subsidized dictionary, prices remained high and the printers did not produce best sellers. Examining the financial registers of Ibrahim's estate, Orlin Sabev (2004) discovered that the value of a single printed book was roughly comparable to the cost of a horse. And Vefa Erginbaş (2005: 19) calculates that Ibrahim would have had to work almost two years without expenditures to afford the total purchase price of his publications.

But the printers also did not aspire to publish best sellers. Instead, the contents of their books were pedagogical, with particular relevance for civil servants. The corpus of texts—including a maritime history, a treatise on military organization, a geographic tome, and multiple maps—resembles the types of printed material Chandra Mukerji labels capital goods: “innovations in material culture that were *specifically designed to act as economic tools*” (1983: 81, emphasis original). Maps and geographic texts, which represent one of the Mütferrika press specialties, offer a prime example. In order to be effective, these products did not need to reach a large audience; they only need to reach

the *right* audience. In knowledgeable hands, geographic works suggest new routes of navigation, exploration, and trade (*ibid.*: 79-130; Mukerji 2006).<sup>50</sup>

From the fifteenth to eighteenth centuries, new trade routes, and the resulting “discoveries,” greatly improved the economic fortunes of European states, while diminishing Ottoman returns. The printings of the Mütferrika press sought to reverse this trend. They were not directed toward a general audience, but a select audience of Ottoman intellectuals, diplomats, traders, and commanders. With key texts of history, geography, and military science, elite readers might learn the benefits of these new European methods for the glory of the Ottoman state and Islamic tradition. As Ibrahim’s military treatise *Üsül ul-hikem fi nizam il-umem* (The Ordering of Nations) observes, geographic knowledge has become a necessity in both the ruling of modern nations and the development of international trade (Berkes 1964: 44).

According to Hidayet Nuhoğlu (2000:85), three inaccuracies commonly haunt scholarly accounts of Ibrahim Mütferrika’s accomplishments. First, Ibrahim Mütferrika was not the first Turkish printer: not the first to print the Turkish language, not the first to print using Arabic characters, and not the first to print within Ottoman territory. Secondly, the groundwork of Ottoman printing did not arrive wholesale with the publication of the first printed book

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<sup>50</sup> Mukerji emphasizes that geography knowledge does not have an authoritative text in need of accurate and faithful reproduction (2006: 652). To remain applicable, maps require constant updating, and print shared updates before they too were outdated. Practices of mapmaking and geographic knowledge therefore operate via drastically different channels than practices of Qur’anic preservation. Because of this distance, the printing of geographic material may not have appeared to be a direct challenge to Qur’anic tradition.

in 1729 C.E. As early as 1720, Ibrahim had already printed woodcut maps, and Mehmet Çelebi shared his hopes of establishing an Ottoman press with Saint- Simon the same year. Furthermore, the technical preparation of fonts, ink, and press machinery must have begun well before the initial printing of any text. Finally, Nuhoğlu notes that neither the royal *ferman* of Sultan Ahmet nor the religious *fetwa* of the Sheyh ül-Islam directly prohibit religious texts.<sup>51</sup> These documents do not prohibit; they permit. Their permissions address the printing of specific intellectual concerns and specific types of text. In practice, this may have indeed limited the contents of Ottoman printing. But the limits were indirect outlines rather than enforced restrictions.

These clarifications help situate Ibrahim Müteferrika within his proper historical milieu. Ibrahim was not a Turkish Gutenberg; he was an Ottoman diplomat. And he ought to be compared with both Ottoman and European contemporaries rather than the European printers of three centuries earlier.<sup>52</sup> Hidayet Nuhoğlu therefore suggests a more accurate description of Ibrahim Müteferrika's operation:

The first printing house to be set up under the patronage and with support of a Muslim state (the Ottoman state) in its lands with the aim of printing books belonging to and needed for the culture of the state (2000: 85).

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<sup>51</sup> Both Kreiser (2001: 14) and Faroqi (2000: 94) specifically use the word "prohibit" in discussing either the *fetwa* or *ferman*. Other texts, such as Lunde (1981) and AbiFarès (2001: 65) discuss the decrees as only allowing secular texts. While such a description is accurate, the choice of wording stresses a religious dimension, which is not present in the original documents.

<sup>52</sup> Paul Lunde (1981) insightfully compares Ibrahim Müteferrika with Benjamin Franklin. Both were diplomats in addition to printers. And Franklin received his first government contract in 1729, the same year Ibrahim printed his first book.

Vefa Erginbaş seconds this description and suggests that “Ibrahim’s novelty should be his publishing of Ottoman Turkish books in Ottoman lands” (2005: 16). The Mütferrika print shop was not established as an entrepreneurial or experimental venture with financial interests and a radical agenda. It was a state-supported press with a specific bureaucratic aim: the printing of capital goods for use in navigation, diplomacy, official history, and modernization of the Ottoman military.

The state adoption of print does not so much mark the advent of a new technology, as the emergence of a new regime of information management. Traits of print culture did not arrive *en masse* with Gutenberg’s printing of the Bible; they were constructed, altered, and negotiated over time. Prior to 1700, over half the books printed in Europe were reprints of ancient and classical texts (McLuhan 1964: 171). With the shifting textual demands of modernizing states, the utility of print altered, as did the contents of printed works. In the eighteenth century, negotiations surrounding the new technology crystallized into the “modern literary system:” a cultural mode of production in which printing stabilized a nexus of authors, editors, publishers, booksellers, and readers (Hesse 1997: 21-22). Discussions of print, and its rising importance, were especially vibrant during the seventeenth and eighteenth centuries (Johns 1998: 324-379). The contributions of print toward the stabilization of texts, the trustworthiness of records, and the progression of knowledge were not yet resolved, and that was precisely why writers argued in support of such claims (*ibid.*: 371-372).



In this light, Ottoman print adoption was more closely aligned with European shifts than often posited. The initial products of Ottoman printing served a different purpose than popular texts produced by scribal copyists; they were a new kind of visual product from a new technology of inscription. Ibrahim Müteferrika's essay "Wasilat at-Tiba'a" provides an Ottoman Turkish example of wider eighteenth century discussion on the utility of print. The essay outlines numerous reasons for the adoption of print that could not have been forwarded with only the initial printings of Gutenberg. Ibrahim's ten benefits of print are mutually reinforcing, but they loosely separate into three categories: those dealing with the utility of printing for increasing education and reducing ignorance (points 1, 4, 6, and 7), those dealing with the glory of Islam and the Ottoman state (points 2, 8, and 10), and those that address technical concerns of production, organization, and inscription (points 3, 5, and 9).

The final set is particularly interesting in light of Ibrahim's historical context. His technical arguments required time to mature and historical trial in order to gain weight. After three centuries of use, printing was no longer a new and experimental technology. Its utility and benefits could be reflected upon, analyzed, and suggested for specific uses. This applies equally to the durability of printer's ink (point 3), the usefulness of indexing (point 5), and improvements in font design (point 9). A concern with indexing reflects a modern attitude toward textual organization and information storage, which contrasts sharply with earlier Ottoman traditions of repeat reading, primary

texts, and memorization (Erginbaş 2005: 17). The index developed alongside the changing layout of printed books, and its cognitive benefits were not immediately apparent (Eisenstein 2005: 80-107; Bell 2001).<sup>53</sup> But Ibrahim writes as if such organizational changes are generally accepted as beneficial. This implies that Ottoman civil servants were already familiar with these information strategies and already utilizing texts in new ways.

Ibrahim Müteferrika's ten arguments for printing are not merely calls to replace the manuscript tradition with a mechanical press. They reflect wider shifts in the literary system of his day. Similar claims regarding the social and intellectual benefits of writing and print were common during the eighteenth century.<sup>54</sup> For example, Adrian Johns describes the "Eighth Epoch" of Condorcet's *Esquisse d'un tableau historique de progrès de l'esprit humain* as the first text to incorporate every positive element of Eisenstein's print culture as a unfired argument for printing (Johns 1998: 373, c.f. Chartier 1995: 8-11, Hesse 1997: 23-25). But Ibrahim's essay, which was published sixty years earlier, contains many of the same arguments, and it too touches upon nearly all the

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<sup>53</sup> "The art of indexing was not very highly developed before 1550.... By the end of the 18th century, indexes were recognized as instruments in their own right for the systemization of knowledge" (Bell 2001: 18-19). Eisenstein presents cataloguing and indexing as general features of "print culture." But she draws most of her indexing examples from the sixteenth and seventeenth centuries rather than the fifteenth.

<sup>54</sup> Roger Chartier's essay "Representations of the Written Word" (1995: 6-24) presents three eighteenth century writers in this vein: Vico, Condorcet, and Malesherbes. All three organize the periodization of society according to "mutations of the forms of inscription, transmission, and recording discourse" (*ibid.*: 13). Novelist Daniel Defoe may also be added to this list. *A Journal of the Plague Year* (1722), one of his works of historical fiction, presents a similar argument with regards to the differences of orally reported and printed news (McDowell 2006).

features of print culture outlined by Eisenstein: dissemination, including the preservative force of multiple copies (points 3, 4, 6, and 7); standardization (points 3 and 9); reorganization of texts (point 5); and preservation (historical introduction, points 3, 7, and 10). Ibrahim also stresses the particular benefit of print for the study of science, and his introductions repeatedly emphasize the import of accurate up-to-date maps (Lunde 1981). These insights suggest the specific benefits print offers the collection and sharing of scientific data, another primary feature of Eisenstein's print culture.

The primary difference between Ibrahim's and Condorcet's texts entails the revolutionary potential of print. Whereas Ibrahim describes the benefits of print in the sober manner of a government bureaucrat, Condorcet champions the press as an engine of freedom and liberation. Printing, Condorcet claims, substitutes reason for rhetorical persuasion, and its products may be shared for the instruction and benefit of all. Condorcet opposes censorship and the control of knowledge by an absolutist elite, and print promises open, freely circulating texts for universal edification (Chartier 1995: 9-10, Hesse 1997: 24). Ibrahim Mütefferika, in contrast, phrased his essay as a call for reform rather than revolution. He targeted an elite group of bureaucratic reformers rather than a radicalized public. As a result, he introduced select benefits of printing without radically disturbing the existing modes of government, scholarship, education, and book production.

The subtlety of this approach proved advantageous. The 1730 Patrona Halil Revolt reacted to the decadence of the Tulip Age, with the suggestion

that the Ottoman court had indulged in European ways and turned from Islam (Kunt 2005: 9; Finkel 2005: 349-354). The revolt violently ousted Sultan Ahmet III and executed the reform-minded Grand Vizier Ibrahim Pasha. But operations of the Müteferrika print shop continued unhindered, despite the printing of numerous figurative illustrations—which could have offended religious sensibilities—prior to the uprising.<sup>55</sup> The first book printed after the revolt was Ibrahim's own *Üsül ul-hikem fi nizam il-umem*. The text implicitly criticizes the Ottoman state for its failure to adopt democratic institutions on the model of Europe (Berkes 1964: 42-25; Lewis 1961: 47). When the printer presented this potentially radical book as a gift for the newly installed Sultan Mahmut II, the gesture passed unnoticed by reactionary forces.

#### LIGATURE: THE ADOPTION OF PRINT IN A LANDSCAPE OF WRITING

The cultural and societal adoption of new communication technologies is not simply a matter of technological determinism. Nor can wariness toward new technologies be easily dismissed as religious or ideological conservatism. Technology adoption is a culturally complex phenomenon, and explorations of new media technologies must consider a number of factors, including the information landscape into which they are introduced, the information needs of a specific society, and the cultural traditions which that information helps to preserve. In both Europe and Ottoman lands, printing, and particularly

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<sup>55</sup> Said Çelebi was too close to the Grand Vizier to continue in public life after the revolt. But Sultan Mahmut I quickly issued a new *ferman* Ibrahim alone, which allowed him to continue printing (Kunt 2005:9; Kut 1960 801).

moveable type, did not replace handwriting; it offered a new visual medium for the storage, display, and distribution of information. The questions of adoption revolve around the affordances and limitations this new medium, offered a preexisting information landscape.

Ottoman writing practices built upon a rich Islamic visual tradition, involving multiple styles of handwritten script, textual ornamentation, and documentary illustration. These visual practices were effectively adapted for bureaucratic and administrative purposes during the formative years of the Ottoman dynasty, the pinnacle of which coincided with the early stages of print adoption in Europe. But whereas a weakened Europe quickly adopted the new technology in the face of Ottoman advance and the Christian model of Biblical transmission, Ottoman administrators initially considered the new technology with caution. The visual appearance and accuracy of print did not offer immediate improvements upon current practices. Instead, it presented a potential channel of disruption. Print technology was not deemed particularly useful by a powerful regime concerned with the information management and carefully monitoring of an established textual economy.

As the scale of geopolitical power shifted away from Ottoman lands, print technologies were adopted. But they still did not offer replacements for earlier traditions. Print was developed and promoted by Ibrahim Müteferrika and other reformers in response to new concerns of modern administration. These suggestions targeted an elite circle of Ottoman readers, and the early products of Ottoman printing were capital goods for limited elite audiences.

More importantly, however, Said Çelebi and Ibrahim Mütefferrika did not simply introduce printing to Ottoman social circles. By obtaining a royal *ferman* and a religious *fetwa*, they inserted their endeavor within the broader tradition of Islamic scholarship and intellectual practice. With the *fetwa*, the question of religious conservatism with regards to print technology received an official answer. And although the new media was not dismissed by Islamic tradition, it was also not entirely embraced. The new technology offered new texts and a new visual practice, rather than a replacement of earlier tradition.

The next chapter will examine how this process of adoption generalizes across Islamic communities and how print slowly altered Islamic tradition and practices of Arabic writing. These new visual products polarized the different meaning of scribal and printed letters. On the one hand, print aestheticized the calligraphic tradition and the symbolic value of handwritten material. Printed texts, on the other hand, became vehicles of state administration and the visual symbol for a national community of shared readers.

## Chapter 5:

### Arabic Print and Changing Letters

The adoption and application of print altered both Ottoman and Arabic modes of writing. But the new technology did not simply replace traditional modes of scribal production. Calligraphic and scribal practices continued to operate alongside the new technology. The meanings and visual appearances of both printed and calligraphic texts shifted in response to new technologies and a new economy of writing. As the utility of print and the uniformity of typographic letters established new channels of authority, administration, and information sharing, calligraphic works became increasingly aesthetic and symbolic.

Typographic letters and calligraphic letters connote different modes of textuality and authority. Printed texts were intended to reach a wide reading audience, and typographic letters began to emphasize clarity of design for the sake of legibility. Calligraphic writing, in response, emphasized the aesthetic design of writing as a medium of religious reflection and artistic display. The traditional scripts of *al-aqlam al-sittah* retained their specific connection with Qur'anic preservation, and handcrafted writing displayed qualities of moral character and spiritual insight. Calligraphic composition offered an aesthetic argument operating alongside, and reflecting upon, the standardization of printed text. The messages of these diverse writing styles were not only read in the contents of letters and words themselves but also in the appearance and

type of letter. Beautiful calligraphy reinforced the spirituality quality of its letters. And typographic alphabets became markers of modernization and nationality, rather than religious community.

#### **ISLAMIC AUTHORITY AND PRINT TECHNOLOGY**

The first products of Ottoman printing were capital goods designed to serve the development of a modernizing state. Modern information regimes required a variety of written materials beyond the scope and expertise of the traditional scribal apparatus. Ibrahim Mütefferika emphasized the utility of print for political and military organization and the sharing of new types of text. These included accurate maps, newly issued state decrees, bureaucratic forms, and standardized educational textbooks. Over fifty years passed before the opening of a second Ottoman press at the Üsküdar School of Engineering and Artillery (*Mühendishane*) in 1795. This press specialized in the printing of educational materials, as well as translations of foreign scientific and technical information. Religious and popular texts continued to circulate within the province of scribal production. Rather than replacing the work of traditional scribes, the new press followed the textual model of European administration. Printed products responded to the textual needs of the military and the state rather than religious or popular taste.

Edward Said (1978: 76) posits the 1798 Napoleonic invasion of Egypt as “the keynote” event establishing a new textual relationship between Europe and the Near East. Although French occupation Egypt was short lived (1798-



1801), Napoleon's triumph rested in the creation and administration of Egypt via European textual practices. The invasion deployed two strategies in the conquest and construction of Egypt, and these twin operations later came to exemplify the colonial and textual practices of modern Orientalism (*ibid.*: 80-88). First, the French expedition was planned, imagined, and enacted as the fulfillment of earlier European texts. Prior to invasion, Napoleon vigorously studied the available travelogues and descriptions of Egypt.<sup>1</sup> These studies provided the rational basis for invasion: Once the center of civilization, Egypt had fallen behind Europe's advance. Its conquest would symbolically trace a line of historical inheritance with Egypt's ancient glory, reestablish Egypt's importance on the world stage, and signify its conqueror (Napoleon) as a second Alexander. Secondly, the historical and scientific importance of this conquest was announced and reinforced through complementary textual practice. Alongside the military forces, a team of researchers and scientists were charged with cataloguing the regional biology, geography, language, and culture (*ibid.*, Lunde 1981). Such scientific description incorporated the region within the textual apparatus of European scholarship. As a result, the ancient civilization was annexed to European knowledge, and, by extension, a Eurocentric vision of world history.

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<sup>1</sup> Among other texts, Napoleon relied heavily upon Count Volney's *Voyage en Égypte et en Syrie* (1787), which described the Middle East as barbaric and in dire need of a civilizing mission. Volney's text, however, was negligently ignorant of Ottoman developments. His failure to mention the Mütefferika press is especially interesting, since "the lack of good books" and the absence of printing rank among his primary reasons for demise of the Orient (Krieser 2001: 13-14).

The printing press was a key technology in the textual production of Egypt. Napoleon deployed systematic use of printed propaganda, and the Egyptian campaign was no exception. Texts supporting and legitimating the incursion were printed en route and quickly distributed upon arrival. An initial proclamation was read aloud to a number of Egyptians invited aboard the aptly named flagship *Orient* (Oman 1960: 797). On behalf of the French forces, the printed proclamation stated: “nous sommes les vrais musulmans” (We are the true Muslims) (Lunde 1981; Said 1978: 92).

Having arrived in Egypt, Napoleon took great personal interest in the unpacking of press machinery and the quick establishment of printing houses in Alexandria and Cairo.<sup>2</sup> The presses issued army orders and decrees for the local population, many of which promoted the French as defenders of Islam against the Mamluke aristocracy and the Ottoman porte. All decrees were carefully translated into classical Qur’anic Arabic (Said 1978: 82), and the press even published a collection of Arabic fables (Pedersen 1984: 136; Lunde 1981).<sup>3</sup> The Alexandrine press and its Cairean successor also produced two French-language journals: the politically oriented *Courrier de l’Égypte* and the literary

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<sup>2</sup> As a result of capturing Italy, Napoleon acquired a number of presses previously used by the papal printing houses, including the machinery of the Medici press. Thus, some of the same presses that printed the Bodoni exports were shipped to Egypt and utilized by the Napoleonic expedition (Lunde 1981, EI: 797).

<sup>3</sup> After examining the text of *Luqman’s Fables* printed by J.J. Marcel for the Napoleonic expedition, I was struck by the careful attention given to the Arabic text. According to the Notice, the text is translated as literally as possible, sacrificing elegance of phrasing for exactitude in order that readers may use the text to become familiar with Arabic phraseology. The text ends with a “Notes et corrections” section addressing issues of translation and correcting numerous orthographic and typographic errors. The Arabic pages are also more richly decorated than the French, and only the Arabic pages are numbered.

*La decade Égyptienne* (Lunde 1981). The journals published articles on the art, architecture, antiquities, and cultural life of Egypt. Many of these articles later contributed to *Description de l'Égypt*, Napoleon's grand textual appropriation of the Egyptian stage.<sup>4</sup>

The Napoleonic invasion of Egypt emphasizes the role of printed texts in both the colonial formation of the Orient and the administration of modern states more generally. Although Napoleon catered to local Muslims and the Egyptian *ulema*, he never attempted to print the Qur'an. Rather, the printed materials reflect a new strategy of information. The Napoleonic presses in Egypt primarily printed pamphlets, decrees, and periodical journals rather than books. These texts produced new channels of authority, distribution, and influence. In his description of the French invasion, the Egyptian writer al-Jabarti mentions the printing of announcements by the occupying French, but he does not evince surprise at the technology (Lunde 1981).<sup>5</sup> Egyptian Copts utilized printed works printed in Rome, and the Egyptian elite was most likely familiar with the early products of Ottoman printing. The lesson of the French press, rather, was the utility of widely distributing identical copies as tools of

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<sup>4</sup> As both an impetus for and result of Napoleon's Egyptian campaign, the massive *Description de l'Égypt* presents "the very model of a truly scientific appropriation of one culture by another" (Said 1978: 42). The *Description* presents a comprehensive account of Egypt's climate, flora, fauna, languages, art, architecture, antiquities, and cultural forms. It was published in twenty-three massive volumes between 1809 and 1828 with individual pages measuring a square meter, "as if the project and the size of the page had been thought of as possessing comparable scale" (*ibid.*: 85).

<sup>5</sup> Al-Jabarti was especially interested in French libraries, science, art, architecture, and engineering (Moreh 2003: 88). This list parallels many of the topics highlighted by the Ottoman diplomat Yirmisikiz Mehmet Çelebi after his visit to Paris in 1720 C.E. For more discussion of Çelebi's French excursion, see Chapter 4.

propaganda. Remarking upon the psychological effect of this process, Ahmed Humeid states that despite earlier experiments in local Arabic printing and the successes of the Müteferrika press, popular memory associates the arrival of print with “direct military occupation by a Western power” (Humeid 2004).<sup>6</sup>

Along with the new technology and its foreign origin, printed material signaled the arrival of new textual practices of jurisdiction, education, and authority. Whereas Islamic scholarship sought “to compensate for the absence of the author in the text,” printing circumvented the methods by which this was traditionally accomplished (Robinson 1993: 238).<sup>7</sup> Traditionally, Islamic authors were protected by the genealogical transmission of key texts. In the passing of text from person to person, the teacher imparts more than the text itself. An authorial context and a specific textual attitude are imparted as well. Person-to-person transmission attempts to replicate both the inscribed content of a text and a tradition of textual interpretation, which extends from student to teacher and culminates in the author’s impart of the text to his or her pupils. The result is a precise interpretive copy of a particular text:

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<sup>6</sup> This resonates with the introduction of Arabic printing by European powers or missionaries across the region. American missionaries founded Arabic language presses in Malta (1822) and Beirut (1834), Austrian Catholics and British Protestants brought printing to Palestine (both in 1848), Roman Dominicans brought a press to Karabala, Iraq in 1859, and a retired Italian military officer argued for opening a press in Tunisia (1856).

<sup>7</sup> Robinson draws his specific examples from South Asia. John Edwards (1995) offers similar arguments for Afghanistan. And Abdulrazak (1990) concludes that Morocco adopted print in the face of a European threat. But the use of printing for Islamic purposes circumvented traditional genealogical chains, and many of the Muslims who employed print for the dissemination of their views were not classically trained. For this reason, Robinson (1993: 249) labels this new focus upon the written scripture rather than person-to-person instruction as “Islamic protestantism.”

As a “copy” it is virtually the same thing as the original, not because it “looks like” the original in the photo-identity sense accomplished by mechanical reproduction but because it has passed through an authoritative process of human reproduction and collation (Messick 1993: 240).

Genealogical transmission sought to transmit texts as recited and understood by their authors. Islamic tradition reproduced an inner “book” of embodied interpretation, not simply an outer book of visual marks (Nasr 1995; Graham 1987: 104-106), and pupils entered the scholarly *ulema* as informed links in a chain of transmission. Alongside their books, students required a human instructor. Texts were written on the bodies and in the hearts of students rather than read from the pages of a silent work. The importance of this distinction is highlighted by a tradition of the Prophet Muhammad: “It is a grievous mistake to take the written page as your *shayk*.”<sup>8</sup>

Printed materials circumvented these traditional circuits of authority. The wide distribution of print reached pupils without a proper teacher, and the printed page assumed the role of *shayk* and imparted information directly to readers.<sup>9</sup> For many scholars of Middle Eastern print, the significance of this transformation “helped loosen the strangle-hold of the *ulema*, the religious

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<sup>8</sup> This tradition is reported by both as-Said (1975: 54) and Graham (1987: 104), based upon Ibn Jama’a’s collection of Prophetic sayings. as-Said explains the importance of oral instruction as a safeguard against *tashif*, the similar appearance of two distinct words when they are written without diacritical marks (as-Said 1975: 53-60).

<sup>9</sup> Addressing these changes in the reading circles of Mecca, Snouck Hurgronje (1931: 192; *via* Messick 1993: 116) summarizes: “All students now bring to lecture printed copies of the text which is being treated, which circumstance has entirely changed the mode of instruction. Formerly, the teacher had first to dictate the text, in the margins of which the students then noted down his glosses. Now, on the contrary, the student notes down only a few oral remarks of the professor, and often has nothing to write at all.”

learned men, over education” (Attiyeh 1995: 235; Eickelman 1995; Eickelman and Piscatori 1996: 37-45; Yavuz 2003: 105-109). Such sentiments assume the benefits of print and rarely ask what was lost in the transition from earlier practices to printed texts. For early Arabic and Ottoman printers, however, the erosion of authority was a major concern. As formerly rare manuscripts were made available through print, they were divorced from the tradition of genealogical transmission (Pedersen 1984: 138; Roper 1995: 212). Print copies operated as visual replicas dispersed across unconnected readers, rather than the site of teacher-student interaction.<sup>10</sup>

The appropriation of Egypt as a site of European science reinforced this process. The printed decree proclaiming Napoleon as a true Muslim directly inserted a novel authority claim within the framework of Islamic knowledge. And the textual economy of *Description de l'Égypte* and scholarly journals places authority within proper scientific description rather than a proper chain of genealogical transmission. Located beyond traditional channels, the newly printed texts circulated without an interpretive history and they produced a textual corpus requiring new rules of interpretation.<sup>11</sup> The mass production

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<sup>10</sup> Messick (1993) presents a detailed study of the changes brought about by print in the realms of law and education in nineteenth-century Yemen. Abdulrazak (1990) presents a similar study of Morocco, but he focuses more on the changing role of intellectuals. And Soares (2005: 229-233) addresses changing structures of religious and textual authority in the print culture of Mali.

<sup>11</sup> In her cultural history of Cairo's middle class, Nelly Hanna (2003) outlines how a growth of textual materials and increased access to education began to alter rules of interpretation and authority prior to the widespread use of print. On the heels of these shifting interpretative practices, print spread new varieties of text with new claims to authority.

and wide dissemination of printed texts “contained a new authority [and] a new truth value, enhanced by the definitiveness [and repeatability] of the technology” (Messick 1993: 127; *c.f.* McLuhan 1964: 160). The new textual products were not located within Islamic chains of genealogical transmission; their claims to authority began with their issue as *printed* material.

The practical lessons of these new textual practices were not overlooked by Arabic and Ottoman reformers. Four years after the French departure from Egypt, Muhammad Ali’s vigorous modernization projects included the reform of education along European lines and the establishment of an Egyptian state press in Bulaq. The Bulaq Press, which later developed into one of the most influential Arabic presses of the nineteenth century, followed the model of military and administrative publication. Like the Mütferrika press, it printed primarily military and naval texts, foreign (primarily European) translations, and technical works of engineering and science (Lunde 1981, Attiyeh 1995: 245).<sup>12</sup> But the press also borrowed from the Napoleonic model and issued official state reports, bureaucratic forms, and state-run periodicals.

As Muhammad Ali asserted increasing independence from Ottoman rule, the role of the state press expanded. A secular national model of Middle Eastern printing and communication began to take shape. In this new model,

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<sup>12</sup> Verdery (1971) provides a succinct overview of the printings of the Bulaq press; Attiyeh (1995) offers a more focused discussion of the press’s influence on Arabic publishing and book production; and Berkes (1964) situates both the Bulaq press, and the reforms of Muhammad Ali more generally, as a continuation of changes initially suggested by Sultan Selim III. Although Selim III was deposed before his reforms were adopted in Ottoman circles, many of his advisors relocated to Egypt to assist Muhammad Ali (Berkes 1964: 79).

national and state sponsored presses supported the new textual requirements of modern bureaucracy and state institutions.

It was precisely that so many identical copies could be made of printed books which made printing into a mass medium, drew the attention of public authorities, religious and secular, and made it possible to exploit printed books as instruments of state policy, to censor them, or to forbid their diffusion when they were thought not to agree with, or to run counter to, the policy of the state, something not easy to accomplish in the manuscript age. But the state also came to own presses; it was able to distribute copies of printed books free of charge; and it acquired the authority to decide which books should be printed for use in its educational system (Mahdi 1995: 6).<sup>13</sup>

Modernizing states increasingly focused upon the utility of print technology in the production and distribution of *state-authorized* material. Due to the success of the Bulaq Press and the reforms of Muhammad Ali, the Ottoman administration subsequently adopted a number of similar innovations in the realms of education, law, and publishing (Lewis 1961: 82; Berkes 1964; Finkel 2005: 432).

Although Ottoman rule had long distinguished between religious and state authority, the application of print authority further distanced the two poles.<sup>14</sup> These changes became particularly noticeable in the reform of legal and educational systems. In 1869, an Ottoman council drafted a civil code

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<sup>13</sup> Mahdi's comments offer an interesting point of comparison with Suraiya Faroqhi's observations on the freedom of expression and debate in Ottoman literary circles and dervish lodges. These groups may have worried that "their already limited freedoms would shrink even further if knowledge were to be obtained chiefly from printed books, which were generally available and thus heavily censored" (Faroqhi 2000: 96).

<sup>14</sup> In Ottoman authority, a demarcation was drawn between the religious law and the Sultan's privilege as the temporal ruler of Islamic land. Whereas Arabic remained a language of culture and religious discourse, Ottoman Turkish was employed as the language of administrative and bureaucratic concerns (Versteegh 1997: 234).



known as the *Majalla*. The code was derived from the corpus of traditional Islamic law, but standardized and modernized as an orderly grid of numbered articles written in accessible language. As a system of law, the final product was Islamic in content, but European in form (Liebesny 1975: 65; Messick 1993: 54-58). The newly renamed Ottoman Ministry of Justice oversaw codification of the *Majalla*, despite arguments from religious leaders that compilation fell under their jurisdiction (Berkes 1964: 169). Ironically, since no precedent for the written formalization of Islamic *shar'ia* law existed in Islamic tradition, no religiously legitimate grounds could be found for declaring civic organization of the *Majalla* unacceptable. As a result, the *Majalla* became the first instance of *shar'ia*-based legislation enacted exclusively by the sovereign authority of a temporal government (*ibid.*: 171).

Ottoman educational reforms similarly divided the realms of religion and secular authority. Whereas Ottoman primary education remained rooted in Qur'anic recitation, religious instruction, and memorization, a demarcation was drawn between the primary curriculum and secondary education. The pedagogical differences separating primary school from advanced instruction were reflected in the appearance and form of their distinctive texts. The texts of primary religious education continued to be hand copied by students, but higher education textbooks were now produced and distributed by state-run presses. From the eighteenth century onwards, secondary education, military training, and technical schools adopted a print-based curriculum of practical sciences (Berkes 1964: 106-110; Messick 1993: 115-119).

Nevertheless, the examples of legal and educational reform should not imply that Islamic religious discourse remained free of printed material. From 1818 onwards, catalogs of Ottoman imprints indicate an increasing number of religious titles (Abdulrazak 1990: 89n34). And in 1839, the Ottoman religious pundit Muhammad Haqqi published a ten-point tract in praise of print. The brief tract closely resembles Ibrahim Muteferrika's "Wasilat at-Tiba'a," but Haqqi fails to mention the earlier essay, and his presentation differs greatly in terms of argumentative thrust. Haqqi reformulates Ibrahim's careful technical arguments in a religious frame. Whereas Ibrahim's original essay emphasizes the import of print for military matters and governance, over half of Haqqi's ten benefits explicitly reference the glory of Islam and the benefits of the new technology for reproduction of Islamic texts (*ibid.*: 89-94).<sup>15</sup>

The result was a tension of textual authority. Although printing could now be used to benefit Islam, the administration of print was firmly rooted in state authority rather than Islamic tradition. The full extent of this separation became noticeable in 1874, when Cevdet Pasha produced a printed version of the Qur'an. Unlike Said Çelebi and Ibrahim Müteferrika, who requested *both* a royal *ferman* and an Islamic religious *fetwa* prior to the printing of secular and scientific texts, Cevdet Pasha only obtained a governmental permission

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<sup>15</sup> The transformation of Ibrahim Mütefferika's ninth reason for the adoption of print offers an especially relevant example of Haqqi's changes. In Ibrahim's essay, point nine addresses the aesthetic problems of Arabic type while lamenting that profits from print are flowing from Ottoman patrons to European presses. For Haqqi, in contrast, the loss of profit does not separate European and Ottoman presses, but Christianity and Islam. According to Haqqi, the benefits of print "are blessed when done by the hands of Islam. When printing is done by the infidels there will be no blessing in it" (Abdulrazak 1990: 92).

before issuing the first Ottoman print edition of the Islamic holy book (Berkes 1964: 195).<sup>16</sup> Perhaps foreign printed Qur'ans were already circulating in Ottoman territory, and Cevdet Pasha thought the religious question was no longer relevant. Perhaps the religious authorities no longer had the authority to the undertaking even if they wanted. At any rate, religious resistance was indeed minimal, and the printing was accomplished with little difficulty. In failing to request a *fetwa*, however, Cevdet Pasha had bypassed the traditional jurisdiction of the Sheyh ul-Islam. And the question of whether the Qur'an *could* or *should* be distributed in print was answered by the state rather than religious authorities.

#### POST-PRINT DEVELOPMENTS OF OTTOMAN CALLIGRAPHY

The authoritative changes of written and printed material unsettled more than Islamic religious institutions; they also destabilized the conventions of writing and the visual tools of those conventions. Similar sets of letters—indeed the very same typefaces—could now be used for printing traditional religious material, secular tracts, recent news, bureaucratic forms, and state decrees. This reflects a broader movement in the rise of print culture, in which sacred languages lost their privileged claims to reality through erosion of the non-arbitrariness of the sign (Anderson 1991: 12-19). As the visual component of Qur'anic revelation, the letters of the Arabic alphabet are intimately linked

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<sup>16</sup> Cevdet Pasha also attempted the first translation of Qur'an into Ottoman Turkish, but his project remained incomplete. The first full Turkish translation of the Qur'an did not occur until 1908, at which time the Sheyh ül-Islam attempted to confiscate it (Berkes 1964: 486).

with Qur'anic content.<sup>17</sup> But the proliferation of printed texts weakened that sacred bond. The Arabic alphabet became an increasingly neutral tool for the display of information. How, then, might the religious and sacred quality of Arabic writing be preserved?

This dilemma, however, was not new to the era of print.<sup>18</sup> Arabic script had changed in the past, often revolving around a similar distinction between sacred and secular content. Historically, developments of the script were first adopted for secular or administrative applications, and only slowly accepted for Qur'anic and sacred purposes. Originally, only the angular *Kufic* scripts were employed for Qur'anic copying. After the scribal reforms of Ibn Muqlah in the tenth century, however, the rounded *naskh* styles gradually developed as preferred styles for copying the Qur'an. As this shift unfolded, *Kufic* script assumed a more aesthetic and decorative role (Safadi 1979: 10-13; Sakkal 1993; AbiFarès 2001: 31-32). The "new" styles of *Kufic* included elaborate floriated, woven, and geometric variants, which emphasized visual aesthetics over ease of legibility. The content of *Kufic* inscriptions remained exclusively Arabic and primarily religious in content (Schimmel 1970: 5-7). Elaborate decoration

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<sup>17</sup> According to Seyyid Hossein Nasr (1987: 17), "The primordial creative act was at once the Primordial Word which is the origin of all sound and of the Noble Qur'an as a sonoral universe, and the primal Point which is the origin of the sacred calligraphy that is the visual embodiment of the Sacred Word."

<sup>18</sup> The historical section of Chapter Two discusses many of these changes. In addition to the distinction between hieratic *Kufic* and practical *naskh* styles, the adoption of diacritical vocalization marks and the chancery scripts of *diwani* and *shikasteh* were originally restricted only to secular and educational texts.

emphasized its sacred role. The assumed recognition and appreciation of the Qur'anic text both inspired the decoration and infused it with meaning.

A strikingly similar process distinguished the printed and handwritten *naskh* styles from the sixteenth to nineteenth centuries. Printed *naskh* typefaces replaced handwritten forms as the primary carrier of religious content. But instead of undermining the importance of scribal writing, print reinvigorated handwriting's symbolic status. More than ever, a piece of finely crafted *khatt* operated as a sign of authoritative content and moral composition.<sup>19</sup> Indicative of this trend, the number of Sultans who perfected fine handwriting increased dramatically from the eighteenth century onwards. Sultan Ahmet III (1703-1730), who signed the *ferman* allowing Said Çelebi and Ibrahim Müteferrika to begin printing, became especially masterful. His handwriting received praise from contemporary poets, and he specifically contributed at least one piece of fine writing to each major mosque in Istanbul (Schimmel 1984: 74-75). Sultan Ahmet III excelled at the calligraphic *tugrah*, which he personally applied to many of his most significant *fermans* (Mahir 1999: 46). Other calligrapher sultans include the successive triad of Mahmud II (1808-1839), Abdülmeccid (1839-1861), and Abdülaziz (1861-1876) (Schimmel 1984; Mahir 1999), all of

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<sup>19</sup> The use of calligraphy rather than printed words as a sign of authority is also a common practice in Europe and America. The Declaration of Independence, for instance, was first circulated among the colonies as a printed tract. Only the final form, which is now displayed in the United States National Archives, was hand scribed. The stately penmanship of the engrossed version underscored the gravity of the Declaration's contents (Ritz 1986). Similarly, Oleg Grabar (1992: 78) notes the use of calligraphy for professional certificates, where "the quality of decoration around fancy letters, especially Latin, is supposed to reassure us about the abilities of our physician"

whom ruled during the significant decades of the nineteenth century during as Ottoman printing became an established mass medium.

As Ottoman literary production expanded, new forms of calligraphic writing began to circulate alongside printed material and informational texts. Calligraphy shifted in parallel to the technical and typographic products of early printing as a revitalization of aesthetic lettering design. A similar trend accompanied the spread of print across Europe and America: “While books were becoming more easily available and more people were learning to read, more were also learning to write, often stylishly and with great distinction” (Manguel 1996: 135). As printing became a well-established visual medium, instructional texts—both on how to read and how to write—became popular sourcebooks, and the early stages of print were also a great age of handwriting manuals (*ibid.*; Jackson 1981: 111-113). Similarly, the religious basis of primary Ottoman education maintained *al-aqlam al-sittah* and *Hüsn-i Khatt* (beautiful writing) as compulsory subjects, and mastery of several script styles signified the educated Ottoman elite (Kreiser 2001: 16). The number of specific script names drastically increased alongside the spread of print. Ottoman coverage of the topic expanded the six styles of *al-aqlam al-sittah* to twelve categories, which contained a grand total of thirty-nine, forty-six, and eventually fifty-four distinguishable forms (Ülker 1987: 63-64).<sup>20</sup>

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<sup>20</sup> Twelve categories of script are listed in Mirza Habib’s *Hat ve Hattatan* (1887 C.E.). These categories are collected from the thirty-seven specific script names mentioned in Mustafa Hilmi Hakkakzade’s *Mizanü’l Hat* (1871 C.E.). By the 1928 publication of Mustakîmzade’s *Tuhfe-i Hattatin*, this number had increased to fifty-four (Ülker 1987: 59-60, 62).

The beneficial interaction of print and calligraphic writing was further enhanced by the development of lithography in the early nineteenth century. With the new process, scribal and calligraphic writing could be printed and reproduced without recourse to moveable type.<sup>21</sup> Lithography preserved the overall composition and visual harmony of calligraphic specimens, which resolved many of the aesthetic obstacles facing the printing of Arabic types (AbiFarès 2001: 72; Pedersen 1984: 135). The first Ottoman lithographic press opening less than thirty years after its invention, with beneficial results for both traditional script and the new art:

On the one hand major works of the famous calligraphers were made accessible to a broader audience by printing. On the other hand, lithography helped calligraphers to continue making a living (Kreiser 2001: 15)

With lithography, the finest Qur'ans of calligraphic masters could be easily reproduced and distributed. The first Qur'ans printed by Cevdet Pasha reproduced the work of calligrapher Sekerzade Mehmet Effendi, who copied the style of a Qur'an penned by Shayk Hamdullah in Mecca. Later printings, and most current Turkish editions, reproduce the celebrated work of Hafiz Osman (d. 1698 C.E.) (Schimmel 1994: 154; Acar 1999: 197). Hafiz Osman was

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<sup>21</sup> Invented in the 1790s by Alois Senefelder, lithographic printing develops from the simple principle that oil and water do not mix. First, writing is traced upon a stone tablet with a greasy crayon. Next, the stone is moistened with water, except that the greasy marked areas repel the liquid. An oil-based ink is then rolled over the tablet, adhering to the crayon but not the moist stone itself. Finally, the ink is printed on paper (Meggs and Purvis 2006: 153; Steinberg 1996: 142-144).

According to Robert Bringhurst, "the development of lithography at the end of the sixteenth century, printing moved another step back toward the two-dimensional world of the medieval scribe" (2005: 138). Typographic letters, in contrast, are "rooted in sculpture. In this process, each letter is carved at actual size" (*ibid.*).

a disciple of Shayk Hamdullah, whose mastery of *al-aqlam al-Sittah* earned him the title of the Second Shayk, second only to Shayk Hamdullah himself (Ülker 1987: 79). During his lifetime, Osman inscribed twenty-five complete copies of the Qur'an. With the aid of lithography, these copies have been reproduced over a million times.

Another artistic beneficiary of lithographic printing were calligraphic *lewha* (display panels) and *murakka* (albums). *Murakka* collect calligraphic panels that display finely crafted phrases and calligraphic exercises known as *meshk* (Mahir 1999: 17; Acar 1999: 200-208). The displays of *lewha* and *murakka* balance traditional scripts with decorative borders, illuminated blocks, and the overall layout of the page. Their textual content frequently repeats Qur'anic *surrahs*, prophetic *hadith*, or famous lines of poetry, and their precise layout divides the visual space according to specific styles of script and decorative blocks (Figure 5.1).<sup>22</sup> The visual celebration of calligraphic writing offers an alternative to the standardized design of printed texts, and *murakka* collections imply that the beauty and meaning of writing transcends the legibility of its content. According to Şinasi Acar (1999: 26), the Ottoman calligraphy of the nineteenth century undertook "the functions of a certain kind of painting, bearing a vital harmony and lively beauty in the geometrical and logical order of the characters." Such finely crafted "paintings" became visual symbols of Ottoman culture and the beauty of the Islamic faith. The blessings of these

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<sup>22</sup> The content of *murakka* were also related to the style of script. As noted in Chapter 3, *al-aqlam al-sittah* transcribed Qur'anic and religious phrases, whereas the Persian *taliq* script was restricted to literary or poetic lines.





**Figure 5.1: An Ottoman *Lewha* Display Panel.** This decorative piece organizes blocks of text according to specific scripts. The upper block of text displays *thuluth*, and the two lower blocks display *thuluth*'s sister script of *naskh*. This specimen is part of the 40 Hadith (40 Hadis) Collection of the Süleymaniye Kütüphanesi. Reproduced from *Başlangıçtan Günümüze Türk Hat Sanatı (The Art of Turkish Calligraphy from the Beginning up to Present)* (Ülker 1987: 309).

pieces infused the space in which they were hung, and colorful lithographic reproductions made these calligraphic blessings more accessible to those of modest means (Zakariya 2002b: 9).

Perhaps the best example of formalized calligraphic layout are *hilye*, decorative pieces devoted to the physical appearance, personality, behavior, and qualities of the Prophet Muhammad (Figure 5.2).<sup>23</sup> *Hilye* remember the moral and spiritual perfection of Muhammad through a series of textual references and spatial relations. On an abstract spiritual level, they provide a visual depiction of the indescribable: the moral and spiritual qualities of the Prophet Muhammad (Zakariya 2002b). Their complex structure and careful layout arrange a variety of textual and visual ingredients. All components reflect upon a similar theme and intimate a description of the Prophet without displaying him.

The standard *hilye* design was perfected by Hafiz Osman near the end of the seventeenth century (Acar 1999: 220; Mahir 1999: 17; Zakariya 2002b). It divides the visual space of writing according to strict rules of content and style of script (Figure 5.3). Although *hilye* were written in a variety of sizes, from pocket versions to large hangings, their layouts remain consistent regardless of size. The constituent parts of a standard *hilye* include:

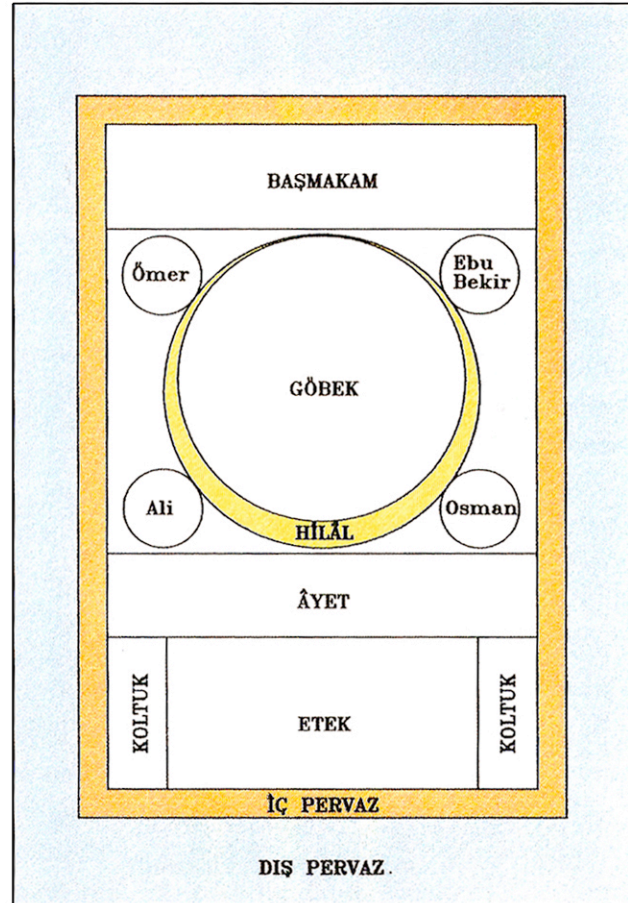
1. *Başmakan* (Prelude): The *basmalah* invocation written in either *thuluth* or *muhaqqaq* script.

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<sup>23</sup> The Arabic word *hilye* refers to “adornment,” “decoration,” or “embellishment.” The tradition arises from a saying of the prophet: “Write my *hilye* so the ones who will see it will be as if they saw me after I pass away” (Acar 1999: 218).



**Figure 5.2: An Ottoman *Hilye*.** Ottoman *hilye* visually celebrate characteristics of the Prophet Muhammad through the organization of written and graphic space. This *Hilye* was written by the late Ottoman calligrapher Hamid Aytaç (1891-1982 C.E.) and illuminated by Rikkat Kunt (1903-1986 C.E.). Reproduced from *Turkish Calligraphy: Materials, Tools, and Forms* (Acar 1999: 161).



**Figure 5.3: Components of an Ottoman Hilve.** This diagram displays the standard layout of Ottoman *hilye*. Reproduced from *Turkish Calligraphy: Materials, Tools, and Forms* (Acar 1999: 154).

2. *Göbek* (Navel): A circular shape in which the majority of the *hilye* text is written in *naskh* script.
3. *Hilal* (Crescent): Often gilded and heavily ornamented, this sliver holds the description of the Prophet in the symbol of Islam.<sup>24</sup>
4. *Kösheler* (Corners): Roundels usually containing the names of the four (honest) caliphs of Ottoman Sunni orthodoxy written in *thuluth* script.<sup>25</sup>
5. *Ayat* (Verse): A Qur'anic verse describing the Prophet and his mission, written in *thuluth* script. The most common *hilye* verses are verse 107 of *Surrah al-Anbiyâ* (The Prophets), verse 4 of *Surrah al-Qalam* (The Pen), and sections from verses 28 and 29 of *Surrah al-Fath* (The Victory).
6. *Etek* (Foot): A rectangular box containing the remainder of the *hilye* text continuing from the *göbek* and written in similarly proportioned *naskh* script. The *etek* may also contain information about the *hilye* itself, such as the name of the scribe or the date of composition.
7. *Koltuklar* (Alleys): Two decorative blocks, free of text, bracket the indented *etek*. These are illuminated in a style similar to the space around the *göbek* and *kösheler*.
8. *İç and Diş Pervaz* (Inner and Outer Frame): An illuminated border with a width measured in accordance to the size of the text.<sup>26</sup>

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<sup>24</sup> The orb of the *göbek* and the *hilal* crescent also formulate a visual comparison in which the light of Prophetic revelation resembles the sun and the moon as they illuminate the earth (Acar 1999: 221).

<sup>25</sup> Additional possibilities for the *kösheler* include additional names and titles of the Prophet himself, the names of his companions, some of the 99 beautiful names of Allah, or the Seven Sleepers of Ephesus. For alternative designs, the number of *kösheler* may also increase beyond four.

*Hilye* compositions emphasize the symbolic quality of writing as the design of visual space. The result is an aesthetic construction, balanced both visually and textually, with a devotional and moral quality arising from the interplay of decoration, textual content, and fine handwriting. The artistic presentation reinforces the textual content in its praise and sublime representation of the Prophet Muhammad.

Another popular form of *murakka* involved the aesthetic calligrams of *rezim yazi* (drawing pictures with script). Rather than dividing the space of a page as the layout of textual blocks, these visual experiments molded writing itself along the contours of standardized shapes or forms. The complex form of the *tugrah*, for instance, was initially reserved exclusively for the imperial seal. Over time, however, religious phrases such as the *basmalah* were also molded along its elegant structure (Figure 5.4; Gündüz and Taşakale 2000: 18; Salah 1990: 160). Other pieces might present similar phrases in the form of boats, animals, or faces. Drawing upon a shared stock of Qur'anic *surahs*, familiar sayings, and poetic phrases, images of *rezim yazi* downplay written legibility. Rather, a familiarity of the written content guarantees “legibility” despite the complexity of written form. A viewer need only recognize the initial *nokte* of the *basmalah* or the three vertical stems of the word Allah to understand the significance of the written text. The shape of the piece can then be appreciated as a mapping of Arabic script, the primordial forms of

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<sup>26</sup> Although Acar does not specify the proportions governing the relation between the frames and the text, close examination of numerous *hilye* indicates that the width of the inner frame consistently approximates the height of the letter *alif* in *naskh* script. The outer frame, similarly, appears roughly the size of the letter *alif* in *thuluth* script.



**Figure 5.4: A Tugrah-shaped Bismillah.** This *tugrah*-shaped composition displays the Islamic *bismillah* invocation as drawn by Hamad al-Madi. Originally, the *tugrah* form was reserved as the seal of Ottoman sultans and did not contain religious phrases such as the *bismillah*. Reproduced from *Arabic Script: Styles, Variants, and Calligraphic Adaptations* (Mandel Khan 2001: 129).

creation, upon pictorial imagery. These calligraphic displays communicate symbolically, in which “reading” involves contemplating the relation of text and image and questioning the meaning of their combination (Mitchell 1994: 89-90).

From the fifteenth century onward, calligraphic phrases and *imagetexts* became popular as religious amulets and decorative wall hangings (Safadi 1979: 31, Schimmel 1984; Schimmel 1994).<sup>27</sup> The eighteenth century image of a stork fashioned from the *basmallah* displays one of the most famous of *rezim yazi* (Figure 5.5). The religious connotations of the image reflect a mystical Sufi symbolism in which birds signify the soul’s flight toward God. Migration of the stork, moreover, parallels the *hadji*, during which the stork was believed to rest at mosques and visit the Kaaba (Mahir 1999: 32). Such interpretations are not immediately accessible through the referential *content*. Instead, they arise from the written *form* and shape of this content. Similar to the ornate layout of *hilye* texts, the calligrams of *rezim yazi* construct complex visual and textual arguments. Building upon the fluidity of handwritten Arabic script, their mythographic form challenges the linearity of reading to recharge the sacred, moral, and symbolic quality of Arabic handwriting.

After Shayk Hamdullah and Hafiz Osman, Mustafa Rakim (1757-1825 C.E.) became the third great master of Ottoman calligraphic accomplishment. Rakim’s proficiency in aesthetic composition produced a number of masterful

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<sup>27</sup> Amulets, including faces drawn from the written names of Muhammad and Ali, are especially popular among the Bektashi order of dervishes (Schimmel 1984: 110).





**Figure 5.5: *Bismillah* in the Form of a Stork.** The *bismillah* in the form of a stork is an oft-repeated motif. This particular display panel was drawn by Ismail Zühdi (d. 1806 C.E.). The image of the Kaaba, set within a cartouche, reinforces the symbolic qualities of the piece. Reproduced from *Turkish Calligraphy* (Mahir 1999: 43).

*resim yazi*, and he perfected the mirror-style of *müsenna* writing, in which a written phrase appears reflected across a vertical axis (Figure 5.6; Acar 1999: 214).<sup>28</sup> Rakim's greatest technical innovation, however, was the redesign of the display style *thuluth-jali*, the preferred script of architectural inscriptions and large *kit'a* display panels.<sup>29</sup> Drawing upon his knowledge of perspective, Rakim restandardized the shapes and organization of large letters in order to improve legibility from a distance (Acar: 1999: 212-213; Berk 2003: 86-88). He applied a similar concern to the scribing of the imperial *tugrah* upon imperial ciphers, architectural gates, and the new Ottoman currency. Although these forms remain extremely complex, their increased precision increases legibility of their content within public spaces, upon official decrees, and as decorative images of state. Rakim designed the official seal of Sultans Selim III, Mustafa IV, and Mahmud II, and his work is regarded as the pinnacle of the *tugrah* form (Figure 5.7).

Mustafa Rakim personally instructed Sultan Mahmud II in calligraphy, and the sultan honored him by appointing him as military judge of Anatolia, Istanbul, and Mecca (Ülker 1987: 81; Schimmel 1984: 175n112). With his new judicial role, Mustafa Rakim personified the meeting of aesthetic calligraphy and imperial authority. But this nostalgic convergence occurred outside and around the traditions of religious authority. The sultans with whom Mustafa

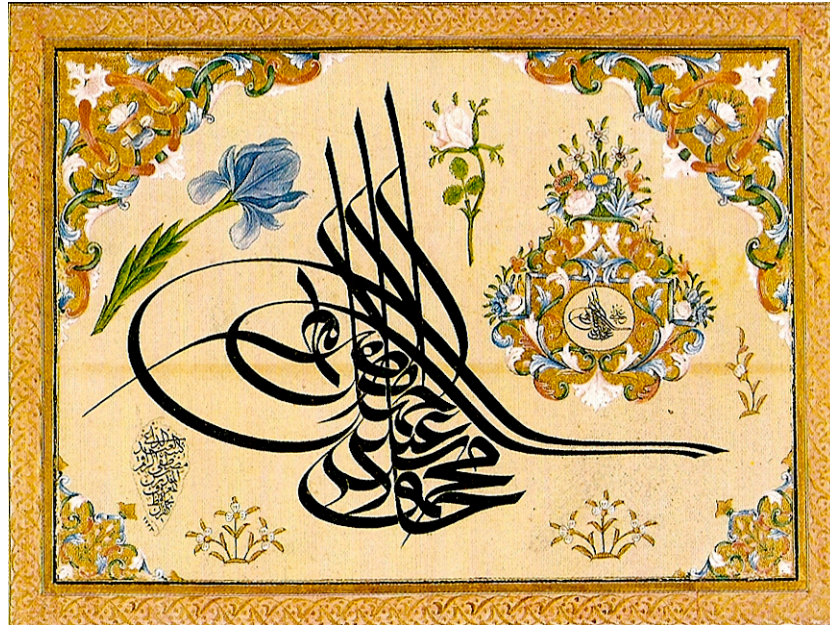
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<sup>28</sup> Schimmel (1984: 111) cites Mustafa Rakim as the creator of the famous *rezim yazi* stork in 1808 C.E. But Mahir (1997: 43) contains a version of the image signed by Rakim's elder brother Ismail Zühdi, who died in 1806 C.E. (See Figure 5.5).

<sup>29</sup> For a discussion of traits distinguishing *thuluth-jali* from other forms of calligraphic practice, see "The Celi Concept in Turkish Calligraphy" (2002) by Uğur Derman.



**Figure 5.6: Muisenna Mirror-Writing.** *Muisenna* display a phrase of writing reflected across the vertical axis. This piece was composed by Mustafa Rakim (1757-1826 C.E.) and reflects part of a Qur'anic verse: "...and we made every living thing of water..." (21:30). Reproduced from *Turkish Calligraphy: Materials, Tools, and Forms* (Acar 1999: 1401).



**Figure 5.7: Tugrah of Sultan Mahmud II.** Mustafa Rakim Effendi (1177-1241 C.E.) designed the *tugrah* of Sultan Mahmud II (1785-1839 C.E.) and composed this display panel in 1808. The cartouche on the right reproduces a smaller version of the same *tugrah*. Reproduced from *Turkish Calligraphy* (Mahir 1999: 53).

Rakim was the closest—Selim III and Mahmud II—were avid proponents of modernization (Lewis 1961; Berkes 1964; Finkel 2005), and their political rather than spiritual authority sponsored Rakim's ascension through the ranks of Ottoman bureaucracy. Rakim's calligraphic work, moreover, was primarily state-sponsored, and his innovations in written style were adopted by decree rather than embraced by scribal contemporaries. Based upon his work with *thuluth-jali*, Mustafa Rakim established a new set of rules for the composition *Hüsn-i Khatt*, and he promoted a simplified method for training apprentice scribes in his new styles of *al-aqlam al-sittah*. Although religious and primary schools opposed the new method, Sultan Mahmud II admired the characters of his teacher and the sultan's position helped silence traditionalist critics (Mardin 1962: 264).

#### INCREASED LEGIBILITY AND PRINTED VERNACULARS

The new authority of printed texts threatened to unseat the genealogies of traditional Islamic knowledge, and decorative calligraphy responded by elevating writing to a symbolic level of aesthetic display. The visual form of calligraphic writing, rather than the contents of its letters, sought to preserve the non-arbitrary bond linking Arabic script with divine revelation. Although Rakim's new calligraphic method reflected a rising concern with scribal clarity and increased legibility, the import of legibility was slowly being transferred from scribal registers to printed ones. If the reaction of the *ulema* to Rakim's innovations was so stark, it arose from the desire to preserve an aesthetic and

symbolic tradition rather than a privileged hold on the language and content of Ottoman writing. The proliferation of printed material and its application toward purposes of technical and higher education were already altering the visual conventions of written Ottoman. Both the appearance of letters and the language represented by those letters became more regularized.

As an administrative and literary language, written Ottoman differed drastically from the Turkish spoken on the street and day-to-day. It presented a linguistic blend of Arabic, Persian, and Turkish incomprehensible to most Ottomans, even when read aloud. This blending, which occurred on both the lexical and grammatical levels, combined with intricate rhetorical flourishes, and the syntactical complexity of style often trumped clarity of meaning (G. Lewis 1999: 5-26). In the absence of punctuation, for instance, stops were indicated by the use of rhyming words within a sentence. The requirement to rhyme made argumentation obtuse and further contributed to the number of Arabic and Persian loanwords (Mardin 1961: 255). The high rate of borrowing for the sake of rhyme resulted in the imprecise and inconsistent use of foreign words. Arabic script, moreover, is not ideally suited to the representation of Turkish structures (G. Lewis 1999: 27; B. Lewis 1961: 420). Whereas the script distinguishes three short vowels and their long equivalents, Turkish employs over eight distinct vowel sounds. But rather than develop new signs or alter the script, Ottoman scribes accommodated Turkish vocalization by assigning

multiple phonemes to Arabic letters. As a consequence, the equivocal reading of numerous Ottoman words was both possible and highly probable.<sup>30</sup>

Printing helped formalize the relationship between written Ottoman and spoken vernacular (Chaytor 1945: 117-119; Steinberg 1996: 54-58; Logan 1986: 213-15). Concern with the distance separating spoken Turkish from its written counterpart became progressively acute alongside the spread of print and the modernization of communications (Mardin 1961). Beginning in the eighteenth century, a series of linguistic reform movements sought to simplify the comprehension of written Ottoman. The idea was first raised in 1862 by Münif Pasha. In a speech to the recently-formed Ottoman Scientific Society, he cited the deficiencies of the Arabic alphabet as a hindrance to the teaching of literacy (B. Lewis 1961: 421; Mardin 1961: 268-269; Berkes 1964: 195-196; G. Lewis 1999: 28). Two years later, the Azerbaijani writer and dramatist Feth-Ali Ahundzade presented the Society with a specific proposal for alphabetic reform. The proposal suggested invention of new vowel signs to facilitate the phonetic rendering of Turkish. These vowel marks would be placed between consonants similar to Latin letters. Ahundzade also noted that the difficulties with Arabic script were a problem of literacy rather than religion and there should therefore be no religious objection to the new script (Berkes 1964: 196). The proposal was well received by the Grand Vizier, and the Scientific Society

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<sup>30</sup> See Geoffrey Lewis (1999: 27-28) for instances of equivocal readings. For example, the Turkish words for "great," "possessors," "dead," "evil", "married," "courtyard," and "stocked with game" all share the same written form in Ottoman texts.

recognized its merit. But no specific recommendation was enacted due to the practical difficulties of modifying Arabic script with a new notation.

The importance of script reform nevertheless persisted, and it became especially relevant with the printing of educational texts and a rising tide of periodicals. In the nineteenth century, the new media of newspapers spread quickly across Ottoman and Arabic lands (Pedersen 1984: 137). Unlike literary texts and bureaucratic documents directed at elite readers, these new forms targeted a general audience. Publishers strove to make their language more accessible, and this influenced both the style of writing and choice of words. In the 1840s, the English merchant William Churchill founded the first private Ottoman newspaper: *Ceride-i Havadis*. The paper quickly attained popularity due to regular dispatches from the Crimean War and its translated feuilletons, which included an Ottoman version of Victor Hugo's *Les Miserables* (Mardin 1961: 266; B. Lewis 1961: 144-145).

Newspaper columns were written in accessible language and directed at a wide readership. *Ceride-i Havadis* sought to inform the Ottoman populace of current events, politics, art, and literature (Mardin 1961: 267; Parlatir 2000). Ibrahim Shinasi (1824-1871) declared the policy and philosophy of newspaper writing in his first editorial:<sup>31</sup>

There is no need to explain that, while speech is a divine gift  
for the expression of thought, writing is the finest invention of

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<sup>31</sup> Shinasi was also one of the first Ottoman dramatists, and the writing of his plays, like his newspaper editorials, attempted to mirror spoken Turkish vernacular. Prior to working as a newspaper editor, he was recruited by Reshid Pasha to serve on the newly formed Council of Education. But the council dismissed him on account of his having shaved off his beard (B. Lewis 1961: 133).



the human intelligence, consisting as it does of depicting speech by means of the pen. Proceeding from a regard for this truth, editorial notice is hereby given that it is a bounden duty to write this newspaper in a way that will be easily understood by the public at large (G. Lewis 1999: 13).

Eschewing the elite prose and stylized script of the Ottoman literati, Shinasi addressed the nation at large. A similar focus informed Shinasi's own paper *Tasvir-i Efkâr*, which he founded 1861. The paper's writing was marked by a directness of language and short simple sentences. And the paper's design strove to simplify the visual appearance of printed Ottoman. By merging the styles of *naskh* and *kufic*, its typographers succeeded in reducing the number of printed characters from over 500 glyphs, the standard number of type since the pioneering work of Ibrahim Müteferrika, to only 112 forms (Berkes 1964: 198).<sup>32</sup>

The new focus on direct journalistic communication shifted the position of written Ottoman from a language of the literati to a language of the people. While building a reading public, newspapers helped open debates involving politics, current events, and social criticism. But the radicalism of the prose employed by Shinasi and subsequent editors arose from its linguistic and grammatical simplicity rather than its textual content (Berkes 1964: 197-199). The vocabulary of the new prose attempted to mirror speech pattern, and foreign loanwords were employed according to rules of Turkish grammar rather than the grammatical structures of their language of origin. The name

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<sup>32</sup> With the quickness of news-gathering and newspaper typesetting, "there occurs a change not only in the physical appearance of the press, but also in the prose style of those writing for it" (McLuhan 1964: 205-206).

“Turkish” slowly replaced “Ottoman” as the designator of written language, and in 1876, Article 18 of the new Ottoman constitution officially declared “Turkish” as the language of state (G. Lewis 1999: 16). However, concerns of state and the coverage of modern journalism required new terms for topics such as *citizens’ rights*, *constitutional government*, *liberty*, and *nationalism*. And despite calls for simplification, newspaper editors often borrowed or modified the lexical wealth of Arabic and Persian for these purposes (G. Lewis 1999; B. Lewis 1961: 425).<sup>33</sup> Incorporated within structures of Turkish grammar, the influx of foreign words greatly increased the capabilities of written Ottoman. But in doing so, it produced an oddly hybrid language of simplified prose and sophisticated vocabulary.

The close association linking Turkish linguistic reform, print authority, and bureaucratic modernization facilitated a turn away from Arabic linguistic structures. In 1926, the Turkish essayist Kılıçzade Hakki published an article entitled “Gabriel didn’t bring the Arabic letters too, you know,” in which he argued that the sacred nature of the Qur’an did not extend to the alphabet in which it was written (G. Lewis 1999: 32). The specific connection of Arabic script and religious texts, he insinuated, does not necessitate the use of that script for the writing of Turkish. Visually, Arabic script retained a symbolic religiosity, and the Arabic language, as a marker of Islam, remained the realm of religious discourse within Anatolia and Istanbul. But written and printed

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<sup>33</sup> Due to the quickly changing structure and vocabulary of the written language, this time also witnessed a boom in the publishing of Turkish grammars and dictionaries (B. Lewis 1961: 424-425; G. Lewis 1999: 16).

Turkish departed from Islamic tradition to become the visual symbol of a new Turkish nationalism. Ottoman printed texts were primarily Turkish language texts, not Arabic ones. Whereas Arabic calligraphy continued to celebrate the communicative model of Islamic tradition, the Ottoman products of printed Turkish adhered to a secular national model.

The final break quickly followed the demise of the Ottoman regime in 1923.<sup>34</sup> Behind the leadership of Kemal Ataturk, the newly formed Turkish republic swept away all remnants of an Islamic Ottoman past. This amplified concern for accurate Turkish orthography, and in 1928, the Turkish Alphabet Commission unanimously agreed to adopt Latin letters as the official script of a modern republic. Ataturk personally unveiled the alphabet at a festival gala held in Gülhane Park. To a crowd of thousands, he announced:

My friends, our rich and harmonious language will now be able to display itself with new Turkish letters. We must free ourselves from these incomprehensible signs that for centuries have held our minds in an iron vice. ... The fault is not ours; it is of those who failed to understand the character of the Turk and bound his mind in chains. Now is the time to eradicate the errors of the past. ... Our nation will show, with its script and with its mind, that its place is with the civilized world (B. Lewis 1961: 272).<sup>35</sup>

The “new Turkish letters” replaced one set of tools (Arabic characters) with another (Latin derived forms), and the political choice of script represented a

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<sup>34</sup> During World War I, the Ottoman Ministry of War briefly employed a system of writing designed by Enver Pasha in 1913. The system involved Arabic letters without ligatures and variegated forms to distinguish among vowels, but it was too clumsy for general adoption (G. Lewis 1999: 29).

<sup>35</sup> Ataturk’s announcement contrasts sharply with Acar’s observation that “nations which accepted Islam, had to leave their own alphabets gradually and had to adapt their language within the limits of the Arabic one, because the Koran was revealed in Arabic and written in Arabic” (1999: 30n2).

symbolic stance much more than an entirely new method of writing. Whereas Ottoman scribal practices leaned toward an Islamic heritage and the Arabic world, the new country was firmly directed towards Europe. In celebration of the event, Atatürk was awarded a lavish golden plaque upon which the new Turkish letters were carved in relief (Levey 1975: 144). The gesture combined the symbolic communication of a calligraphic Ottoman *lewha* panel with the significance of Latin letters. Just as ornate calligraphy signifies the continuing sacred quality of Arabic writing, the new plaque presented a visual marker of modernization and Turkish development.

Editors and writers altered the prose of written and printed Ottoman to more closely reflect the spoken vernacular, and a new script was eventually adopted to represent modern Turkish. A similar reform movement targeted the Arabic language, but linguistic issues surrounding the “modernization” of Arabic were a widely different order than those facing Ottoman Turkish. The prosody of classical written Arabic was much more beholden to the rhetoric, poetry, and metrical quality of the recited Qur’an than the speech patterns of daily conversation.<sup>36</sup> Writing in the eight century, Ibn Khaldun attributed the invention of Arabic grammar to the notice that speech patterns were changing, and early grammarians such as ad-Duali worried that proper understanding of the Qur’an would be lost forever if linguistic habits changed too drastically (Rosenthal 1967: 87; Versteegh 1997). Printed Arabic texts and periodicals,

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<sup>36</sup> In linguistic examinations of contemporary Arabic, the distinction between the formal grammar of Modern Standard and Classical Arabic (*fusha*) and its colloquial variants (*ammiyya*) presents an example of diglossia. For a focused discussion on the specifics of Arabic diglossia, see Versteegh (1997: 189-208).

however, modeled their prose on the patterns of modern speech, rather than Qur'anic structures. As early as 1798, the Egyptian writer al-Jabarti coined a number of Arabic neologisms to describe the Napoleonic invasion and discuss foreign concepts of politics, authority, and colonialism (Versteegh 1997: 173-174). The insertion of newly coined words and foreign translations unsettled the rhythm and meter so important to traditional Arabic discourse.<sup>37</sup>

Like their Ottoman counterparts, Arabic editors sought to introduce a modern style of prose emphasizing mass literacy and popular discussion. In a recent examination of this transition, Niloofar Haeri (2003: 73-74) provides a series of pertinent questions facing Arabic newspaper editors: Was Classical Arabic a language in which to give street addresses or advertisements? Was it an appropriate language for jokes? Could it present a weather report without appearing awkward? Answers to these questions were both political choices and editorial decisions. From 1861–1884, Faris al-Shiddayaq, a contemporary of Ibrahim Shinasi, published an Arabic language newspaper in Istanbul. Like that of his Turkish counterpart, al-Shiddayaq's paper was marked by simplified prose, journalistic directness, and newly coined terminology. With accessible language, print offered the promise of reviving Arabic literature, culture, and public debate. But Al-Shiddayaq was classically trained as a scribe and copyist, and he was acutely aware that the promise of print was a political choice. It

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<sup>37</sup> Kees Versteegh (1997: 179-183) outlines five methods through which new or foreign words are incorporated into Arabic: (1) borrowing of the foreign word, (2) integration of the foreign word morphologically or phonologically, (3) analogical extension of an existing Arabic root, (4) translation of the foreign word as an existing Arabic word, or (5) semantic expansion of an existing Arabic word to include a new meaning.

depended on bypassing scribal tradition and exploring new channels for the transmission, display, and design of written text (Roper 1995: 212).

For most Arabic reformers, however, the distance separating the new prose from classical rhetoric was less significant than the distance separating Arabic speakers from Ottoman Turkish rule. The tide of Turkish nationalism isolated Arabic subjects from the administration of the state and repositioned Arabic as a unifying cultural bond and a nationalist symbol of its own. Contra Ottoman Turkish, celebration of the Arabic language became an anti-colonial symbol of Arabic pride and regional independence. As Ottoman power was on the wane, an Arab Congress convened in Paris. The 1913 congress called for increased regional and provincial autonomy, as well as official recognition of Arabic as a language of Ottoman parliamentary debate and administration of local government (Versteegh 1997: 176).<sup>38</sup>

Arabic language nationalism further consolidated in the wake of World War I and the geopolitical changes that parceled Arab lands among European powers. Under European colonization, the administration of language shifted to regional secular authorities. British and French territories instituted distinct regimes of communication and information control, not the least of which was the teaching, publication, and promotion of their respective languages. Arabic nationalism responded by promoting the union of spoken and written Arabic as a symbol of ethnic and national community. The script and the language

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<sup>38</sup> Kees Versteegh (1997) presents detailed discussions of the role of Arabic within Ottoman society (234-236) as well as the “rebirth” of Modern Standard Arabic as a regional and national language (173-188).

became markers of a new imagined nation (Anderson 1991).<sup>39</sup> Classical Arabic still retained its privileged status as the visual display of Qur'anic revelation. But unlike the Turkish shift, where the symbolic connotations of new Turkish letters clearly indicated the adoption of European modernity, the endorsement of written Arabic as an equally "modern" language collapsed the symbols of national community and Islamic tradition within one set of visual signs (Haeri 2003: 11-14).

Nevertheless, efforts of Arabic linguistic reform did not spare critical examination of the script itself. A new set of questions faced the visual and written representation of modern Arabic. Should the traditional scripts be preserved solely for religious purposes? Can letters be altered to reduce the number of required glyphs for printing, in hopes of improving legibility and promoting reading comprehension? Should the classic scripts be modified or replaced for modern and nationalist applications? A conference gathered at the Academy of the Arabic Language in Cairo to discuss the situation in 1936. The initial question concerned the transliteration of foreign names within the Arabic press (AbiFarès 2001: 73), and the problem was quickly answered by the addition of new diacritical marks. New configurations of diacritical marks and the basic letter shapes would represent foreign sounds without altering the basic structure of the script itself.

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<sup>39</sup> The references to the power of language for unifying a nation draw heavily upon Benedict Anderson's *Imagined Communities* (1991). Anderson includes Arabic as one of the primary sacred languages undermined by nationality, but he addresses neither its specific use by pan-Arabic nationalism nor its contemporary role as both a sacred *and* a national language.

In 1945, the same Academy launched a broad campaign confronting the problem of illiteracy in the Arabic world. It issued an open call for proposals of Arabic script reform and received over 200 suggestions. After examination, the suggestions were classified in three categories: (1) proposals breaking with Arabic tradition in favor of Latin or foreign letters; (2) proposals adding new characters to indicate short vowels or additional consonants; and (3) proposals adopting a single form for each Arabic letter regardless of word position (*ibid.*: 73-74). Ultimately, the Academy opted for the preservation of Arabic script and decided to retain the alphabet without significant change. Yet newspaper typesetters and type designers continued to reduce the number of necessary Arabic glyphs for the practicality and expediency of operations. Occasionally, printers replaced the initial, medial, or final forms with a single variation and they sometimes removed ligatures altogether (AbiFarès 2001; Munro 1981). These efforts restructured visual conventions of Arabic script in response to print technology and modern communication. Arabic letters became practical tools of information sharing, with an emphasis placed on the standardization of appearance and the transmission of content.

#### **LIGATURE: MULTIPLE CODES OF THE ARABIC ALPHABET**

Technological and textual changes initiated by the Müteferrika Press and the Napoleonic invasion of Egypt slowly altered the visual conventions of Arabic and Ottoman writing. These changes signaled shifting audiences and textual authorities, and they eventually reformed the shapes and structures of



both Ottoman Turkish and Arabic. A rise in written vernaculars accompanied the spread of print, and political choices of official languages and their written representation became powerful symbols of modern nation states. In Turkey, the decision to adopt Latin-derived letters turned firmly away from Islamic tradition to visually share the written typefaces of Europe. In the Arab states, Arabic script became as a national symbol operating alongside its continuing role as a religious one.

Located outside traditional chains of genealogical transmission, printed texts transmit information without an established interpretative framework. They therefore benefit from greater accessibility and written clarity in a direct channel from writer to reader. As Mushin Mahdi (1995: 8) usefully reflects: “Would the problem of orthography have come to the fore in Turkey without the spread of printing? Would the problem of orthography in Arabic ... have even been thinkable without the spread of printing?” These concerns were answered in both the practices of printers and publishers and official projects of linguistic reform. But the response spilled over into calligraphic and scribal practices as well. As print became the favored channel of state administration and vernacular news, calligraphy reaffirmed its role as an aesthetic reflection upon moral and religious content.

With these new meanings, Arabic letters became the nodes of multiple written networks. The forms of typographic and calligraphic letters operate as signs for different types of content, authority, and display. This reflects the broader history of Arabic script, its development of diverse styles of script,

and the distinct applications of *al-aqlam al-sittah*. The application and design of typographic letters connected this history with discussions of nationality and modernization. With their uniform appearance in widely distributed texts, typographic letters visually symbolize the collective unity of new states. Calligraphic experimentation, in contrast, displays the continuing mystery of the letter as a vehicle of divine revelation.

## Chapter 6:

### Lettering Communities in Contemporary Jordan

The innovation and refinement of Arabic lettering practices continue in the contemporary world. Although Turkey adopted the Latin alphabet for its national language, the Arab states reinvigorated Arabic script as a national symbol.<sup>1</sup> Letters of the Arabic alphabet are reproduced in daily periodicals, educational texts, constitutions, laws, currencies, traffic signs, and stamps. A shared set of documents written in a common alphabet unifies the imagined communities of new Arabic nation states. Arabic script demarcates national, ethnic, and linguistic borders, both local borders with other Arabic states and larger cultural borders separating the Arabic world from the scripts of foreign languages. In addition to their continued symbolism within Islamic tradition, Arabic letters have acquired a new symbolism of nation and ethnicity.

The following chapter brings the seemingly historical concerns of the dissertation into the present through an examination of three communities of Arabic lettering practice in contemporary Jordan. Communities of traditional calligraphers, graphic designers, and contemporary calligraphic artists utilize Arabic letters, but they apply these shared letters toward divergent ends. The three communities are introduced through a series of interviews conducted in Amman, Jordan during the summer of 2005. Interviews stressed the aesthetic

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<sup>1</sup> The Arabic alphabet was also adopted as the preferred national script of several non-Arab countries, including Afghanistan, Pakistan, and Iran. Iran specifically utilizes the *talik* script to represent modern Farsi as a national symbol.

question of letter design in relation to wider patterns of communication. In dialogue with diverse practitioners, I explore why different letters are needed for different types of texts. Traditional calligraphers, graphic designers, and contemporary calligraphic artists employ a common script, but they shape this script with distinct tools and specialized practices. Modern Arabic letters are designed, written, and read in multiple ways.

The traditional calligraphers I interviewed continue Ottoman traditions of calligraphic practice and situate the Arabic letter within a wider matrix of Islamic symbolism. Arabic calligraphy offers a visual symbol of spirituality and Islamic authority. It reflects the message of the Qur'an in the balance of its proportions and the display of beauty. But traditional calligraphy also fulfills a secular and nationalist role.<sup>2</sup> In Jordan, like most Arab countries, calligraphy receives support as a national cultural heritage. State museums display works of traditional calligraphy as part of historical, artistic, and cultural exhibits.

Alongside this display of artistic calligraphic compositions, the political and economic import of print produces fertile ground for the development of new Arabic fonts. Graphic designers create modern forms of Arabic script and strive to integrate Arabic within a global information economy. Modern fonts emphasize clarity, standardization, and legibility. They can be viewed on printed materials and digital screens and often coexist with Latin fonts in

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<sup>2</sup> Traditional calligraphy may also be deployed to legitimize the political authority of contemporary Arab states. A good example is the inclusion of a calligraphic *shahada*, the Islamic profession of faith, on the Saudi flag.

international communications. Within the commercial realm, script and letter designs also play a significant role in advertising and marketing campaigns. Innovative Arabic script design may bend to display a company logo or brand a product with a unique visual identity.

Finally, a third category of Arabic letter can be viewed at The Jordanian National Gallery of Fine Arts. In addition to traditional calligraphic pieces, the Gallery includes numerous examples of innovative calligraphic designs from contemporary artists. Contemporary calligraphic artists redraw the calligraphic tradition in light of Western aesthetics and contemporary artistic practice. Through the aesthetic reworking and redisplay of Arabic script, they re-imagine the meanings of writing as an aesthetic and symbolic form. On contemporary gallery and museum walls, Arabic letters become an aesthetic nexus through which to explore artistic practice, modernity, and tradition.

Jordan provides an interesting site in which to explore dynamics across the lettering communities of traditional calligraphers, graphic designers, and contemporary artists. Under Ottoman rule, the region remained fairly rural, especially in comparison to the cosmopolitan centers of Palestine, Lebanon, and Syria. After the demise of Ottoman power in 1921, the region became a semi-autonomous British province, and it gained national independence in 1946. Jordan's recent formation provides a setting where calligraphy and print design arose concurrently in a secularly oriented society. Although the traditional Arabic calligraphy of Jordan builds upon Ottoman tradition, the country was not an established center of calligraphy prior to the rise of print.

After independence, calligraphy and print practices developed concurrently in Jordanian society. Shortly thereafter, contemporary calligraphic art became a major artistic movement in the Arabic world, and Jordanian artists remain at the center of this trend.

These multiple practices of script design have shifted the appearance and significance of Arabic letters in subtle ways. Depending on their setting, practices of writing vary in regards to function, symbolism, technology, and communication. The appearance and designs of Arabic script alter according to the communicative function, content, and display of messages. Traditional calligraphers, graphic designers, and contemporary artists utilize the Arabic alphabet for distinct purposes and messages. The following snapshot of three lettering communities displays how Arabic script continues to operate multi-dimensionally as a visual symbol and how aesthetic differences of shape and form signify distinct communicative and written functions.

#### **ISLAMIC ARTS AND TRADITIONAL CALLIGRAPHY**

My discussions with traditional Islamic calligraphers were centered at the Institute of Traditional Islamic Arts of Al Balqa' Applied University. The Institute maintains an administrative office in Amman and a workshop on the Al Balqa' University campus in Salt, Jordan. My guides to both locations were Muhammad Beheri, the Institute's master calligrapher, and Ramiz Sabbagh, its chief geometer. Our conversations focused on the position of calligraphy

within Islamic art, the teaching of calligraphy at the Institute, and the place of calligraphic tradition within the Institute's curriculum.

When I visited in 2005, the Institute enrolled approximately 50 students in a four-year bachelor's degree program, and faculty members were working toward establishing a master's degree program. In addition to their teaching duties, Institute craftsmen produce commissioned works for both public and private parties. Notable commissions include recreation of the famous Saladin *minbar* for the mosque of Jerusalem, the architectural design of the new King Hussein ben Talal Mosque in Amman, art installations for Dubai hotels, and calligraphic pieces requested by the Jordanian court: "Anything that requires calligraphy, [the court] orders from us" (Beheri 2005: min. 75).

I first learned of the Institute through Ramiz Sabbagh's role preparing these official court certificates. When I contacted the artist and introduced my project, he humbly denied reports that he was a trained in calligraphy. He is, instead, a geometer and artistic designer. Nevertheless, Ramiz was more than willing to discuss his own specialty—sacred geometry—in relation to Islamic calligraphic tradition. He also provided a general overview of the Institute's curriculum, guided me through the administrative offices and the various workshops, and agreed to arrange a meeting with Muhammad Beheri, the Institute's master calligrapher.

Ramiz holds an M.A. from Britain's Royal College of Art program in Visual Islamic and Traditional Arts (VITA). Keith Critchlow, a scholar of Islamic patterns and sacred geometry, established the VITA program in 1984,

with a unique curriculum balancing instruction of artistic skill and study of the symbolic meanings encoded in artistic works. VITA teaches the practice and application of sacred arts as a living continuation of ancient traditions (Male 1990: 11), and Ramiz brings a similar sensibility to the curriculum of the Institute of Traditional Islamic Arts at Al Balqa'. His courses address analysis and application of sacred geometry within the plastic and decorative arts of Islamic tradition.

Islamic geometry allows the preservation of proper proportion across all levels of an artwork, from the smallest detail to the overall aesthetic design. In discussing the importance of geometric proportion for visual and textual design, Ramiz states:

When we talk about proportions, we talk about harmony. ... You know harmony in terms of music, in terms of coloring, but there are also proportions of space. And there is a very, very sensitive relationship that we have, we can govern ourselves with good space and feel very much at ease (Sabbagh 2005: min. 2-3)

From the overall composition to the minutia of layout, "each proportion has a diminishing relationship of the same size" (*ibid.*: min 3). Across a manuscript page, for instance, a consistent geometry applies to the spacing of intertwined motifs, illuminated borders, relations of decoration and text, the number and spacing of lines, justification of text, and the size of individual letters (*ibid.*: min. 13). Similar proportions are repeated at every level, immersing viewers within a symbolic matrix, and reinforcing the communication of the whole.

The proportions of Arabic script offer a base measure with which to construct decorative and ornamental motifs. Repeated proportions reflect a



symbolic understanding, grounded in the words of the holy Qur'an and the Islamic calligraphic tradition:

We always say that calligraphy is the highest art because it is a revealed word. The Qur'an is the word made book, just as Christianity is the word made flesh. By giving it [calligraphy] an art form, it is depicting God's word in the most beautiful form possible (min. 1-2).<sup>3</sup>

The Institute's curriculum remains firmly planted within the Qur'anic model of communication, in which the object of the Qur'an is continually celebrated through visual and plastic manifestations. Arabic script operates as a physical and visual representation of divine revelation, and the geometric reflection of script proportions infuses a design with the rhythm of the Qur'anic message. The entire composition resonates with the Qur'anic word.

Muhammad Ahmad Beheri, the Institute's master calligrapher, echoed Ramiz's sentiment. In calligraphy, Beheri stated, the most significant thing is the message, but this message does not reside in textual content alone (2005: min 31). The significance of a message is displayed by beauty and clarity of design. For this reason, calligraphers usually draw their texts from the Qur'an or the *hadith*, and the goal is a composition both beautiful and legible (*ibid.*: min. 32). Beheri likens the process to fruit sellers marketing their wares. If a merchant does not display the fruit effectively, it will not sell. But if a seller presents fruit in an attractive arrangement, the display will entice customers

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<sup>3</sup> Here we see a parallel with the sacred painting and religious themes of European medieval art, which also sought to depict the word of God (the word made flesh) in the most beautiful form possible.

into purchasing the fruit (*ibid.*: min. 33). Similarly, fine calligraphy makes viewers want to sample its meaning:

In Turkey, most individuals do not know Arabic. But first you attract them by the composition. Then they come to you and say, what is the meaning of this? Viewers are attracted before knowing its meaning. One sees the combination between letters, between white and black. It is beautiful and he was very attracted without knowing its meaning. It makes him curious to know what is the meaning of this (Beheri 2005: min. 35-36).

Calligraphy entices viewers to discover the message it holds. It communicates as an aesthetic image that draws viewers into contact with the text. For this reason, Muhammad especially favors the large decorative *jali* scripts, which are common in architectural inscriptions and large display panels (*ibid.*: min. 30). The placement and function of these scripts insures they will be viewed by wider audiences. *Jali* compositions parallel a grocer's display; they invite viewers to taste the fruits of the Qur'an.

Algerian by birth, Muhammad studied oil painting as a youth and later continued his studies at Mimar Sinan University in Istanbul (*ibid.*: min. 14). Inspired by the traces of Ottoman calligraphy that decorate his adopted city, he altered his artistic focus:

When I went to Turkey, I was impressed by the calligraphy all over the city of Istanbul: in the parks, in the cemeteries, in the mosques. ... When I found calligraphy at the university, I decided to change my specialization (*ibid.*: min. 20).

Muhammad's academic studies culminated in a master's degree in art history from Mimar Sinan University. His Master's thesis explored the life and work of Kamil Akdik (d. 1941), one of the last great Ottoman calligraphers.

However, since the Turkish university system offers only “the modern [academic] certificates” (*ibid.*: min. 21), Muhammad simultaneously pursued a traditional course of calligraphic training. From 1983 to 1992, he studied the craft under master calligrapher Hasan Çelebi (*ibid.*: min. 23). Master Çelebi is one of a select few living calligraphers capable of tracing the genealogy of his teachers through the Ottoman masters Hafiz Osman and Shayk Hamdullah. Hasan Çelebi is therefore a celebrated teacher himself, and he has instructed hundreds of students. But less than fifty of his students have persevered to acquire a traditional *ijaza*.<sup>4</sup>

Muhammad Beheri is one of these fifty. He acquired an *ijaza* in 1992 and describes his nine-year apprenticeship with master Hasan Çelebi as the cornerstone of his chosen craft:

After getting *ijazet*, you can first teach others. And at the same time, you can put your signature under your work. This word is *ketebehu* in Arabic. *Ketebehu* means “it is written by” Beheri. Before you get your *ijazet*, you can write only your name... You cannot write *ketebehu*. But after getting your *ijazet*, you can write *ketebehu* (*ibid.*: min. 22-23).

After obtaining the certificate, Muhammad worked ten years as a “drawing master” and instructor of calligraphy at the Abu Dhabi Cultural Center in the United Arab Emirates. Teaching helped to hone his skills, and Muhammad began to work on commission. In 2002, he submitted a collection of designs to the 5<sup>th</sup> International Calligraphy Competition sponsored by the Research

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<sup>4</sup> The American calligrapher Mohammad Zakariya discusses his apprenticeship with Hasan Çelebi the reception of his *ijaza* in an essay entitled “Becoming a Calligrapher: Memoirs of an American Student of Calligraphy” (2000).

Centre for Islamic History, Art and Culture (IRCICA), and he was awarded second place in both the *thuluth-jali* and *diwani-jali* categories.<sup>5</sup>

Muhammad joined the Institute of Traditional Islamic Arts at Al-Balqa' shortly after the competition and now organizes the calligraphy component of the curriculum. He continues to prefer the decorative *jail* styles for his own compositions, but students must first learn the fundamentals of *al-aqlam al-sittah*. Courses therefore focus on the sister scripts of *naskh* and *thuluth*, which Muhammad describes as "*umm al-khattat*," the mother of calligraphy. These styles display the finest rules of geometric proportion (*al-khatt al-mansub*), and they became the most celebrated scripts of Ottoman tradition.<sup>6</sup> Lessons consist almost exclusively of scribal copying and writing exercises, which reflects the practical focus of the Institute as a whole. According to Ramiz, only twenty percent of instruction is theoretical or informational. The rest consists of applied courses and technical practice, for "it is practice that opens up the awakening" (Sabbagh 2005: min. 20).

Students develop calligraphic skills and cultivate a proper appreciation for the craft over a four-year course of study. During their first term, courses focus on general principles of geometry and design. As part of these exercises, students may opt to incorporate the "architectural" forms of geometric *Kufic*

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<sup>5</sup> Since 1986, IRCICA has sponsored an Arabic calligraphy competition every three years. Individual competitions are named after famous Arabic calligraphers. The 2002 competition was named after Said Ibrahim.

<sup>6</sup> Thomas Milo is currently drafting a treatise on Ottoman calligraphic grammar, in which the extension and precise shape of letters and ligatures were determined by their position within words and phrases (2007).

script as a component of their designs (Sabbagh 2005: min 25; Beheri 2005: min. 3). Students then have a course in *ruq'ah* script the most common form of contemporary penmanship (Beheri 2005: min 3). This helps beautify students' personal handwriting and turns their attention toward the craft and practice of writing. Students begin their writing lessons with manufactured nib pens, and move on to the traditional reed pen only after they have perfected their hand (Sabbagh 2005: min. 24).

By the second year, students have both the proper disposition toward calligraphy and enough familiarity with the traditional reed pen to turn their attention toward the formal *naskh* script, which emphasizes legibility and a consistency of spacing (Beheri 2005: min. 37). They devote themselves to this style the entire year, with a focused course each term. As the primary copyist hand, *naskh* teaches students the "basics of Qu'ranic writing" (Sabbagh 2005: min. 24). Students cultivate the devotional copying of the sacred text in their lessons and graduate from the Institute with calligraphic skills adequate for Qur'anic transcription.

*Naskh's* sister script of *thuluth* is more decorative. It functions primarily as a display script for intertextual headings and display panels. Within the Ottoman tradition that Beheri continues, it is also the most refined calligraphic style. Ramiz describes *thuluth* as "the highest form of scripting with a pen" (2005: min. 24). This status arises not only from the subtlety of its proportions, but also the symbolic value of those proportions within the larger patterns of Islamic art. The proportions of *thuluth* accentuate the proportions of nature

and resonate with the architectural proportions of mosques. For example, the height of an *alif* in *thuluth* measures seven *nokte* tall. Muhammad and Ramiz both likened this measure to proportions of the human body, where average height is proportional to seven times the measure one's head (Beheri 2005: min. 69; Sabbagh 2005: min. 11). Moreover, the letters of *thuluth* also resemble humanity in their form and movement:

*Alif* is also perfect balance, slightly tilted forward but it is like man in the sense that he is in balance when he stands up on his own feet. The *alif* also tapers. The *alif* is also associated with the verticality of the connection between heaven and earth. That is why it is descending as a stroke. And the next thing is the *ba*, which is a horizontal. So it is like a weave in itself. Basically, Arabic calligraphy depends on the vertical, the horizontal, and the cyclical. ... It is nothing but the eternal weave of God (Sabbagh 2005: min. 11-12).<sup>7</sup>

The resonances linking writing, architecture, movement, and nature reinforce a consistent spiritual message. The symbolic geometries of *thuluth* reflect both humanity and a divine plan, as well as the sacred text which connects the two realms.

Students focus on *thuluth* during their third year, learning its symbolic importance alongside its proper execution. They have one course each term: the first teaches the proportions of each letter, and the second integrates those proportions within the overall design of documents and display panels. Later, students may apply what they have learned to other calligraphic styles, such as the complex Ottoman *diwani*. But Muhammad reiterates that only the *umm*

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<sup>7</sup> Titus Burckhardt also employs the metaphor of weaving to describe the interaction of vertical and horizontal components of Arabic calligraphy (1976: 47).

*al-khattat* solidify the importance of proper calligraphic proportion. Although *diwani* is highly praised as a complex aesthetic style, it is also less controlled. In *diwani*, the *shekl*, or shape, of a composition often trumps the size, relation and placement of individual letters (Beheri 2005: min. 6). The proportional scripts of *naskh* and *thuluth*, in contrast, formalize both the *shekl* and the *nisb* (proportional measurement) of writing. This combination balances the scripts aesthetically and locates them within a matrix of symbolic meaning.

Having acquired a basis in the general principles of calligraphy and Islamic design, Institute students choose a specialization during their fourth and final year of study. Students who decide to pursue a calligraphic focus spend the final year designing and drafting a decorative *lewha* display panel, which often combines *thuluth* headings, *naskh* passages, and illuminated and decorative blocks. Proper proportional relationships are reflected throughout the piece, integrating visual and textual message components. These displays serve as capstone projects for Institute students, but they are still far from *ijaza* quality. Students wishing to pursue the traditional certificate will apprentice themselves to a master scribe and dedicate an additional five to ten years of intensive study (Sabbagh 2005: min. 21).

As an example of a possible capstone project, Ramiz shared a certificate drafted for Queen Rania of Jordan. The certificate contained both Arabic and Latin text surrounded by a beautiful illuminated border of gold leaf and rich pigments. The entire composition was hand crafted, and it displayed a careful relation of proportion across its scripts, borders, and overall design. Although

Ramiz was pleased with the certificate, he expressed slight disappointment at with the decorative corner pieces. In the corners, the geometric designs of two illuminated blocks met at right angles. The convergence of blocks was woven into fine spires, and Ramiz noted that proportions of the spires were slightly elongated. Since the certificate was designed to fill a standardized sheet of A4 paper, I inquired if this fault was due to the size of the paper rather than the craftsmanship. The elongation, I suggested, might have resulted from a desire to balance the traditional form with the space of this modern page. But Ramiz humbly replied that the measures of A4 follow the Silver Ratio, which is itself a natural proportion.<sup>8</sup> The decoration, he suggested, should have highlighted this already present quality rather than departing from it.

Throughout the course of my discussions with Ramiz and Muhammad, I was similarly struck by the contagious possibility that there may indeed be much more to our world, much deeper levels of significance, than I commonly appreciate. Could I also interact and communicate with the environment in a much more engaged way, if I was only aware of proportional relations and their symbolic significance? According to Ramiz, relational correspondences transect all levels of reality from “the macrocosm down to the microcosm” (2005: min. 3), and both teachers noted the loss of proportional awareness as a primary failing of the modern world. Although our texts now possess a higher technological standard of document production with machines, Ramiz noted,

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<sup>8</sup> The Silver Ratio is a mathematical constant formed by the sum of 1 and the square root of 2. Its name is an allusion to the Golden Ratio, which derives from the limiting ratio of consecutive Fibonacci numbers. The Silver Ratio, in contrast, is the limiting ratio of consecutive Pell numbers.



older texts are products of much more than just machinic technology. They also contain a spiritual technology (*ibid.*: min. 48).

This spirit is communicated via the sense of proportion that organizes the text. It arises from the geometric relations between textual blocks, borders, and surrounding illumination, as well as the spacing of lines and words:

Manuscripts often have an odd number of lines—seven, nine, eleven. But now they go against that and have twenty. But the odd numbers are more powerful because of their association with 1 (unity) and the number of *nokte* which create the *alif*. This is not to say God is odd, but he is unique (Sabbagh 2005: min. 12-13).

Printed Qur'ans, in contrast, display a lack of balanced proportion. They often present an even number of lines and the number of lines bears little relation to the size of their script. The visual space is technologically standardized rather than proportionally constructed, and Ramiz specifically dislikes the “visual cohesion” of the modern printed page (2005: min. 60).

Similarly, Beheri noted how the increased availability of printed texts diminishes the spiritual presence of the visual Qur'an. Manuscript Qur'ans were much larger and grander than print editions, which reflects the power and monumental status of the text (Beheri 2005: min. 39). But now, anyone may own a printed copy of the Qur'an, and the appearance of the sacred text resembles any other book (Beheri 2005: min. 40). Although these changes in size and visual cohesion provide certain advantages in terms of distribution, they also alter the way the text communicates. The increased availability and dissemination of a text—two key traits of print culture—do not necessarily increase the mystery and power of writing. Beheri laments that print Qur'ans

do not make people curious in the same way as a calligraphic manuscript (*ibid.*: min. 43). Although the textual fruit may be just as delicious, it is no longer properly displayed.

## GRAPHIC DESIGN AND MODERN FONTS

Like traditional calligraphers, graphic designers are concerned with the proper display of their textual fruits. But instead of celebrating the universal message of a spiritual technology, their letters are local and project specific. Designers strive to clothe each message in a fashion suitable to the specific textual role it fulfills and the needs of a particular client. As a result, letters become flexible. Their shapes alter in response to function and textual status. Letters may clearly display informational content. Or they may occupy a subservient role within the visual design of a company logo. The needs and look of the textual product are primary, and letters help brand that product.

I met and interviewed two members of the Jordanian graphic design community: Ahmad Humeid, C.E.O. of the Amman-based design firm Syntax Digital, and Zuhair Abu-Sayyef, the in-house letter designer for Al-Faris Publishing and Distribution. Of the two, I first met with Ahmad, and he was eager to speak of everything from the history of Arabic print to the urban landscape of Amman. He described Syntax Digital as a strategic design and corporate branding firm. The firm holds a reputation of “intellectual design” within the Arabic market (Humeid 2005a: min 74), and Syntax philosophy approaches design as a conceptual undertaking. Documents are designed

according to the specific role they play within a larger information ecosystem, and strategic thinking precedes the application of color, form, or font (Humeid 2005a: min. 74). A corporate web portal, for example, fulfills a different role than a corporate newsletter or letterhead. A common logo or corporate mark may occur within all these texts, but it will appear slightly differently and it will be surrounded by different information in each setting. This emphasizes “the function of design, not just the aesthetic questions” (*ibid.*: min 2), or as stated in Syntax Digital’s brochure: “Before looking cool, design has to serve a clear purpose.”

Considerations of visual consistency and corporate identity occupy an essential step in the Syntax design process. This process addresses the key “steps before advertising” (Humeid 2005a: min. 3-4), and the firm specializes in large-scale strategies of corporate and information branding. Syntax clients have included the *Jordan Times* newspaper, the offices of H.R.H. Queen Rania of Jordan, the German Embassy in Jordan, the Jordanian Children’s Museum, Fastlink (Jordan’s largest mobile telephone provider), and the Khalid Shoman Art Foundation. For each client, a variety of public, economic, informational, and company encounters occur through textual channels, both on and offline. Syntax Digital strives to “provide each group of multiple users with a site [and texts] that can answer their needs” (Humeid 2005b: min. 12).

Ahmad attributes the Syntax conceptual approach to his architectural training, for which he received a degree in architecture from the University of Jordan. Architecture offers an “intellectual approach to design,” where the

concern with space and movement contrasts sharply with the aesthetic and marketing questions emphasized in the training of graphic or commercial artists (Humeid 2005a: min.1). In our conversations, Ahmad frequently employed the metaphors of architecture to discuss information and textual experiences:

People think of graphic design as designing a page, or designing a logo: always two-dimensional, flat, a one-off thing. But in architecture, you talk about experience, either physical use and experience or digital use and experience.

It is also a question of functions and types of users. There is a tension between a type of functionality and the types of users. A journalist coming to a website is different than a customer coming to a website. So what are the different paths one may follow? (Humeid 2005a: min. 101-103).

Ahmad imagines how readers will move through and utilize textual products. The appearance and design of texts benefit their functionality, and this applies to both digital environments and static texts. Although graphic designers can be extremely creative in the layout of periodicals, most printed newspapers reproduce a familiar structure of eight textual columns (Humeid 2005b: min. 10). Familiar structures and forms help readers locate the specific information they seek. “The same goes for a book. The physical shape of a book aids its navigation” (Humeid 2005a: min. 99).

Ahmad has long maintained an interest at the intersection of textual design and new technology (Humeid 2005a: min. 1; AbiFarès 2001: 209). He started his first design studio while still in college, and he co-founded Arabia Online, one of first internet portals in the Arab world, during the 1990’s. He also served as creative director for *BYTE: MIDDLE EAST*, the regional edition of

an American computing magazine. It was in this context that Ahmad began to experiment with the design of Arabic letters. When *BYTE* underwent a facelift in 1996, the American editors sought to offer a more contemporary appearance. The new English masthead adopted a sleek sans serif font, and Ahmad wanted an Arabic logo that resembled this new design. The result was the *Ahmad* Arabic font, which resembles the visual structure of the sans serif Latin font Helvetica Narrow (Figure 6.1).

The *Ahmad* font spread quickly, and it is now one of the most common of modern Arabic fonts. But piracy played a significant role in the distribution process, and Ahmad received very little compensation for the success of his design. Ahmad offers his reasons for designing the *Ahmad* font and his lack of compensation as two sides of the same dilemma. The library of Arabic fonts is very poor. But due to high rates of piracy, it remains difficult to make money from font design (Humeid 2005a: min. 17-18). The result is a limited design of specialty letters, which are rarely distributed as robust fonts for general use. Instead, fonts arise in response to specific company needs or the desire for a unique visual identity.

A company in the Arab world that wants to give itself its own identity sometimes invests in its own in-house fonts. And that is what we did with *BYTE*. We wanted a sans serif look.

This is a whole issue in Arabic and English. There is no sans serif in Arabic. ... So when we talk about an Arabic sans serif font we are not talking about the distinction between serif and sans serif in the Western languages.

When you use Helvetica for a classic sans serif font, to match it visually with something in Arabic, you have a range of choices. You can go with a *Kufic* script, but *Kufic* can be very ornamented

# ثورة المعلومات والنقنية الرقمية

لقد ان الوان للخروج عن المحددات التقليدية  
للخط العربي واقنطام افاق جديدة لمواكبة  
ثورة المعلومات والنشر الإلكتروني

# ثورة المعلومات والنقنية الرقمية

Letters of Helvetica: u j l 9 0

**Figure 6.1: The Ahmad Typeface.** Ahmad Humeid developed this font in 1996-1997. The Arabic letters are shaped to resemble the forms of the Latin font Helvetica Narrow. Selected letters of Helvetica are shown for comparison. The *Ahmad* typeface is reproduced with permission from Ahmad Humeid.

or very abstract. Or you can go with what we call in Arabic the modern fonts. These are any fonts that are created that do not match the traditional classification. ... They are not based on any [calligraphic] tradition. They are either completely new fonts, or, what I did with *Ahmad*, based on something Latin. It was based on a version of Helvetica Narrow (Humeid 2005a: min. 19-21).

In designing his font, Ahmad pursued a common strategy to increase the possibilities of Arabic type. Arabic letter designers often alter, repurpose, or dissect the forms of Latin letters: "Sometimes you rotate and take certain pieces, sometimes you redraw" (Humeid 2005a: min. 17). The dissected parts are then utilized to build Arabic forms. The letter "m," for example, might be rotated to resemble the teeth of the Arabic letter *sin* (س), or the letter "g" may substitute for the Arabic letter *waw* (و) (See Figure 6.2). Borrowing from Latin font styles increases the variety of Arabic forms while preserving the visual consistency of a font family. Arabic letters built from the glyphs of Helvetica, for example, reflect the proportions and shared weights and of their base font.

Ahmad pursued this strategy in the design of the *Ahmad* typeface. He sought to recreate the visual impact of the new sans serif *BYTE* logo in Arabic letters. Beginning with Helvetica Narrow, he broke apart, manipulated, and rotated characters in Adobe Illustrator. Elements of these characters were pieced together as the Arabic logo, and the completed logo was saved as a single image. When Ahmad later decided to develop these forms as a fully functional font, he mapped specific images to keystrokes. He created a full set of Arabic glyphs and programmed rules of word position to assure that typing

**Figure 6.2: Arabic Letters from Latin Forms.** The top line displays the Arabic word *risala* (written message) as depicted by the Geeza Pro Arabic font. The second line mimics this word with forms derived from the Latin font Helvetica. From right to left, the bottom word is constructed from the tail of a lowercase **g** (for *ra*), an upside down lowercase **m** (for *sin*), a capital **L** (for *alif*), the mirror-image of a capital **L** (for *lam*), and the loop of a lowercase **a** topped with two periods (for the *ta'marbuta*).



produces the proper ligatures. The result was a font of three weights: light, bold, and heavy (See Figure 6.1).

However, not all letter designers take the extra steps required to make working fonts. Zuhair Abu-Shayeb is an in-house graphic designer for Al-Faris Publishing and Distribution in Amman directed by Maher Kayyali. He studied literature and *tasmin* (design) at Jordan's Yarmouk University, and he has now worked at Al-Faris for over seventeen years (Abu-Shayeb 2005: min. 2-3). His production roles include the composition of book jackets, covers, and advertisements, and the design of text plays a large part in the process. The title of each publication and, sometimes, the names of authors are designed as a unique logogram. The display of this logogram on a book's advertisements and cover brands the text with a unique visual identity. This logographic *imagetext* of the title may be accompanied by a photo or graphic image, as is common with Western book designs, or it may appear as the sole image on a field of color.

During his career, Zuhair has designed over 25 new styles of lettering (min. 8). Although his letters are reusable, they are not working fonts: "We [Al-Faris] do not have the programs to make fonts" (*ibid.*: min. 9). Zuhair's designs are digital images of Arabic letters. Unlike fonts, they cannot be typed via a keyboard or swapped from one font to another. More importantly, the computer does not "read" these letters as blocks of inputted text:

My new types are not computerized [fonts]. I use my styles for covers. Inside, the contents of the books are other, computerized fonts. The contents need [computerized] type, but here [on the cover], I don't need type. The cover is printed as one image.

To design the cover image, I make some idea about the book and choose a suitable idea for the book. The cover is made in many layers and then flattened at the end. Everything [every letter] begins as its own layer (Abu-Shayeb 2005: min. 37-40).

Zuhair's designs are a hybrid of image and text. He often begins with hand-drawn letters, which he scans using Adobe Photoshop. He then cleans his scans and, if necessary, manipulates or resizes the images of individual letters. In order to "write" a text, the image files of individual letters are copied and pasted in sequence, properly ligatured, and standardized for spacing (*ibid.*: min. 8-10). Finally, the various letters of a composition are flattened and saved as an integrated image

Like Ahmad, Zuhair classifies his *imagetexts* as modern styles of Arabic lettering. The letters may not be digital fonts like the *Ahmad* typeface, but they are "made to be computerized" (*ibid.*: min. 34). And their forms do not follow traditional scribal classification. Nevertheless, Zuhair claims that the distance separating these modern "computerized" letters and classic calligraphic letters is no greater than the distance separating distinct calligraphic styles: "There is a difference between the new shapes and classic shapes. But this is the same as the difference between the shape of one classical style and the shape of another classical style" (*ibid.*: min. 33). Both traditional and modern styles display the letters of a shared alphabet. The multiple scripts of traditional calligraphy vary widely, and modern letters may reflect Arabic calligraphic styles, or they may strike off in an entirely new direction. Similarly, the appearance of traditional scripts may more closely resemble a modern design than another handwritten or calligraphic style.

Lettering styles are distinguished by aesthetic and formal differences: the shapes of the letters, the weight of the strokes, the roundedness of corners, etc. And just as aesthetic differences separate styles, the letters within a style are united through aesthetic similarity. Alphabets contain a series of distinct forms, which become visually unified in a consistent style of lettering. This applies to both traditional and modern styles, whether they are hand-drawn marks, functional digital fonts, or collections of digital images. Font design gathers letters “under one visual system, in order to collectively present a coherent image” (AbiFarès 2001: 180). A visual rhythm arises through the harmonious interaction of letterforms, the ordered recurrence of curves and shapes, and the movement created by the strokes of letters (*ibid.*).<sup>9</sup>

In the multi-lingual and multi-alphabetic business environment of the Middle East, the preservation of visual consistency poses an additional set of design problems. New letter designs are often created in specific response to Latin forms. This is especially common in the design of company logos, which seek to address readers of both Arabic and Latin alphabets:

A logo needs to have a certain visual impact. You no longer read the logo; you take in the whole word as one visual entity. ... In a bilingual society, you want this impact for more than one group in society. But you don't want to sacrifice the visual consistency of a logo. [So you] use the same geometric language to construct both the Arabic and English logos. ... You are looking for a certain shape, a visual recognizability of a logo and not just in the language (Humeid 2005b: min. 2-4).

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<sup>9</sup> See Geert Nordzij's book *The Stroke Theory of Writing* (2005) for a philosophical examination of written form as the representation of movement.

Ahmad Humeid designed the *Ahmad* typeface to resemble the redesigned logo of *BYTE* magazine, and he therefore began with Helvetica Narrow, a sans serif Latin typeface. Other logos, such as those of the Giorgio Armani and Cosmo companies, rotate and redeploy identical letters and shapes in both their Latin and Arabic logos (Figure 6.3). The goal is an iconic visual consistency, which transcends local sites, linguistic difference, and multiple audiences.

Increasingly, modern Arabic fonts are novel forms developed by Arabic letter designers. But in order to function within a global information society, Arabic designs require compatibility with Latin forms. Latin and Arabic fonts often need to coexist within a single document, but font sizes do not transcend alphabetic differences. Latin letters appear much larger than Arabic script of the same point size. If the two scripts are to balance visually and textually, designers “need to go to each word in the text and take it down manually so it is not an eyesore” (Humeid 2005a: min. 42).<sup>10</sup> This is tedious work, and risks “forcing a clear, aesthetic quality of a certain typeface on a different language” (*ibid.*: min. 22). Another persistent issue is the multiple computer codings for Arabic type. Font codings differ, for instance, across Microsoft and Macintosh platforms, and translation from one coding to another often turns a coherent block of text into a collection of random characters or wingdings (Humeid 2005b: min. 32). The promise of Unicode offers a potential solution to this

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<sup>10</sup> In 2007, the Khatt Network for Arabic Typography responded to these issues by sponsoring a typographic matchmaking project, which designed Arabic companion fonts for five Latin typefaces. The companion fonts shared visual consistency and font sizes across languages. Extended discussion of the project design process are contained in edited volume *Typographic Matchmaking* (AbiFarès 2007).



GIORGIO ARMANI



**Figure 6.3: Arabic and Latin Logos.** The Arabic and Latin logos of Giorgio Armani and Cosmo. The Arabic Armani logo deploys a serif letter J as the Arabic letter *ra* and uses a serif I for many letter stems. The “serif” Arabic letters reflect the strong serif typeface of the Latin Armani logo. For the Cosmo logo, both rounded and straight components are shared across the Arabic and Latin designs. Photographs reproduced with permission from the collection of Ahmad Humeid.

technical dilemma, but the challenges facing Arabic graphic design are not limited by difficulties of technology.<sup>11</sup>

The largest problem, according to Ahmad, rests with Arabic popular opinion, which holds little appreciation for graphic and typographic design as an independent craft and discipline (Humeid 2005a: min. 33). The popular assumption holds that modern letter design continues to dwell in the shadow of traditional calligraphic aesthetics. Within the graphic design community, however, “those who believe that [Arabic] typography should strictly adhere to calligraphy are in the minority” (Tayler and Sakkal 2004). Designers such as Zuhair deliberately distance their computerized images from calligraphic art: “We cannot computerize the classical styles, because there are no specific spaces to computerize them” (Abu-Shayeb 2005: min. 34). Calligraphic form builds outward from the *nokte* to the letter to the line, but computerized forms are formed on a pixelated grid of the screen. These new Arabic letters respond to the technologies of print and digital display for which they are designed. Unlike calligraphy, which draws its proportions from the relations of *nokte* and the letter *alif*, Arabic typography typically begins by balancing the visual consistency of three letters: *alif*, *ayn*, and *sin* (AbiFarès 2001: 183). Typography

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<sup>11</sup> Unicode is a coding system that assigns a unique value to every character in most of the writing systems of the world in order that the appearance of digital text may be preserved across sites. For a concise introduction to Unicode, see “Unicode, from text to type” (2002) by John Hudson. Hudson’s article is part of *Language, Culture, Type: International Type Design in the Age of Unicode* (2002), an edited volume that examines the influence of Unicode on international and non-Latin type design. The volume contains a number of essays exploring the specifics of type design for a variety of scripts, including Thomas Milo’s examination of “Arabic Script and Typography.”

constructs proportions across multiple letters, rather than building outward from a primary *nokte*.

When asked about the connection between Arabic typography and the calligraphic tradition, Ahmad responded (2005a: min. 50-52):

I would emphasize the disconnection rather than connection. So many people emphasize the connection and sometimes too much effort is put into software and tools to make Arabic fonts that mimic calligraphy.

We should not waste time trying to recreate the past in digital typography. We need to have Arabic fonts that are high quality. We need to think about the sophistication of the printed page compared to the simplicity of older documents. ... We need to think of typography in a new way.

Arabic typography and graphic design display the textual products of Arabic modernity, including mass-produced publications, advertisements, corporate logos, and websites. Modern styles do not replace classical styles; they appear in different venues and fulfill different roles. Arabic calligraphy continues to reinforce the symbolic and spiritual meaning of Arabic script; modern designs circulate as part of a global information economy. Modern texts often display bi-alphabetic texts, and letter designers must respond to the global dominance of Latin script. The work of modern Arabic letter design rests between these two poles: "I am equally against copying from the past and copying from the West. Why can't we invent our own modernity?" (Humeid 2005a: min. 96).

#### CONTEMPORARY ART AND CALLIGRAPHIC EXPERIMENTATION

Another key site for the invention of Arabic modernity is the world of contemporary Arabic art. Artist experiences transform letters into new forms,

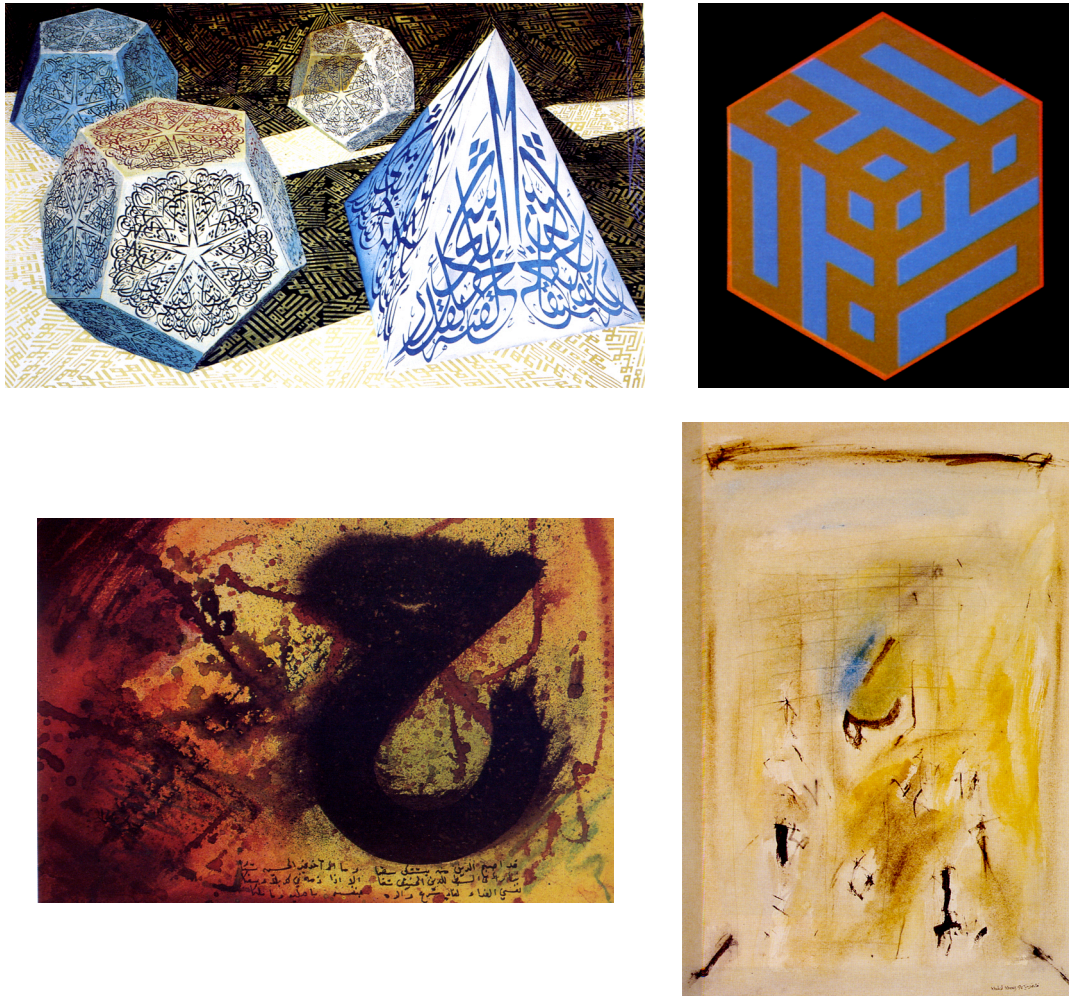
new images, new performances, and new vistas. Contemporary art displays aesthetic responses to the modern and postmodern condition. Often, these artistic compositions operate as aesthetic and visual critiques, inviting viewers to enter into dialogue with their multiple meanings and messages.<sup>12</sup> Arabic letters enter these discussions as a rich visual symbol. They carry the religious implications of Islamic tradition as well as the ethnic, linguistic, and national connotations of a modern global language. Working within and across these multiple meanings, artists began to interrogate Arabic script in relation to both religious and national tradition.

Whereas graphic designers create letters suitable for printed or digital texts, contemporary calligraphic artists insert Arabic letters into a circuit of global art markets, galleries, and museums. Contemporary calligraphic art celebrates the visual display of the letter (Figure 6.4). But unlike traditional calligraphy, these new artistic expressions arise as individual expressions and creations rather than a repetition of the Qur'an message (Shabout 1999: 104-105). Whereas traditional calligraphic aesthetics were formed in relation to a religious ideal, modern Arab aesthetics respond to the art markets and global flows of a contemporary secularized world (*ibid.*: 97-98). Like the structures of modern national and textual authority, modern aesthetics arise from roots in Western, not Islamic traditions. Contemporary calligraphic artists often study

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<sup>12</sup> The presentation of contemporary art is indebted to the mentorship of Bennetta Jules-Rosette, who taught me how to locate hidden messages in visual art and decipher them as a semiotic modeling system. For a focused analysis exploring contemporary calligraphic art as a modeling system for modernity and ethnographic encounter, see the essay "Writing the Self in the Painting of Letters: The School of Khartoum and Contemporary Calligraphic Art" (Osborn 2006b).





**Figure 6.4: Four Examples of Contemporary Arabic Calligraphic Art.** Clockwise from upper left: *Still Life with Qur'anic Solids* by Ahmad Moustafa (1987), *Huwa* by Kamal Boullata (1988), an untitled piece by Khaled Kreis (1992), and *Karbala'* by Wijdan (1992). All images reproduced from *Modern Islamic Art: Development and Continuity* (Ali 1997).

in European and American art schools or in modern Arab institutions founded on a Western model.<sup>13</sup>

In Western academic circles, perhaps the best-known commentator of contemporary Arabic calligraphic art is Dr. Wijdan Ali. A practicing artist and a member of the Jordanian royal family, Dr. Ali was the recipient of the first Ph.D. in Islamic Art granted by the School of Oriental and African Studies in London. Her 1997 book *Modern Islamic Art: Development and Continuity* labels the aesthetic interrogation of Arabic letters in modern circles as the “School of Calligraphic Art.” She consciously chose this name to differentiate the modern school from both “the art of Arabic calligraphy” (traditional styles) and the common term *Hurufiyah*, which she translates literally as “letterism” (Ali 1997: 151). Newspaper critics originally employed the term “*Hurufiyah*” to describe popular artists who use Arabic letters in their work, and critic Shirbil Dagher later elaborated the concept as a category of modern Arabic art. For Dagher, the term signals a break with calligraphic history. For Wijdan, however, the School of Calligraphic Art remains firmly rooted in calligraphic and Islamic tradition.<sup>14</sup>

The foundation of the calligraphic movement in modern Islamic art is the traditional Islamic art of calligraphy. It was the central nature of calligraphy as a medium of Islamic art and aesthetics that led Muslim artists to return to the Arabic alphabet in a search for artistic identity (Ali 1997: 151; *c.f.* Ali 2005: min. 2).

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<sup>13</sup> Nada Shabout’s dissertation “Modern Art and the Metamorphosis of the Arabic Letter” (1999) presents a wonderful and detailed account of the significance of the Arabic letter in contemporary Arabic art.

<sup>14</sup> For discussion of the debate between Dagher and Ali on what to label the new calligraphic movement, see Shabout (1999: 164-182).

Dr. Ali's book concludes with an examination of various subdivisions, themes, and styles of the contemporary calligraphic art movement (1997: 150-175), as well as biographies of key movement artists. During her research, she began to collect significant pieces, and in 1980, she helped found the Jordan National Gallery of Fine Arts. One of the Gallery's primary foci remains the collection, preservation, and display of contemporary calligraphic art.

Dr. Khaled Kreis is the Jordanian National Gallery's current director of operations, and like Dr. Ali, he has foreign artistic training. His artistic studies took him to Egypt, Italy, and Spain, and included both applied and theoretical courses in painting, sculpture, lithography, and aesthetics. In 1993, Dr. Kreis received a Ph.D. in Art History from the University of Barcelona for "The Role of the Arabic Letter in Modern Art." Dr. Kreis' dissertation is organized in three parts: (1) a discussion of the origins of Arabic writing and calligraphy; (2) an examination of traditional uses for Arabic calligraphy; and (3) the uses of calligraphy by contemporary Arabic artists (Kreis 2005: min 5). It explores the aesthetic use of Arabic letters in relation to both calligraphic tradition and the major movements of contemporary art.

According to Dr. Kreis, the major distinction between contemporary art and calligraphy resides in the act of composition. Traditional calligraphers skillfully apply classic styles as decorative devices, but they rarely engage in the formation of novel forms. Artists trained in modern methods, in contrast, explore the letter through processes of abstraction and aesthetic manipulation.

Artists can use calligraphy but not in the traditional way. Some artists, they bring styles or patterns, and they put it in a different

space, a space not belonging to calligraphy. And you feel this is a strange element in the space. ... When you see calligraphy done by oil colors, this is not the calligraphy done by ink (Kreis 2005: min 3).

The techniques employed by contemporary calligraphic artists draw upon the tradition of Western painting and aesthetics. Artists such as Matisse, Klee, and Miró experimented with simplification of the letter as line and form in their art, and the work of Arabic artists often reference these earlier artistic experiments (*ibid.*: min. 12; Wijdan 1997: 196). Artists play with both the form and meanings of letters to provide new visions of calligraphy and art.

According to Dr. Kreis, the artistic exploration of letters is “the use of line, of rhythm, of form” (*ibid.*: min 13), and he favors contemporary artists who divorce Arabic letters from an allegiance to classic form (*ibid.*: min. 4-6). But the transition from calligraphy to contemporary art is not a simple shift from classical forms to abstract pieces. Nor is it the relocation of aesthetic pieces from Islamic sites to modern museums and galleries. Contemporary artistic practice is as specialized a craft as traditional calligraphy:

Some calligraphers, they start painting ... but they don't know about colors, about painting. ... So we have bad examples from each part: from calligraphers who start painting and from painters who want to be calligraphers (*ibid.*: min. 11-12).

Contemporary artists find inspiration in the beauty, proportions, and optical effects of traditional calligraphic pieces. But they rarely master the classical scripts and most do not acquire *ijazet* certificates of calligraphic proficiency. Calligraphers, similarly, are seldom familiar with modern techniques of plastic and graphic arts (*ibid.*: 20). Although calligraphers master the careful

proportions and styles suitable to the reproduction of spiritual messages, they do not acquire the skills to visually interrogate the aesthetics and display of those messages. For this reason, Khaled prefers to leave “the development of calligraphy to calligraphers” and the development of art to the artists (*ibid.*: min. 2, min. 11).

At Dr. Kreis’ suggestion, I met and interviewed two Jordanian artists whose works form part of the National Gallery’s collection: Mahmud Taha and Yassar Dweik. The two close friends share parallel artistic histories. Both were born in Palestine and later settled in Jordan. Both attended the Baghdad Academy of Fine Arts, and both studied with master calligrapher Muhammad Hashim al-Bagdadi in Iraq. al-Bagdadi held an *ijaza* certificate and was firmly situated within the genealogical chain of Islamic calligraphers. But unlike the calligraphic traditionalism of Turkey (and the artistic trajectory of Muhammad Beheri), the Iraqi context and the Baghdad Academy of Fine Arts were open to calligraphic experimentation. As students of al-Bagdadi, both Mahmud and Yassar incorporated calligraphy into their works, although neither specialized in calligraphic art. In 1968, Mahmud graduated with a degree in ceramics, and Yassar graduated with a degree in painting the same year. Their parallel trajectories continued after graduation as both artists obtained scholarships to study fine art in England.

Of the two, Mahmud Taha pursued calligraphy much more rigorously. He began to study the craft in elementary school and dedicated extra sessions to its mastery in Baghdad. After completing a formal day of coursework at

the Academy of Fine Arts, he would practice calligraphy with al-Baghdadi in the afternoons and evenings. He later traveled in Turkey and Iran to study with other scribes and master calligraphers (Taha 2005: min. 1-2). In 1996, Mahmud was invited to San José State University as an Artist in Residence and taught courses in Arabic calligraphy and ceramics, his formal specialty. Although Mahmud did not mention the completion of an *ijaza*, his skill supported him as a freelance calligrapher for twenty-five years (*ibid.*: 30-31). During this time, he composed calligraphy for newspaper headlines, book covers, business cards, greeting cards, and commissioned display pieces.

But Mahmud has now retired from calligraphic compositions on paper. Calligraphy is time-intensive (*ibid.*: min 3.), and Mahmud's passion lies with murals and ceramics. The applications of traditional calligraphy do not offer the degree of expression Mahmud wishes to explore with the plastic arts:

I imagine. I do my thing. If you do not like it, leave it. This is the philosophy in my [art] work here. But if somebody asks you to do calligraphy for a graphic or a card for them, they have to ask you to do that and that and that. But in art, they haven't the right to ask this. Because the art is for me, not for them (*ibid.*: min. 56-57).

Mahmud continues to utilize Arabic letters as formal pieces in his sculptures and murals. They operate as decorative motifs and visual signs, much as they did in traditional ceramic works. Relating his artistic work with calligraphic tradition, Mahmud notes that, technically, his pieces are not unlike the work of earlier artists who employed calligraphic decoration: "The original Islamic artists did this" (*ibid.*: min. 2).

Where Mahmud diverges from his predecessors rests with the aesthetic role of the letter and the form of his designs. Artistic display of letters need not represent a meaningful written message. Historically, the decorative and architectural inscriptions of Islamic art were more frequently observed than read, and the written messages on surviving pieces may even be linguistically incorrect (Welch 1979: 38; Leaman 2004: 37). Mahmud consciously plays with calligraphic elements in their aesthetic rather than linguistic role:

I use calligraphy in the design as free elements on vases or dishes or murals. Sometimes I use the calligraphy to write something. You can read it. But sometimes you can't read it. It's just lettering. As a form. ... You can use any letters that are suitable for your design. Sometimes the lettering doesn't mean anything, doesn't say anything. (Taha 2005: min. 7-9)

Nevertheless, Mahmud does not agree that free use of Arabic lettering should allow the shapes of the letters themselves to vary. He dislikes the calligraphic "handwriting" of Arab artists not formally trained the craft (*ibid.*: min. 10, min. 28-29), and he is not overly fond of written abstraction (*ibid.*: min. 20).

Instead, Mahmud employs calligraphic tradition as a trained skill.<sup>15</sup> He utilizes the letters of the Arabic alphabet for compositional and dimensional relief, and he carefully follows a limited set of traditional styles (Figure 6.5):

In my designs, I use two kinds of calligraphy. One of them is the *Kufic*, the early *Kufic*. It is very good for designing and for the

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<sup>15</sup> Mahmud Taha holds a strong allegiance to calligraphy as a trained craft, and directs a scathing indictment toward contemporary artists without formal aesthetic training: "There are many, hundreds of artists, they don't study art. ... And after many years, they become famous artists. But they can't draw anything. This is the danger of the modern art. Many artists, we read about them every day, they can't draw. They can't do anything. Really, they are not on the side of the art. They are just coming in the window" (2005: min. 44).



**Figure 6.5: *Four Walls* by Mahmud Taha.** Four ceramic pieces which incorporate *thuluth* or old *Kufic* script from Mahmud Taha's exhibit *Four Walls*. Images reproduced with permission of the artist.



plastic arts. And *thuluth*. You can do many things in *thuluth*, it can compose many things (*ibid.*: min. 9-10).

When asked why he stays within traditional styles, Mahmud responds that it is a question of craft. Like music, calligraphy requires daily practice (*ibid.*: min. 2, min. 49). If a musician does not practice, he or she cannot play well. But even a great musician may not be able to compose music (*ibid.*: min. 50). Musical composition is a distinct craft. Likewise, Mahmud sees calligraphy as an applied craft rather than fine art (*ibid.*: min. 43). He honed his calligraphic skills as an artistic instrument, and he only employs a limited set of traditional forms. Like many calligraphers, Mahmud is trained to “play” the traditional forms, but his artistic passion rests with composition: “In the composing of art, I’m using *Kufic* and *thuluth* [styles]. It is the most suitable for designing the picture” (*ibid.*: 15). The most suitable for composing visual music.

Unlike the compositions of his close friend, the calligraphic elements of Yassar Dweik’s work are less traditional. Yassar also studied calligraphy with al-Baghdadi, but he did not dedicate himself to mastering the craft. His focus at the Baghdad Academy of Fine Arts was mural painting, and he continued to study graphic art at Brighton Polytechnic University, where he graduated with a Certificate of Distinction in 1973. Since then, his work has focused on oil painting, engraving, and printmaking. When we met in 2005, Mr. Dweik was the head of the Graphic and Printmaking section of the Department of Visual Arts at the University of Jordan. Currently, he is Acting Chair of the Department, a role previously filled by Dr. Wijdan Ali.

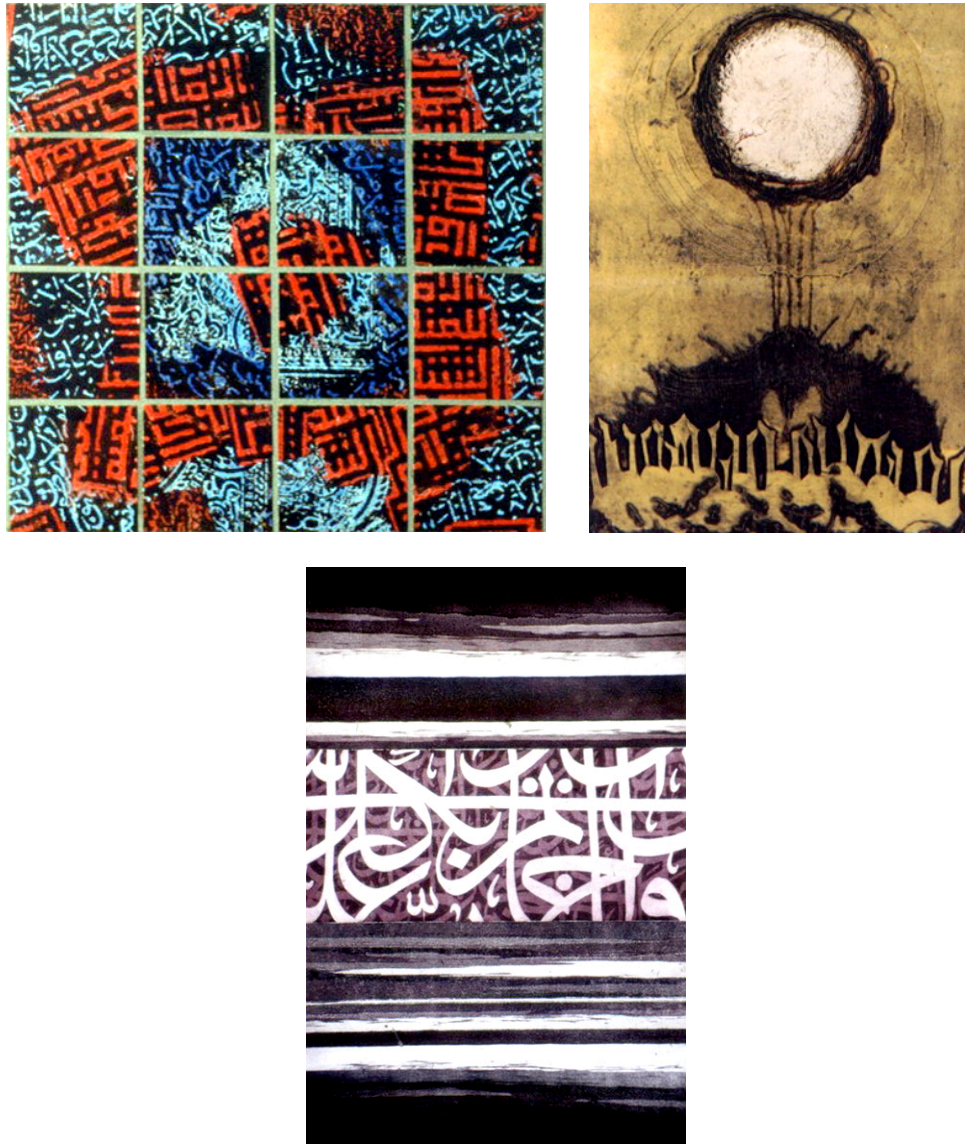
According to our conversations, Yassar does not consider exploration of the Arabic letter a major theme in his work nor would he consider the use of letters a defining feature of his style (Dweik 2005a: min 14.). Nevertheless, letters and pseudoscripts are prevalent images in many of his prints, and he is often listed among calligraphic artists (Figure 6.6). Yassar specifically enjoys the abstract shapes of Arabic writing and perceives letterforms as an inquiry into movement, rhythm, energy, and graphic space:

I like the movement of the letters. I like what we call here the collections, the *haraket* [movement] and *rawabit* [ligatures], using letters together. Sometimes I use this as a form, as a shape. I like the shapes between [the letters], the spaces. I did not deal with the sentence, what it means, or the letter, and what it means. The letter has an aesthetic form or an aesthetic shape or aesthetic in movement. Or I can say rhythm. ... I like the rhythm between the letters (*ibid.*: min. 15-16).

As formal shapes, letters explore the relations of foreground and background, light and dark, positive and negative (*ibid.*: min. 16-18; Dweik 2005b: min. 14). In this regard, Yassar claims influence from the writings and work of the Iraqi artists Dia al-Azawi and Shakir Hassan as-Said (Dweik 2005b: 16). As-Said describes the Arabic letter as a reservoir of symbolic meanings, which unfold when a viewer experiences the letter as object and image. The abstraction of this approach attracts Yassar.<sup>16</sup> Although he does not specifically emphasize the symbolic quality of letters, he hopes that viewers and readers will explore their multiple meanings and messages. In viewing a work of art, the presence

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<sup>16</sup> As-Said's aesthetic philosophy of the "One Dimension" blends Sufism, semiology, phenomenology and existentialism (Shabout 1990: 248-270).



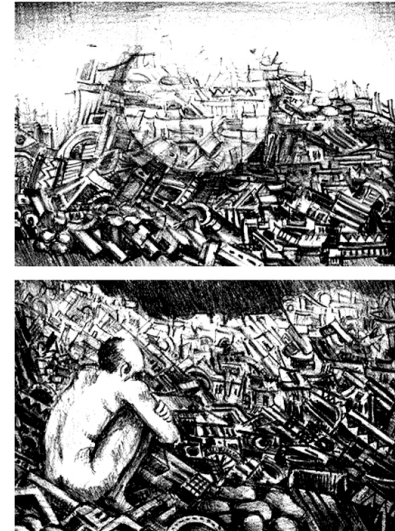
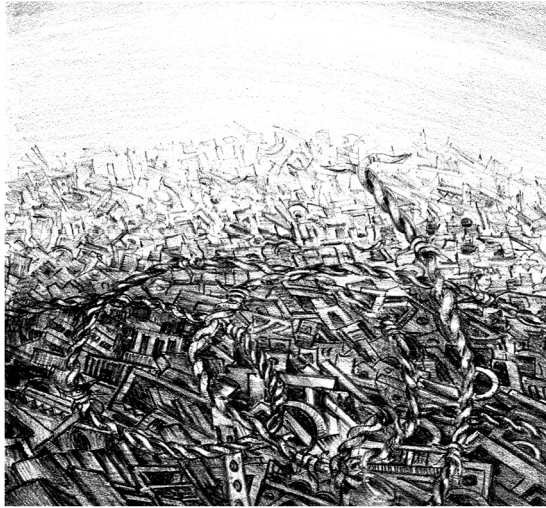
**Figure 6.6: Prints of Yassar Dweik.** Three prints from Jordanian artist Yassar Dweik which incorporate calligraphic motifs. The print in the upper right is dated 1991, the date of the print in the upper left is unknown, and the print on the bottom is dated 2002. Images reproduced with permission of the artist.

of written forms greatly contributes to the psychological and emotional effect (Dweik 2005a: min. 19-20).

Like Mahmud, Yassar considers his compositions the expression of an individual aesthetic perspective, and he forms his work according to his “own looking” rather than a set tradition (Dweik 2005b: min. 18). Drawing upon his calligraphic studies, he frequently employs the traditional scripts of *Kufic* and *thuluth* as representative of Arabic tradition (Dweik 2005a: min. 14). Unlike Mahmud, however, Yassar does not limit his exploration of writing and letter shapes to traditional forms. He often bends letters to the point of illegibility, and he employs a variety of pseudo-scripts and calligraphic scribblings

There are two kinds of writing Arabic letters. One is using the method of the traditional way and the other is just writing spontaneously. ... It is built by using letters. [Letters] are going together, mixing. Coming together and making [for example] a fence (Dweik 2005b: min. 7-8).

In many of Yassar’s prints, the shapes and letters of pseudo-script fit together like pieces of a puzzle. They combine to form objects, patterns, and jumbled landscapes (Figure 6.7). In these pieces, the letter is abstracted from its role as a linguistic marker. Letters are explored through the lines they scratch across graphic space, and the meaning of writing can only be found in a completed composition. For Yassar, this exemplifies the difference separating his work from practices of both graphic design and traditional calligraphy. Unlike the letters of these other two fields, his letters are unique to their compositions: “It is a special thing for me because I do something that others don’t. ... I use the letter in my own way” (Dweik 2005b: min. 13, 19).



**Figure 6.7: Calligraphic Landscapes of Yassar Dweik.** In these images, Yassar Dweik deploys pseudo-scripts and broken letter forms to create a rough calligraphic landscape. Both prints are lithographs from 2005. Images reproduced with permission of the artist.

Yassar Dweik turns away from the meaning of Arabic letters to explore abstract concerns of space, light, and form. Although letters contribute to his pieces, they remain peripheral, and this move heralds a more general shift in the application of letters in contemporary Arabic art. When contemporary Arabic calligraphic art began in the sixties, it was closely associated with the search for Arabic ethnic and national aesthetic identities. It became a popular tourist form, and the movement flourished in response to market demand, especially in the tourist markets of Saudi Arabia and the Gulf States (Shabout 1999: 413; Kreis 2005: min. 21; Taha 2005: min 13-14). However, as the art market became glutted with lettered designs, Arabic artists began to search elsewhere for inspiration and critical issues. The incorporation of Arabic script in contemporary art was no longer the powerful symbolic act it once was. In our discussions, both Khaled Kreis and Wijdan Ali commented that the movement of contemporary Arabic calligraphic art has passed its prime: "Many artists are starting to reconsider this element. I think this is a moment of reconsideration. Because the problem of identity ... is no longer a problem" (Kreis 2005: min. 22).

Perhaps more accurately, the identity of contemporary calligraphic art itself no longer poses a question. Alongside calligraphy and graphic design, contemporary calligraphic art has located its own arenas of application and its own terms of alphabetic communication. The movement has come of age as a distinct lettering tradition. Contemporary calligraphic pieces are displayed in museums and international galleries, and select works have attained the status

of genre masterpieces. Calligraphic works answer the demands of a global art market and circulate among international aesthetic circles. The application of Arabic letters initially addressed the question of Arab artistic identity, but the realm of discourse has since spread to political causes, cultural critique, and formal aesthetic commentary. The contemporary artistic letter has gained independence as a visual and symbolic element. As artists strive to shape their unique visions, letters offer a set of visual, symbolic, and aesthetic tools with which to do so.

#### **LIGATURE: THE AESTHETIC DESIGN OF WRITTEN COMMUNICATION**

Arabic letters are not neutral markers of meaning. The design of script and the shapes of letters differ according to function, audience, and message. For practitioners of letter design, these distinct functions are imparted by the visual quality of their forms. Choices of technology, aesthetics, and display alter the significance of Arabic script in each of the examined communities. The distinct appearances and construction of Arabic letters contribute to specific communicative functions.

To use Muhammad Beheri's metaphor, letters of traditional calligraphy are beautiful fruits. They visually celebrate the divine message of the Qur'an and invite viewers to taste the richness of their message. The proportions of letters, which reinforce a rich web of Islamic symbolism, govern the design of textual layout. Beginning with the specifics of letters and scripts, proportions spread like waves across the entire document: from the shapes and sizes of

letters to the spacing of lines to interactions across multiple scripts and text blocks to the size of decorative frames and borders. Calligraphers carefully reproduce classical styles, continuing a genealogical tradition represented by the *ijaza*. The preservation of classical styles reflects the eternity of the Islamic message, ensuring its proper and beautiful display.

In contrast, the modern letters of graphic design apply a consistency of form to share their messages. The shape and appearance of letters may mark a product with a unique visual identity. Or they may preserve legibility and visual style across a larger information architecture. Within the circuits of global communication, Arabic letters operate alongside Latin fonts, and they may draw inspiration from a Latin design. Shaping these modern forms on computers, designers introduce Arabic to new technologies of inscription and display. The introduction of new styles reflects the changing technology, the changing contents, and changing transmission of messages.

Finally, the letters of contemporary calligraphic art visually interrogate the form and symbolism of writing. These works present the experiments of individual artists, who utilize techniques and practices of Western aesthetics to create new forms of meaning and display. The Arabic alphabet offers a rich set of visual symbols. By incorporating these symbols within a composition, contemporary artists position Arabic script in relation to new networks of symbolic and aesthetic commentary. The artistic display of letters reflects the continuing mutability of written meaning and the graphic possibility of new written forms.



The co-existence of multiple lettering styles forms a recurrent theme in the history of Arabic script, with diverse styles of writing indicating particular types of content and genres. The arrival of new scripts and new technologies of inscription do not displace earlier practices, even as the meanings and uses of styles are reorganized. Thus, traditional calligraphy operates alongside the graphic design of printed materials. Through their visual differentiation from printed forms, calligraphic letters become more deeply religious and symbolic. And the aesthetic practices of contemporary calligraphic art reflect upon these multiple visual conventions.

## Chapter 7: The Design of Writing

As a medium of visual communication, writing operates as the design of graphic space. Writing presents a spatial arrangement of conventional visual marks, and the linkage of specific marks with sounds of speech is only one of the many conventions writing represents. Some written marks, such as punctuation, organize patterns of language and meaning that are not explicitly spoken. Others, such as mathematical symbols, represent abstract functions, or they may, like musical notes, represent non-linguistic tones and sounds. The multiplicity of visual convention distinguishes writing from speech and extends the scope of written communication. The power of writing resides within the flexibility of visual signs.

Writing navigates this flexibility through the design and arrangement of conventional visual marks. The appearances of writing change depending upon the message they contain, the audiences they address, the channels of distribution, and the sites of reception. Different sets of written marks are employed for different purposes, and similar marks may function differently if their appearance or context changes. Thus, printed letters are designed and displayed differently than handwritten letters, and these differences influence the ways in which those letters communicate. Visual and formal variations are especially noticeable in the robust writing practices of Arabic script. The designs of Arabic script decorating the walls of a mosque differ from designs

of Arabic lettering welcoming visitors to a website. And both sets differ from the aesthetic explorations of Arabic script painted on museum canvases. All three of these sites employ the shared letters of a common alphabet, but they write those shared signs in diverse ways. A diversity of communication and practice suggests multiple strategies of written communication and multiple conventions for the visual inscription of meaning.

In this concluding chapter, I continue these discussions to explore the possibilities and challenges facing current practices of writing. As practices of writing continue to shift both in the Middle East and globally, the conventions surrounding Arabic script offer a wealth of strategies worthy of preservation and exploration. The story of Arabic script outlines the relationships linking scribal practices and print culture: their tensions, their convergences, and their distinct applications. This story suggests a more nuanced history of written design. The applications of Arabic script display a variety of conventions for the inscription, interpretation, and celebration of written form. The following section will reflect upon these strategies as a synchronic challenge to ideas of writing as the unequivocal representation of spoken language or the container of semantic content. I will then present digital design and recent changes of textual practice as a diachronic challenge to print culture and its associated writing. Digital text opens new terrains of written possibility by recombining elements of both print and pre-print written traditions. Finally, I blend the synchronic challenge of Arabic script with the diachronic challenge of digital text to suggest a continuity of calligraphy and digital design.

*DESIGNING THE ARABIC LETTER*

The story of Arabic script catalogues a wide range of strategies for the inscription and display of visual meaning. The formalization of calligraphic tradition, the differentiation of genre according to scribal style, the symbolic interpretation of letters and written images, the differentiation of scribal and printed texts, and the aesthetic application of Arabic script as a decorative motif demonstrate the flexibility of visual convention and written design. In the preceding chapters, I follow the story of Arabic script as it moved across texts, time, and materials. I highlighted ruptures and continuities in visual convention across a variety of writings, from manuscripts and architectural inscriptions to printed works, calligraphic displays, and artistic canvases.

I followed this story to explore the visual and symbolic possibilities of written communication and how choosing among this possibility influences the design of written texts. The chapters combine historical, textual, aesthetic, and comparative approaches. Chapter 1 presents a comparative framework with three models of writing in relation to religious and secular traditions, and Chapter 2 examines written communication through a lens of grammatology. Chapter 3 delves more fully into the Arabic calligraphic tradition to explore the symbolic interpretation of letters and the meanings of multiple scripts. In Chapter 4, I adopt a historical perspective to outline the Ottoman adoption of print technology. The textual changes that accompanied this shift in written inscription are addressed in Chapter 5, and Chapter 6 reflects these historical

changes through a comparative study of three contemporary communities of Arabic lettering practice.

The comparative focus of Chapter 6 mirrors the structure of Chapter 1. In both chapters, I compare three models of written design. But this should not suggest that the contemporary communities of Chapter 6 align with the abstract models of Chapter 1. Of the calligraphers, graphic designers, and artists in Chapter 6, only the calligraphers specifically relate their craft with religious tradition. The other two communities do not directly map upon the models of Chapter 1. Whereas the communities of Chapter 6 coexist within the cosmopolitan setting of modern Jordan, Chapter 1 draws sharper lines across abstract religious models. Nevertheless, a consistency of perspective links the two chapters. In both settings, writing reflects the needs of diverse communities, and visual conventions of written design visually reflect these meaningful and ethical differences (Carey 1989: 31; Stolow 2005: 130).

The abstract differences of Chapter 1 offer a basis from which to discuss varieties of written communication. Drawing upon a framework of “religion as media,” I position practices of writing in relation to religious and political tradition. The rituals and messages of religious traditions design writing in accordance with the diverse texts, meanings, and communities they wish to repeat. Christian scripture, for example, transmits a divine story, and early printing of the Bible channeled this transmission through the reproduction of identical texts. The Qur’an, in contrast, offers Islamic tradition a unique object of divine revelation. Islamic rituals of recitation and writing were designed to

preserve the precise language and form of this object. Finally, the imagination of national communities which accompanied the spread of printing employed the representation of linguistic vernaculars as national symbols. In this model, Arabic script became a marker of political affiliation. Differences of visual and textual design indicated whether the letters of Arabic operated as national or religious symbols.

To situate these models, Chapter 2 presents a theoretical examination of written communication and grammatology. I adopt I.J. Gelb's definition of writing as a collection of conventional visual marks (1952: 12) and explore the various conventions linking graphic marks with abstract meanings. The study of grammatology addresses both the novelty of displayed information as well as the material treatment of that information (Derrida 1976: 83). Variations of shape, color, and position may all play significant grammatological roles. The application of these traits are then explored in relation to practices of Arabic writing. The Arabic scribal tradition utilized differences of color and position to demarcate the information contained within visual marks. These practices constructed writing as the multidimensional design of space.

Arabic script operates within a matrix of multiple visual and symbolic conventions, and Chapter 3 highlights the various interpretive strategies with which the designs of Arabic writing may be read and decoded. The visual form of writing offers a rich source of symbolic meanings for Islamic art and the Arabic manuscript tradition. Early differences of material and appearance separated the hieratic scripts and the bound codices of Qur'anic transcription

from handwritten styles of daily correspondence (al-Badgadi 2005: 91-92). An emphasis on written form that began with Qur'anic preservation implicated the shapes of letters as symbolic icons open to visual, ethical, and spiritual interpretations. The shape and appearance of letters contained information and messages that operate alongside their semantic content (Bierman 1998: 20-21). These practices later contributed to the design of Ottoman calligraphic display panels, and they continue to find resonance in contemporary practices of art and design.

In the tenth century, vizier Ibn Muqlah formalized the written design of Arabic script in a system of *al-khatt al-mansub* (proportioned script). Practices of *khatt* refer to the “marking out” of lines and reflect the role of writing as the demarcation and design of graphic space (Grabar 1992: 66). In Ibn Muqlah's new system, distinct scripts became visually distinguishable according to the proportions of their design. A series of scripts known as *al-aqlam al-sittah* (the six pens) became especially formalized. For Ottoman scribes, each of these scripts possessed a specific function, and additional scribal styles were deployed for alternative purposes. Each of the Ottoman scripts displayed distinct rules of size, spacing, and proportion that shape the space of writing, and each design fulfilled a different function.

For example, the complicated form of *diwani* became the official script of edicts and imperial permissions. A *diwani* text crowned with a calligraphic *tugrah* seal visually represented the authority of the Sultan and the Ottoman state. The complex design certified the document originated at the hand of a

highly trained scribe and, by association, an Ottoman administrator. Difficult to write and difficult to decipher, *diwani* preserved state secrets from prying eyes and protected official documents from forgery. This coded design of secrecy benefited the administration of the Ottoman state, and the desire to maintain textual secrecy contributed to Ottoman attitudes toward printing. The established scribal bureaucracy offered a tested system of information management in which the appearance of script conveyed visual clues of textual content, audience, and import.

Chapter 4 outlines how documents surrounding the Ottoman adoption of printed material present an ongoing administrative discussion. In 1727, the Ottoman diplomat Ibrahim Müteferrika circulated a key text entitled *Wasilat al-Tibaa* ("The Means of Printing"). Müteferrika's petition, which paved the way for opening of the first official Ottoman press, offers an incredibly rich analysis of print culture and precedes similar statements of print's utility in Europe by over fifty years. The document carefully outlines ten advantages of print technology for the preservation of the Ottoman state and the distribution of knowledge. It specifically stresses the utility of the print for the design and distribution of new types of texts. The Müteferrika press published works of language reference, geography, military science, and official court history, emphasizing the administrative and political *usefulness* of these works for an elite group of readers (Watson 1968: 436, emphasis original). In a landscape of both printed and scribal texts, this publishing decision reinforced the visual



and material differences separating practical works from the scribal design of religious and calligraphic pieces.

These distinctions introduced new visual conventions for interpreting the authority, role, and information of written Arabic. Whereas scribal texts continued to celebrate the fine handwriting of proportioned script, printed texts distributed the utilitarian concerns of a modernizing state. Chapter 5 explores these changes, which occurred concurrently in both European and Ottoman realms. Napoleon specifically emphasized the new authority of print and applied this textual strategy during his Egyptian campaign. The Napoleonic incursion distributed printed texts for administrative, scientific, educational, and military purposes. Their authority arose through the wide dissemination of identical copies and a standardization of design. Printed texts became markers of authoritative and political discourse, a trajectory that reflects the political focus of the Müttefferika press. In response, the religious messages of calligraphy became increasingly aesthetic. Alongside the spread of print, Ottoman calligraphy became an art of contemplation and display in which religious messages were coded through the design of diverse scripts and decorative ornamentation. Their aesthetic design presented a symbolic vision of writing visually distinct from the uniformity, standardization, and informational content of printed works.

The symbolic role of calligraphy contrasted sharply with the circulation of newspapers. These new texts accentuated the printing and distribution of informational content. Their direct language courted a popular audience and

encouraged the formation of a reading public. Their mosaic design presented a variety of stories and topics relevant to public debate, and their prose began to closely mirror spoken vernaculars. In Ottoman circles, this spurred a series of linguistic and alphabetic reforms seeking to clarify written Ottoman and the representation of spoken Turkish. Written language was designed as easier to read through both a directness of prose and a reduction of characters. These efforts eventually culminated in the replacement of Arabic script with Latin letters for the written representation modern Turkish. This shift symbolically divorced the writings of modern Turkish secularism from the language and script of Islamic tradition.

In Chapter 6, I follow the continuing story of Arabic script to modern Jordan. Unlike Turkey, which symbolically diverged from Arabic script for modern Turkish, Jordan and other Arab countries employ Arabic letters for the visual representation of a national language. Visually, the basic structure of modern printed Arabic reflects the handwritten script of Arabic tradition. These shared forms provide a symbol of linguistic, ethnic, and cultural unity, and the deployment of Arabic script may now represent national and ethnic communities, a religious tradition, or the intersection all three.

Chapter 6 explores these dynamics across three communities of letter designers in modern Jordan: traditional calligraphers, graphic designers, and contemporary calligraphic artists. Each community applies Arabic script for a different communicative function, and the visual conventions of writing differ according to site and context. The proportions of calligraphic letters spread

across written space to impart religious messages and spiritual authority via aesthetic balance. The graphic design of letters, in contrast, balances message and form within global networks of communication. And the aesthetic letters of contemporary calligraphic art interrogate the shape of Arabic script as both a symbolic and formal construction. The appearance and role of Arabic script shifts as it moves across these three domains; its appearance alters according to function, site, audience, and text.

The elaborate motifs of Arabic calligraphy, the logos of graphic design, and the visual experiments of contemporary calligraphic art emphasize the symbolic and aesthetic form of Arabic letters. Public displays of calligraphy convey a sense of grandeur, beauty, and spiritual authority, even among viewers unfamiliar with their semantic content (Erzen 2000: 293; Bierman 1998: 25-27). Similarly, corporate logos address a variety of audiences, and the formal resemblance across Arabic and Latin designs may transcend linguistic differences. And messages of contemporary calligraphic liberate the letter as a symbolic and aesthetic form distinct from written language (Shabout 1999: 163-164). As different as the meanings and conventions of contemporary and traditional calligraphic art may be, and as much as they both diverge from the commercial interests of graphic design, all three practices present Arabic script as a powerful symbolic and aesthetic form. They communicate through visual design in addition to linguistic content (Leaman 2004: 37).

The lettering communities of contemporary Jordan construct diverse practices of writing, much as the abstract models of religious communities in

Chapter 1 suggest diverse frameworks of repetition, ritual, and transmission. The winding path connecting these studies traces the link connecting written message and visual design. Communication communities, whether religious and national, or local and professional, design texts according to the messages they wish to share or repeat. Comparisons across writing communities could continue indefinitely, and the chosen examples offer only a glimpse of a much larger puzzle. A wider study might address alternative religious, political, artistic, or textual traditions, and a longer, but not exhaustive, list of lettering practitioners might include sign painters, graffiti artists, typesetters, comic book artists, visual poets, engravers, and computer interface designers. Each of these communities contributes another perspective on the design of writing. The chapter studies therefore present only a sampling of visual convention, but this sample nevertheless displays a multiplicity of design conventions for the writing of Arabic. In addition to the connection of Arabic letters with specific sounds, these conventions include the various scripts of calligraphic tradition, the artistic and contemplative interpretation of calligraphic form, the distinct applications of printed and calligraphic texts, the manifold symbolic meanings of Arabic script, and the divergent roles of the contemporary Arabic letter. This multiplicity of conventions asks us to reconsider the importance of visual design for practices of writing.

*THE POSSIBILITIES OF DIGITAL DESIGN*

If the history of Arabic script design offers a synchronic contrast with the deployment of writing and print within European tradition, this contrast becomes especially noticeable during a time in which practices of writing are also being challenged diachronically. Computer networks and digital media are drastically recasting the production, distribution, and reception of texts, and altering both the visual and material conventions of writing. New media challenge both the structure and appearance of written communication. They open new channels for the design and visual display of messages.

Assumptions surrounding writing continue to shift, and Jay David Bolter describes these changes as a “remediation” of the written word (2001: 23-26). Electronic communication is reorganizing the characteristics of writing in older media and reforming the cultural space of written text. Older media continue to operate alongside digital texts, but their roles and relations are shifting in relation to new media forms. The spectre of electronic writing has not eradicated print, nor is print in any imminent danger of disappearing. Indeed, the circulation of printed messages continues to increase. But print no longer holds a privileged position among written communication (*ibid.*: 210). Printed messages now compete with email, websites, text messaging, and the exchange of digital document files.

One of the most notable shifts concerns the appearance of text. Written texts are becoming more visual, and digital venues seamlessly blend images and alphabetic writing. A uniformity of appearance and a strong separation

of linguistic text and image organize the writing space of print. Printed texts tend to isolate the main body of writing from pictorial images, figures, and graphs. Images and words are visually and spatially demarcated as separate registers. Even newspapers and magazines, which increased the juxtaposition of image and word to create a textual and visual mosaic (McLuhan 1964: 211), do not integrate the two registers. Bolter assigns this historical distinction of design as one of technology:

Since its invention, printing has placed the word effectively in control of the image. ... Typographically, the containment came from the fact that the words and images were produced by different means. Although moveable type served for the words, the images had to be generated separately by engraving or, later, lithography. Word and image tended to occupy separate visual as well as technological spaces (Bolter 2001: 48).

With tools of digital design, the technological spaces of word and image are converging. As images become easier to manipulate, they are beginning to displace the dominance of the written word. This is especially true on the electronic writing spaces of screens and digital displays. On web pages and computer desktops, words may become animated images, and iconic images may open upon entire passages or documents of written text.

Although Bolter describes this shift as “the breakout of the visual,” he interestingly offers very few comments on the changing visual appearance of the written word itself. And this “breakout” is oddly constrained by the very categories it purports to upset. By failing to address aesthetics of the written word as a visual form, Bolter subtly reaffirms the text-image separation he criticizes. The digital design of texts increasingly incorporates a wider variety

and a greater number of images, and this certainly alters the appearance of written text. But the same tools that make the insertion and manipulation of images more accessible also provide a greater degree of control over the shape of letters and words themselves. Alongside an increase of pictures, the visual design of fonts, scripts, and letters is also collapsing the previously separated spaces of image and word.

The integration of word-processing, image manipulation, and graphic design software refashions the space of writing. In the second edition of his book *Electric Language* (1999), Michael Heim specifically identifies the visual responsibility of the writer as a key arena of change and notes the absence of this shift in early discussions of digital textuality. Heim's book was initially published in 1989 and preceded Bolter's text a "philosophical study of word processing." Like Bolter, Heim initially disregarded the import of written aesthetics. In the preface to the second edition, however, he reconsiders the changes of technology and writing practice that accompanied the decade of personal computing that separated the first and second printings of his book. In a provocative comment, Heim extends his argument to encompass the increasingly visual character of written design:

One area we are about to see emerge, I think, is the expanded visual responsibilities of writers. ... Earlier word-processing software could be easily distinguished from layout software or desktop publishing. Today, the distinction no longer holds. You used to write in one program, an editor, and then do layout, or print preview, in another. Today's software offer nearly perfect what-you-see-is-what-you-get. ... If, as *Electric Language* argues, the line between composing and editing has become blurred, so now has the line between editing and layout. Writing and text design skills are gradually merging. The word processor is as

much about linking images and visually structuring text as it is about words (Heim 1999: xvii).

Contemporary word processing applications support a sophisticated array of display and layout options. Writers may choose from a variety of font styles, control the placement and manipulation of images, monitor the specifics of page layout, and deploy multiple text blocks of varying sizes and orientations. All of these options may be displayed onscreen in a nearly perfect image of the final product (printed or otherwise). If the realms of pictorial and textual design were once technologically distinct spheres, “the work of layout artists, typographers, and graphic designers now falls under the control of anyone using a standard word processor” (*ibid.*).

Heim predicts that skills involving the layout and design of written text will increase with the use of digital tools: “Writers will learn to control fonts, frames, and graphics on screen” (*ibid.*: xviii). Valerie Kirshenbaum effectively updates and realizes Heim’s prediction in a self-published manifesto entitled *Goodbye Gutenberg: Hello to a New Generation of Readers and Writers* (2005). The book foresees the dawn of the “design writing,” in which authors choose not only the words of a text but the fonts, appearance, colors, and shapes of the words as well. The technological convergence of design and writing as well as their associated skills provides a rich opportunity to expand the textual and visual offerings of printed books: “Just as writers after Gutenberg used italics, bold and dashes in ways the authors of the Hebrew Bible could not, we can use color and design in ways that they could not” (Kirschenbaum 2005: 51). Text designers developed new character sets, new formatting strategies, and



new layout options as they became accustomed to moveable type printing. Digital software presents designer writers with a similar array of new textual and visual tools.

Print became a revolutionary new medium by shifting earlier rules of writing and distributing vernacular texts. Luther did not employ the press as a vehicle to share the Latin Bible; he deployed the press to distribute and share his vernacular translation of the Bible. Similarly, Kirshenbaum suggests that digital design must embrace the “visual vernacular” of the present. We live in a media world saturated by color, and “the black and white books of today are like the Latin book’s of Luther’s day—read only by a studious few” (*ibid.*: 349). Kirschenbaum labels the uniform appearance of black words on a white page the “Gutenberg cliché.” Moveable type was not only the invention of a new method of printing, but a new way of seeing and a new way of thinking (*ibid.*: 108). Prior to the advent of moveable type, books displayed a wealth of color and decoration. Books are now primarily black and white. As Christopher de Hamel remarks, “Color was a casualty of printing” (1994: 324).

As an educator, Kirschenbaum wishes to reintroduce students to the visual pleasure of reading. She specifically targets the “Gutenberg cliché” as a key culprit in the decline of literary reading among youth and suggests that books need to reflect the contemporary visual vernacular: “the best way to get Americans reading again is to do what other cultures have done for thousands of years: *engage them visually*” (*ibid.*: 193, emphasis original). We are awed by the continuing vibrancy of illuminated manuscripts hundreds of years after

their production. Why then, Kirschenbaum asks, are contemporary books not equally stunning? The technical and economic difficulties of mass producing colorful editions are no longer prohibitive. Cookbooks, graphic novels, art and photography collections, and illustrated children's books provide ample examples of affordable, colorful, and meticulously designed editions (*ibid.*; 16-17). Yet contemporary works of fiction and nonfiction tend to reproduce the visual design of the Gutenberg cliché.

Throughout *Goodbye Gutenberg*, Kirschenbaum visually demonstrates her argument. The decision to self-publish allowed her to retain control over textual design and adopt the role of a designer writer. Page after page, she weaves a rich canvas of multiple **fonts**, *multiple font* VARIATIONS, **multiple colors**, multiple spacings, multiple scales, and multiple textual positions. She employs colors and style for **emphasis** and CLARIFICATION. The visual enhancement is idiosyncratic and varies from page to page. Changes in word format or spacing do not reflect formalized meaningful conventions. But they do color interpretation of the text, both visually and metaphorically. Visual differences punctuate the text; they manage the presentation and display of written information. Through choices of color and style, designer writers may revisualize the tools of their trade and reformulate how words communicate with readers. Despite the lack of formal convention, Kirschenbaum's textual enhancements provide additional layers of visual meaning. They remind us that written design may exploit principles of position, color, and orientation underutilized in the writing space of print (Gelb 1952: 18-19).

Written design, however, encompasses much more than words. It also entails the visual organization of diacritical characters, punctuation, symbols, and non-linguistic marks, and the shifting visual vernacular of contemporary writing deploys an increasing variety of designer images and symbolic icons that operate in lieu of words (Guar 1984: 30; Sampson 1985: 31). A number of nonlinguistic graphic forms have become written conventional markers of shared meanings. Corporate logos, for example, operate as simplified images representing a collection of texts, interests, and objects. Visual conventions decipher the shape of a Nike swoosh and its alphabetic counterpart with equal facility. These practices simultaneously challenge the dominance of alphabetic text as the privileged marker of written meaning and reaffirm the import of alphabetic design. Thus, the meaning of the Coca-Cola logo is conveyed in both the letters that logo contains as well as the form in which those letters are displayed. Written logos communicate concurrently as iconic shapes and a textual name. The attention to aesthetic detail displayed by these designs and the encoding of information across multiple levels resemble Kirschenbaum's efforts to reinvigorate the visual character of written communication.

Similarly, both Bolter and Heim note the expanded communicative role occupied by icons in digital environments (Bolter 2001: 61-67; Heim 1999: 42-45). The computer icon operates as a powerful transformative element in the space of a graphical user interface. Like a corporate logo, icons provide the graphic representation of a larger abstract meaning. They condense longer documents or extended scripts within discrete graphic forms. Like magical

symbols or calligraphic puzzles, icons operate as visual gateways to a wider collection of information and meaning (Bolter 2001: 62). The conventions that interpret these icons operate via software programs and technological scripts rather than individual reading and contemplation, but the image nevertheless remains a visual convention. The organization of icons within the space of a computer screen conveys stored information as a written construction.

Icons provide a visual gateway through which the digital environment opens upon a multidimensional field of meaning. However, as André Leroi-Gourhan (1993: 195-96) and Jacques Derrida (1976: 86) have noted, the space of writing was *always already* multidimensional. Digital texts re-emphasize and extend the spatial and structural qualities of writing. Early examinations of electronic writing, such as those by Heim and Bolter, discuss icons and linked documents as a multidimensional terrain. Hyperlinks construct the space of written communication as a shifting site of temporary text blocks (Bolter 2001: 68). Textual layout and the written display alter as writers and readers move across a collection of pages, passages, and textual pieces.

Nevertheless, narrative organizations that support multiple paths of reading represent only one of many multidimensional opportunities in the design of writing. Varieties of color, font, shape, and character orientation contribute additional directions of written exploration. In this regard, the emoticons and conventional abbreviations of emails, online chats, and text messages offer a useful illustration. These novel combinations of familiar characters utilize few keystrokes to display a longer message. The sentiment

of happiness, for example, may be reduced from the six letters of “happy” to three characters :-). Like the colors of *Goodbye Gutenberg*, the visual clues of the “happiness” emoticon modify the implied meaning of text. Emoticons indicate emotional undertones or ironic nuances—happiness, sadness, anger, frustration, and silliness—that current conventions of alphabetic writing leave open to interpretation (Bolter 2001: 72). More significantly, emoticons display a radical break with the conventions of linear writing. These new symbols construct a writing space in which “every graphic form may have a *double value*—ideographic and phonetic” (Derrida 1976: 89, emphasis original). Thus, the capital letter “P” may phonetically represent a voiceless bilabial plosive, or it may graphically represent a mouth with its tongue sticking out :-P Which of these meanings the character represents depends on its contextual placement and orientation. And whereas Latin letters are strung from right to left along a horizontal line, many emoticon images are drawn perpendicular to this line. Shifting between these two orientations converts the shape of the letter “P”, and the space of writing more generally, into a multi-directional terrain of visual representation.

#### *THE CONTINUITY OF CALLIGRAPHY AND DESIGN*

Digital design offers a space of multidimensional possibility, and its products are written across a plurality of visual and textual conventions. The increased integration of word and image, the decoration of words and texts, the deployment of symbolic icons, and a diversity of layout options reflect the

technological capabilities and limits of digital texts. But predecessors of these strategies reside within manuscript, calligraphic, and artistic traditions. Thus, the writings of digital design do not challenge writing *per se*, but a specific set of assumptions surrounding the space and appearance of written text. Digital design specifically challenges the uniform written space of black words on a white page, organized sequentially, collected as a codex, and published as a unique book. This space, the space of the Gutenberg cliché, is being rewritten by digital tools. But in many ways, digital conventions reflect the conventions of earlier traditions. Digital writing often incorporates pre-print metaphors and visual strategies, and recent changes in the appearance of writing do not appear quite so shocking when viewed as part of a wider historical trajectory.

Wedged between manuscript pages and digital texts, the standardized design of printed books are the anomaly. With its evenly spaced glyphs of moveable type, consistent font sizes, and uniform pages of equal line length, the organization and layout of moveable type printing traces artificial limits around the mapping of graphic space. In a trajectory of writing transecting manuscript, printing, and digital practices, the interstitial era of print may be the most limiting in terms of visual and written design (Mahdi 1995: 14). As much as the printing press revolutionized the distribution, organization, and preservation of texts, these advantages concretized a specific set of material and visual choices.

The recent advent of new digital forms “helps us to understand these choices, the specializations, that the earlier printed book entailed” (Bolter

2001: 9). Print designed written content in standardized lines of legible text, and this design communicated directly with interchangeable readers across space and time. Moveable type and the design of printed texts linked the visual space of writing with a particular set of textual and cultural functions. The appearance of the text benefited the goal of information sharing. And mass distribution of information benefited from the standardized form of identically reproducible objects. The visual and functional elements mutually reinforce one another.

Discussing written texts in terms of their *elements* usefully highlights the relationships connecting visual and material form and textual application. This differs notably from discussions of writing as a communicative *medium* (Heim 1999: 102). Whereas the term “medium” emphasizes instrumental and technological methods of exchange and representation, the term “element” traces the symbolic conditions of communication and the implications of the modes in which communicative representations operate (*ibid.*). The elements of writing describe the design choices and textual functions concretized by a particular text or collection of texts, such as the appearance of characters, their material form, their content, their applications, and their cultural status.

Contemporary texts recombine elements of both printed and pre-print communications. On one hand, digital design reflects the visual and aesthetic elements of manuscript forms. At the same time, digital networks preserve and extend the powerful elements of distribution and repetition introduced with print. Practices of digital design remediate elements of earlier traditions

and previous textual forms. Web pages may be read by scrolling, and they share the element of the scroll with papyrus and parchment rolls. Emoticons reintroduce the multidimensional element of pictographic space. Corporate logos and the images on computer desktops share an iconic element with symbolic calligrams. All three of these forms—logos, computer icons, and calligrams—display visual compressions of extended meaning.

Perhaps the defining element of digital textuality resides in the ability to mimic, adopt, and remediate a range of writing and communication tools. Digital texts combine the repeatability of print with the flexibility of an open canvass. They are idiosyncratic in appearance but easily copied, graphically fluid but technologically standardized, individually produced but widely disseminated. They blend a nonlinear structure of design and composition with publicly shared and standardized typefaces (Heim 1999:158). Or their appearance may alter according to venue, audience, and display:

In its role as a great refashioner, electronic writing reintroduces characteristics that have belonged to a variety of marginal techniques of the past. Electronic writing shares with the wax tablet or chalkboard the quality of rapid and easy change. It shares with the typewriter its keyboard (at least at present), its method of discrete selection of alphabetic elements, and its mechanical uniformity. ... The computer can serve as a copier, a note pad, a calendar, or a teletype machine. In fact, it is hard to think of a marginal technology in the history of writing that the computer cannot imitate, just as it is hard to think of a dominant technology whose elements the computer does not borrow and reinterpret. Electronic writing may therefore participate in the restructuring of our whole economy of writing. (Bolter 2001: 23).

Digital design merges the openness of scribal and artistic production with the mass distribution and reproductive ease of print. It reinvigorates writing as a



practice of visual and graphic design, without reducing the range and scope of printed transmission.

This does not deny the novelty of digital and electronic writing, and computers introduce a number of elements unavailable in both manuscript and print traditions. The digital transformation alters “not only technology for the reproduction of the text, but even the materiality of the objects that communicate text to readers” (Chartier 1995: 15). This shift, which turns the material form of writing into “electronic elements,” clarifies the import of an elemental focus in discussions of digital design (Heim 1999: 102). By noting both continuities and differences, an elemental focus helps identify the novel traits of new media as well as remediations of earlier media. The storage of text as a stream of electronic data produces a different set of technical and physical interactions than the inscription of marks upon a material surface. Whereas the appearance of digital texts may visually resemble manuscripts, the electronic storage of text offers a distinguishing element of digital writing.

Such openness contrasts sharply with the printed textual space of the Gutenberg cliché. Digital texts redecorate the austerity of the printed page, but their elemental quality as electronic rather than physical marks pose a deeper challenge to print communication. As the dominant form of printed text, the form of the book is also the one most open to challenge (Bolter 2001: 23). Although the book in codex form preceded print, printing enshrined the book as the privileged form of written communication (Bolter 2001: 210; Hesse 1997: 22-23). Print culture solidified around the element of the printed book.

Even newspapers, which greatly contributed to an increase in popular literacy, the spread of information, and the building national communities, failed to unseat the book as the ideal standard of written knowledge.

The form of the book concretizes a specific set of aesthetic choices, and downplays the decorative elements of written design. The material book offers a physical instantiation of the imagined community symbolized and unified by its content: “The codex is an existential code unto itself, a unifying factor of a culture” (Debray 1997: 141). The book symbolically represents a community of readers, bounded, collected and contained. The solidity and finality of the book ritually maps a common terrain, the sacred ground which books such as the Bible, the Qur’an, and secular communications demarcate. If writing is the design of written space, the symbolic book is the design of a cultural space.

In an intriguing confluence of terminology, Régis Debray describes the current shift in the symbolism of the book and writing as a change of element. Discussing the material changes of digital writing, Debray notes:

In the figural rhetoric of the world of substances, the numerized cybernetic transmission of texts suggests a change in *element*: from the earth to water, the fixed to the fluid. Note the guiding metaphors in the New World of computer screens: navigation, flow, tide influx (Debray 1999: 144)

Technological changes are altering our discourses about writing. Discussions of text increasingly refer to information flows, a fluidity of form, and streams of data. Current tensions between print and digital texts influence ideas about the book: its physicality, its textual organization, its visual appearance, and its

symbolic role (Bolter 2001: 3). Digital design replaces the physical element of earth with the transient element of water. It changes how books are written, what they contain, and how they are utilized. And changes in the element of writing ultimately implicate the communities to which those signs refer.

Although print culture has frequently been conflated with a technical *means of production* (the printing press), it more accurately operates as a *mode of cultural production* (Hesse 1997: 21). A mode of writing provides a confluence of visual elements as well as the practical and intellectual conventions through which those elements are apprehended and applied. This mode of the printed book, which Carla Hesse labels “the modern literary system,” contributed to the design of both the textual and cultural forms. It established the Gutenberg cliché as the ideal of written form and stabilized that form as the lynchpin of a nexus of authors, publishers, and readers. These ideals were not the inevitable results of printing press or moveable type; they were negotiated and designed over time. During the eighteenth century, new textual practices of printing, writing, and literary culture crystallized in both Europe and the Middle East.

Carla Hesse draws a parallel between the unregulated space of print that preceded the modern literary system and the current openness of new media practice (*ibid.*: 28). Digital design offers a rich new set of technological possibility, and we are only beginning to navigate the mode of writing that our new media will support. The age of personal computing spans only a few decades, and we are still formulating digital strategies of information storage, textual navigation, and visual display. The application of multiple colors, the

juxtaposition of font styles, framed layouts, textual animations, and symbolic emoticons are just some of the qualities open to conventional applications and readings. Debates of digital textuality ask what modes these new conventions will adopt: *How will writers, readers, and designers utilize the new medium toward communicative and conventional ends?*

Like any medium, the computer is not a blank slate, and conventions of digital writing are not yet fully written. The flexibility of design remains a key site of textual, material, and communicative negotiation. What elements of previous writings will be preserved, what will be discarded, and what will be reinvigorated by the conventions of digital text? Answers to these questions, like the negotiation of print and earlier technologies, will depend upon shared assumptions of literacy, language, art, and technology (Gitelman 1999: 229). And we have potentially as much to lose, as we have to gain. Commenting on the transition from manuscript production to the printing of Arabic books, Mushin Mahdi laments the “specialized techniques and methods of dictation, collation, and illustration that seem to have deteriorated with the advent of printing. What was the extent of the effort to recover, systematize, improve upon, and make use of the old scribal art in new conditions?” (Mahdi 1995: 4). The benefits of print displaced a series of innovative visual strategies common in the Arabic manuscript tradition.

Digital tools offer the promise of reexamining and reclaiming some of these lost methods. Not only will this alter current practices of writing and design; it is especially significant for scholars interested in the preservation of

textual and graphic information contained in earlier writings (*ibid.*: 13). The visual conventions surrounding Arabic script provide a wealth of strategies worthy of experimentation and exploration, as practices of writing continue to shift in both the Middle East and globally. Visual and textual strategies for organizing the fluidity of digital information hide within a diversity of written traditions. As the textual ground shifts beneath our feet, scholars have a key role to play in locating, preserving, and implementing useful conventions of textual design before they wash away.

#### **FINIAL: A BEAUTIFUL CALLING**

Near the end of his pioneering tome *A Study of Writing: The Foundations of Grammatology* (1952), I.J. Gelb challenges readers to reexamine the history of written communication. Gelb notes that transformations of media technology are widely celebrated, but the appearance of writing has changed very little over hundreds of years:

Think of our modern media of mass communication, such as radio, cinema, telegraph, telephone, television, and press and look at our modern writing of DADA, Latin DADA, and Greek ΔΑΔΑ. Compare the differences in the methods of mass communication between the modern and the Greek times on the one side and the essential identity of the English, Latin, and Greek alphabets on the other (Gelb 1952: 239).

Technological transmissions of the word “DADA,” as well as its meanings and connotations, have changed considerably over time, but the letters themselves have altered very little. Despite the visual dissimilarities between the Greek ΔΑΔΑ and the Latin DADA, Gelb remarks that there is no structural difference

separating them; these differences of shape are minor and not conventionally meaningful. The Greek and Latin “A”s are nearly identical, while the “Δ” has simply had one of its corners rounded and rotated slightly. Gelb continues to ask why these letters remain so similar, and he laments that “it is not as if our writing were so perfect as not to need any improvement” (*ibid.*).

But Gelb’s challenge becomes quite different when applied to Arabic script. Communication of the word “DADA” changes drastically when written as the Arabic دادا and this change is not simply due to a difference of character set. The Arabic word may also adopt a variety of visual and aesthetic forms. Its letters could be traced in the careful proportions of *naskh* script, which have preserved a remarkable consistency of written form for over ten centuries. Or they may be drawn with the floriated decoration of an ornamental *Kufic* script, or the austere grandeur of *thuluth*, or the complexity of Ottoman *diwani*, or the sweeping lines of *talik*, or the formal modernism of the *Ahmad* typeface, or the aesthetic experimentalism of contemporary calligraphic art. With each style, the same word communicates a new message, and the visual conventions that distinguish these styles amplify the symbolic cache of writing. Exploring how similar strategies may apply to contemporary practices of writing and design offers, to borrow from Ibrahim Mütefferrika’s description of printing: “a noble profession and a beautiful calling.”

## Appendix: Timeline of Arabic Script

The following timeline outlines major shifts and contributions with regard to the visual and material form of Arabic script. Entries highlight the multiple visual conventions and practices of inscription employed in Arabic writing. Special attention is directed toward movements and developments explored in dissertation chapters. Thus, during the pivotal period of print adoption and linguistic reform, the Ottoman context is emphasized. These changes, however, are situated within the larger technical history of Arabic script and the history of print.

- 300 - 400 C.E. From the second century B.C.E. to the fourth century C.E., Nabatean Arabs traveled the incense routes from Yemen to Petra and utilized written Aramaic for their record keeping. The epigraphic study of Nabatean inscriptions traces a slow transformation of Nabatean writing from an Aramaic alphabet of distinct forms into a cursive script of ligatured letters (Naveh 1982; Anderson 1992: 292). Over time, written Nabatean also incorporates a variety of Arabic words and place names: "At Hejra in North Arabia, there was found a [Nabatean] burial inscription bearing the date "year 162" according to the era of Provincia Arabia, that is 267 A.D. . . . The Nabatean text is written in what amounts to a mixed language, containing many Arab words and forms" (Naveh 1982: 158).
- 600 – 700 C.E. The first reference to a specifically Arabic script, *Jazm*, occurs in the sixth century. *Jazm* derived from the Nabatean alphabet and became the primary source from which subsequent Arabic scripts developed. It is described as a visually unrefined script, marked by equal-proportioned letters and a stiff appearance (Safadi 1979: 8; AbiFarès 2001: 28). The traders Bishr Ibn Abd al-Malik and Harb Ibn Umayyah are credited with introducing a similar script to the Quraysh, the tribe in which Muhammad is born (Safadi 1979: 8).

- 570 - 632 C.E.  
(-10 A.H.)
- During the lifetime of the Prophet Muhammad, the Qur'an is divinely revealed and recited in Arabic. The text is not formally collected during this time due to the historical possibility of additional revelations. In 632 C.E. (10 A.H.), Muhammad dies and historical revelation of the holy Qur'an comes to an end.
- 632 - 650 C.E.  
(10 - 18 A.H.)
- The Qur'an is preserved in its orally revealed form by a devout group of *huffaz*, who commit the entire text to memory. But numerous *huffaz* are killed in the military campaigns which follow the death of Muhammad. Worried about the effects of these losses, Umar ibn Khattab urges Caliph Abu Bakr to begin collecting the Qur'an in writing (Safadi 1979: 9)
- The task of collating a written Qur'an is given to Zayid ibn-Thabit, who served as Muhammad's personal secretary. Zayid begins assembling textual fragments inscribed on parchment, palm stalks, cloth, and the shoulder bones of camels. Each piece of writing is carefully verified and confirmed against two oral testimonies from trusted *huffaz* (al-Sa'id: 1975: 19-27).
- 644 - 656 C.E.  
(19 A.H.)
- The third caliph Uthman codifies and authorizes an official written version of the Qur'an for distribution. Official copies of the written collection are distributed to major centers of Muslim expansion as standards of copy, correction, and verification.
- The earliest *mushaf* (written copies) of the Qur'anic text are bound as codices to materially distinguish them from other texts (al-Bagdadi 2005: 95-96). They are written in a variety of scripts, often named after the locale in which they were written. These include the *Makki* and *Madini* scripts, which are named after the holy cities of Islam, and the *Kufic* script from the city Kufa, which attains popularity for its refinement, aesthetic balance and grandeur.
- The label *Kufic* becomes a general term for geometric styles of Arabic script known as *Mabsut wa Mustaqim* (the elongated and the straight-angled), and *Kufic* scripts become the preferred script of Qur'anic *mushaf* (AbiFarès 2001: 29). In contrast, the flowing cursive scripts of *Muqawwar wa Mudawwar* (the curved and the rounded) are gathered under the heading *naskh*. These



scripts were employed for practical texts, letters, and administrative documents, but rarely applied to copy the holy Qur'an.

- 661 - 755 C.E. The Umayyad dynasty, under Caliph Abd al-Malik (685-705 C.E.), mandates the use of Arabic script for all official and state documents (AbiFarès 2001: 34; Welch 1979: 23). Instead of images, Umayyad coins display Arabic script as a sign of visual authority (Bierman 1998: 33-34).

Damascus, the Umayyad capital, becomes a center of Arabic writing with the appearance of two new *naskh* scripts: *Tumar* and *Jali*. *Tumar* becomes the official Umayyad state script, and numerous scripts base their measurements and relations upon the height of the *alif* in *tumar* (AbiFarès 2001: 34). The most famous of these is *thuluth*, which means one third. The size of an *alif* in *thuluth* script measures one-third the size of an *alif* in *tumar*.

- 675 - 725 C.E. The Umayyad scholar Abul Aswad ad-Du'ali (d. 688) notices that linguistic habits of spoken Arabic are changing and begins a study of Arabic grammar. ad-Du'ali fears that if linguistic drift continues, the orally recited Qur'an will no longer be properly understood. To address the issue, ad-Du'ali invents a system for marking *Tashkil* (vocalization), in which colored marks diacritically indicate spoken vowel sounds that do not exist as individual Arabic letters (Safadi 1979: 13).

Another difficulty concerns a number of consonants, which share similar letter shapes. To differentiate these letters, two pupils of ad-Du'ali, Nasr ibn Asim and Yayha ibn Ya'mur, devise a system similar to *Tashkil*. In the new system, diacritical dots, or *nokte*, are placed above or below certain letters to distinguish between consonants. Unlike the marks of *Tashkil*, the *nokte* are marked in the same color as the primary text. Thus, the two systems were compatible and often used in conjunction. Although attributed to the innovation of ad-Du'ali and his pupils, both systems appear to be codifications of practices that were already common (Safadi 1979: 13; Pedersen 1984: 76).

- 750 – 1258 C.E. During the Abbasid era, script development continues, fueled by the introduction and spread of paper across Muslim lands (Bloom 2001: 42-45). Six styles of *naskh* script acquire special prominence and become known collectively as *al-aqlam al-sittah* (the six pens). These scripts consist of three pairs of differing size: *Thuluth-Naskh*, *Muhaqqaq-Rayhani*, *Tawqi'-Riqa'*, (Safadi 1979: 17; Ülker 1987: 59; Welch 1979: 29). The Abbasid caliphs adopt *Tawqi'* as the official signature script of decrees and administrative pronouncements. This choice visually distinguishes the writings of the new dynasty from the earlier *Tumar* of the Umayyads.
- 786. C.E. The Abbasid scribe Khalil Ibn Ahmad al-Farahidi (d. 786) revises the earlier system of diacritical marking developed by ad-Du'ali and his pupils. al-Farahidi retains *nokte* for differentiating among consonants but replaces the colored marks of *tashkil* with eight new diacritical signs. al-Farahidi's reforms are met with resistance and initially restricted to secular writings (Safadi 1979: 14). Written changes may have been interpreted as modifying the text of the Qur'an itself, and therefore opposed as abrogation. Opposition diminishes with time, and vocalization marks became especially useful in teaching proper Qur'anic recitation to a growing number of non-Arab Muslim converts.
- 886 - 940 C.E.  
(288 –328 A.H.) Vizier Ibn Muqlah (d. 940 C.E., 328 A.H.) formalizes systematic geometric and typological rules for the construction and relation of Arabic letters. The vizier led a tumultuous life, and his innovations were highly political. Ibn Muqlah is rumored to have been three times vizier, three times at war, and three times imprisoned (Khatibi and Sijelmassi 1976: 26; Ülker 1984: 69). When a rival vizier severed his right hand as punishment, he took up the pen with his left hand and his writing allegedly became more exquisite. Not to be outdone, the rival vizier subsequently cut out Ibn Muqlah's tongue as well (Grabar 1992: 254).
- Ibn Muqlah's innovation applies the entire canon of *naskh* scripts, especially *al-aqlam al-sittah*, to a precise system of geometric reform (Robertson 1920: 57-83; Abbott 1939a; Abbott 1939b; Welch 1979: 28). The new approach, known as *al-khatt al-mansub* (proportioned script), designs proportioned letters according to three

parameters: the rhombic dot of the *nokte*, the height of the *alif*, and the circle.

As a result, styles of script became distinguishable in relation to their adopted proportions and the base *nokte* measurement of their corresponding *alif*. Thus, the *alif* in *muhaqqaq* script measured nine *nokte* tall; the *alif* in *thuluth* measured seven, and the *alif* in *naskh* measured five. By standardizing the shape of Arabic letters, the new system provided visual consistency across multiple sites of writing and multiple texts.

- 900 + C.E.      Alongside the formation of systemic rules for *al-khatt al-mansub*, angular Kufic styles continue to develop in complexity. These include floriated, geometric, and woven variants. Kufic inscriptions come to be used mainly for decoration, and many of the newer styles begin to emphasize visual aesthetics over legibility.
- 1022 C.E.  
(- 413 A.H.)      Ali ibn Hilal Ibn al-Bawwab (d. 1022 C.E., 413 A.H.) beautifies the geometric system of *al-khatt al-mansub* created by Ibn Muqlah. As both a calligrapher and an illuminator, his writing is famed for its consistency, elegance, and harmony, elevating *naskh* to the status of a visual and aesthetic art befitting the Qur'an (Abbot 1939b: 77; Rice 1955; Safadi 1979: 18).
- A Qur'an penned by Ibn al-Bawwab is currently held by Chester Beatty Library, Dublin. Ibn al-Bawwab's writing carefully reproduces the strict proportions of *al-khatt al-mansub*, and his textual design effectively navigates multiple styles of scripts. His text employs differences of scribal style to visually distinguish the body of the text from section titles, indexical tables, and paratextual markers (Rice 1955: 12; Khatibi and Sijelmassi 1976: 142).
- 1298 C.E.      Yaqut al-Mustasimi solidifies *al-aqlam al-sittah* and preserves the geometric rules of Ibn Muqlah through the siege of Baghdad by the Mongols. Although he began work as a slave, Yaqut became an exemplary teacher and instructed hundreds of students in the craft of writing (Schimmel 1984: 21; Ülker 1987: 70). Of these, six pupils perfected their art to such a degree that they could sign works in the name of their master (Ahmad ibn Mir Munshi 1959: 60).

Yaqut's greatest technical contribution to Arabic script was a new method for trimming the *qalam* (pen) at an angle. This slowed the flow of ink and allowed for a greater degree of linear variation (Welch 1979:30):

"The cynosure of calligraphers (Yaqut) cut the end of the *qalam*. Thus, he altered both the rule and the writing, because writing is subordinated to the *qalam*. For this reason, his writing is preferred to that of Ibn Bawwab for its fineness and elegance, and not for the sake of the basic rules; for the essence of writing, it is the same as invented by Ibn Muqlah from the circle and the dot" (Ahmad ibn Mir Munshi 1959: 58)

1370 - 1576 C.E. The Persian Timurid dynasty celebrates and refines the arts of the book (James 1992). A variety of new scripts are developed, including the sweeping Persian script of *talik*. Persian artists also excel at a variety of other book arts, including illumination, binding, *qittah* (cutting letters from colored paper and pasting them to a board in lieu of writing), and miniature painting.

With the spread of Islam eastward, Arabic script also spreads into Central Asia, India, and China, resulting in a variety of regional styles (Bauer 1996; AbiFarès 2001).

1311 C.E. The Roman Catholic Papacy establishes a council for the translation of Arabic texts. This council later supports the establishment of the Arabic language Medici Press.

1324 C.E. Sultan Orhan founds the Ottoman dynasty. Orhan employs a calligraphic *tugrah* as the visual seal of his personal authority (Atıl 1987: 36). The *tugrah*, presents the name of the sultan as a highly stylized calligraphic image. Later sultans would choose a *tugrah* design from those presented to them on the day they ascend the throne, and, once chosen, the *tugrah* design would remain consistent throughout a sultan's reign. The seal becomes more complex over time, but its major elements continue to reflect the *tugrah* of Orhan for over six centuries of Ottoman rule.

1429 - 1520 C.E. Shayk Hamdullah of Amasya refines and popularizes *al-aqlam al-sittah* for Ottoman scribal practice. He is also attributed with refinement of the chancery script *Diwani*, originally developed by Ibrahim Munif (Safadi 1979: 30; AbiFarès 2001: 38).

The name *diwani* arises from the script's official role of transcribing *diwan-i humayun* (the imperial register). It functions as official Ottoman script of declarations and permissions. The compactness and complexity of *diwani* protects contents from additions and forgery.

1453 - 1481 C.E. The Ottomans conquer Constantinople under the leadership of Sultan Mehmet Fatih. By the end of his reign, the royal Ottoman library at Topkapı contains a number of incunabula (Kreiser 2001: 13), including a profession of faith addressed by the local Orthodox Christian Patriarch to the conquering Sultan. Mehmet specifically requested that this document be translated into Turkish, and the translation was printed using the Greek alphabet (Kut 1960: 800).

1455 C.E. Moveable type is perfected by Johann Gutenberg in Mainz, Germany. The Bible becomes the first book printed with the new technology, although an anti-Ottoman tract entitled *Eine Mahnung der Christenheit wider die Türken* (A warning to Christendom against the Turks) precedes the book by almost a year (Füssel 2003: 27; Lunde 1981).

1483 C.E. Mehmet's successor, Sultan Beyazıt II, supposedly bans the printing of Arabic characters under penalty of death. The text of the ban has not been located, and Beyazıt II incongruously allowed the establishment of Jewish Hebrew presses during his reign. If the pious Sultan did indeed issue such a harsh decree, it seems likely that he would therefore have provided a series of Islamic or legal arguments supporting the decision.

1486. C.E. The first Arabic woodcut alphabet is printed in Mainz as part of Bernhard von Breydenbach's *Peregrinatio in Terram Sanctam*.

1514 C.E. The first Arabic book with moveable metal type *Kitab Salat al-Sawa'i* (Book of Hours) is typeset and printed by Francisco Griffio (AbiFarès 2001: 45). Although the

book contains a Fano imprint, it was likely produced in Venice and marked with a false imprint in order to circumscribe printing regulations (Krek 1979).

- 1515 C.E. Sultan Selim I (“Selim the Grim”) allegedly renews Beyazit II’s ban on Arabic and Ottoman printing. Like the original decree, the text of this renewal has not been located in the Ottoman archives.
- 1527 - 1550 C.E. The Jewish printer Gerson of Soncino relocates from Italy to Constantinople and later moves his operations to Ottoman Salonika. In 1546, the Soncino press issues an Arabic translation of the Pentateuch, with Arabic text phonetically printed in Hebrew characters (Krek 1979: 209).
- 1537 C.E. In Venice, Alessandro Paganino de Paganini produces the first printed Qur’an for export and sale in Muslim lands. Numerous textual errors, the poor appearance of the text, and failure to provide *nokte* for certain letters results in its commercial failure (Nouvo 1990; Mahdi 1995: 1-2; AbiFarès, 2001: 46).
- 1556 C.E.  
( -963 A.H.) Ottoman calligrapher Ahmed Karahisari enhances the aesthetic appeal of calligraphy by harmonizing the ratio of the letters with the whole page (Mahir 1999: 31). He also writes the *bismallah* in a stylized manner without *nokte*. Since the dots are blended into other letters, the entire phrase can be written in a single breath without lifting the pen from the page. Sultan Süleyman the Magnificent commissions Karahisari to inscribe the dome of the Suleymaniye mosque, which was designed by the master Ottoman architect Sinan.
- 1564 C.E. Jesuit Giambattista Eliano designs an Arabic font for the *Tipographia del Collegio Romano*. Eliano’s designs surpass the clarity and aesthetic quality of earlier specimens, and later become the model for Robert Ganjon’s Arabic typefaces
- 1584 - 1614 C.E. The *Typographie Medicea* (Medici Press) is active in Rome and specializes in the printing of Arabic texts. Press director Giovanni Battista Raimondi hires typographer Robert Granjon (d. 1589) to cut a series of Arabic types (Verveliet 1981; Lunde 1981; AbiFarès 2001: 45-47). Drawing upon his earlier work with

Latin cursives and a collection of calligraphic samples provided by Raimondi, Granjon designs the first fully ligatured Arabic fonts.

- 1584 C.E. Pope Gregory XIII establishes a Maronite college in Rome. Graduates of the college later play significant roles in the history of Arabic printing and publishing. The printer Yaqub Ibn Halal (Giacomo Luna), who succeeds Robert Granjon as chief Arabic typesetter at the Medici Press, is a member of the first graduating class (AbiFarès 2001: 48-49).
- 1592 C.E. The Medici Press publishes *Alphabetum arabicum*, a Latin essay outlining the orthography of Arabic script alongside beautiful samples of Granjon's Arabic typefaces. The brief treatise includes a notable section discussing regional the variations of Arabic script, including an explanation of the differences separating Western *magribi* script from the *al-khatt al-mansub* of the Eastern Muslim world.
- 1588 C.E. Sultan Murad III provides written permission to the Bodoni brothers for the import of certain texts printed with Arabic type (Faroqhi 2000: 94; Gerçek 1939: 23-24). The first of these imports is printed in 1594 C.E. The book is a version of Euclid's *Elements* and contains the *ferman* (official permission) of Murad as its final sheet. The Bodoni imports are printed by the Medici Press with Arabic typefaces designed by Robert Granjon (Lunde 1981; Kut 1960: 799).
- 1610 C.E. A Psalter is printed at the Convent of Saint Antony of Quzhaya on Mount Lebanon. The book, which is the first printed with moveable Arabic type in the Middle East, contains both Syriac and Arabic text. The press at Quzhaya is run by graduates of the Maronite College established by Pope Gregory XVIII (Lunde 1981).
- 1640 C.E. Ottoman scholar, Ibrahim Peçewi publishes his *Tarihi (History)*, which contains a section describing the inventions of Gutenberg and the usefulness of print.
- 1671 C.E. For an article on Gutenberg in his *Histoire des plus illustres et scavans hoomes de leur siecles*, André Thevet mentions Sultan Beyazit II's alleged 1483 C.E. ban on Arabic printing, as well as Sultan Selim I's renewal in

1515. This is the first known mention of these decrees, which have not been located in the Ottoman archives.

Thevet claims that ban stipulates the punishment of execution for anyone engaged in the printing of Arabic or Turkish in Ottoman lands, but the author has a reputation for exoticizing his claims (Gdoura 1985: 86; Mukerji 2006: 665n2).

-1698 C.E.  
(- 1110 A.H.)

Hafiz Osman (d. 1698 C.E.) becomes known as the "Second Shayk" (Ülker 1987: 79) for his close imitation and refinement of Shayk Hamdullah's writing style. In Turkey, most printed Qur'an remain lithographic reproduction of Osman's work (Schimmel 1994: 154). Osman also formalizes the design of Ottoman *Hilye*, decorative calligraphic pieces celebrating the physical appearance, behavior, and personality of the Prophet Muhammad.

1720 C.E.

An Ottoman envoy under the direction of Yirmisikiz Mehmet Çelebi visits the French court of Louis XV with instructions to study the society, science, and technology of France and report back on advances that might be applicable for Ottoman lands. During the visit, Mehmet confides with Saint-Simon that he plans to establish a printing press in Constantinople upon his return (Berkes 1964: 33; Saint-Simon 1887: 249).

1721 - 1725 C.E.

The Ottoman bureaucrat Ibrahim Müteferrika prints and distributes a map of the Sea of Marmara, followed by maps of the Black Sea and Iran. With the support of Yirmisekiz Mehmet Çelebi and Said Çelebi, Ibrahim drafts a petition requesting the establishment of an Ottoman print shop. The petition is entitled "Wasilat at-Tiba'a (The Device of Printing)" and presents ten specific benefits printing offers the Ottoman state.

1727 C.E.

Sultan Ahmad III issues a *ferman* to Said Çelebi and Ibrahim Müteferrika authorizing them to establish an Ottoman press. An accompanying religious decision (*fetwa*) from Sheyh ül-Islam Abdullah Effendi supports the endeavor as beneficial to Islam.

Sultan Ahmet III, who issues the *ferman* is also trained in calligraphy. He contributes a piece of fine writing



to each major mosque in Istanbul (Schimmel 1984: 74-75), and he is especially noted for personally drafting the official *tugrah* signature (Mahir 1999: 46).

- 1729 - 1742 C.E. The Müteferrika press publishes seventeen editions, with a focus on language reference, geography, and military science. Many of the editions also contain printed maps and printed illustrations (Lunde 1981; Kut 1960: 801).
- The first book is a massive Turkish-Arabic dictionary known as *Vankuli*. The opening pages of the book contain Sultan Ahmad III's *firman*, the *fetwa* of Sheyh ül-Islam Abdullah Effendi, and Ibrahim Müteferrika's essay on the benefits of printing.
- The Arabic typefaces employed by the press represent a remarkable technological achievement and closely resemble the handwritten *naskh* script of the day. The complete set of type numbers over distinct 500 glyphs. The chief typesetter of the press was an Ottoman Jew by the name of Yonah ben Yakov Ashkenazi (Shaw 1991: 146; Ersoy 1959: 35),
- 1735 C.E. Swedish diplomat Edvard Carlson visits the Ibrahim Müteferrika print shop and writes a brief description for the Swedish court (Carlson 1979).
- 1757 – 1826 C.E. (1177-1241 A.H) Mustafa Rakim (1757 – 1826 C.E.) becomes the official calligrapher of numerous sultans. Rakim perfects the style known as *Jali Thuluth*, which adorns numerous mosques and is proportioned such that the letters of large inscriptions become easier to decipher (Mahir 1999: 11-12; Alparslan 2003: 836). Rakim also refines the calligraphic *tugrah* seal and invents a simplified method for training apprentice scribes in *al-aqlam al-sittah*. Religious schools oppose the new method, but Sultan Mahmud II supports it and the sultan's position silences traditionalist critics (Mardin 1962: 264).
- 1783-1785 C.E. Count Volney visits Syria and Egypt and reports on the "barbarism" of the region. Volney lists an absence of printing as a major contributor to this barbarism.
- 1787 C.E. The first Qur'an printed by a Muslim population is produced in St. Petersburg, at the request of the

Russian Empress Catherine II (AbiFarès 2001: 61).

- 1795- C.E. Fifty years after the closing of the Mütferrika print shop, the second official Ottoman print establishment opens at the School of Engineering and Artillery in Üsküdar, Constantinople. The press focuses on the printing of educational and geographic material.
- 1798 - 1801 C.E. Napoleon invades Egypt. The expedition utilizes print to distribute army orders and administrative decrees. All material printed in Arabic is composed in classical Qur'anic style. Napoleon dismisses the expedition's first chief printer, Marc Aurel, due to the high number of typographic errors in early printings, and J.J. Marcel becomes the head of operations (Lunde 1981).
- In 1799, the expedition publishes an Arabic edition of *Luqman's Fables*. According to the book's notice from Marcel, the text is translated as literally as possible, sacrificing elegance of phrasing for exactitude in order that readers may use the text to become familiar with Arabic phraseology.
- 1800 + C.E. In response to the spread of printed texts, calligraphic display panels (*levha*) become increasingly popular in Ottoman circles (Mahir 1999: 32; Sakal 2000). These display pieces celebrate Arabic calligraphy as a visual and aesthetic art, "bearing a vital harmony and lively beauty in the geometrical and logical order of their characters" (Acar 1999: 26).
- 1820 C.E. The development of lithography permits the printing and reproduction of manuscript pages. Twenty-one years later, the first Arabic lithographic press opens in Aleppo (Lunde 1981).
- 1822 - 1842 C.E. The Bulaq Press functions as the state press of Egypt. Egyptian Ruler Muhammad Ali establishes the press with the political ambition of resisting French and Ottoman colonialism (Lunde 1981). The Bulaq press operates in direct competition with Ottoman presses both locally and in Istanbul.
- 1833 - 1922 C.E. An American-run Arabic press moves from Malta, where it was founded in 1822, to Beirut and becomes

one of the largest distributors of Arabic printed books. From 1833 to its closing in 1922, the American press produces over 1,240,000,000 pages of printed material (Lunde 1981). Like the Egyptian Bulaq press, the press operates in competition with contemporary Ottoman printing and publishing establishments.

- 1834 C.E. German printer Gustav Flügel prints a Qur'an, which becomes the standard for latter Orientalists.
- 1839 C.E. The Ottoman religious scholar Muhammad Haqqi publishes a ten-point tract in praise of print. The brief text closely resembles Ibrahim Muteferrika's "Wasilat at-Tiba'a" of 1729, but Haqqi does not mention the earlier essay, and his presentation differs greatly in terms of argumentative thrust. Whereas Ibrahim's essay emphasizes the utility of print for governance, the military administration, over half of Haqqi's ten benefits explicitly reference the glory of Islam and the specific reproduction of Islamic texts
- 1840 C.E. English merchant William Churchill begins to print the first private Ottoman newspaper: *Ceride-i Havadis*. The paper attains popularity for its regular dispatches from the Crimean War and its translated feuilletons, which include an Ottoman Turkish version of *Les Miserables* (Mardin 1961: 266; B. Lewis 1961: 144-145).
- 1841 C.E. The first Arabic lithographic press opens in Aleppo.
- 1845 C.E. The first printing press opens in Morocco.
- 1848 C.E. Austrian Catholics and British Protestants open Arabic printing presses in Palestine.
- 1855 C.E. In his *Essai sur la typographie*, the French typographer Ambrosie Firmin-Didot repeats André Thevet's 1671 claim that Beyazit II made Arabic printing punishable by death (Gerçek 1939: 17-18).
- 1856 - 1860 C.E. Luigi Calligaris, a retired Italian military officer living in Tunis, sends an anonymous "Letter on the Utility of Establishing a Press for Arabic Book in Tunis" to the Tunisian authorities. The first local press opens four years later (Albin 1993: 119).

- 1859 C.E. Catholic Dominicans found the first printing press in Karbala, Iraq. The press is run by the Iraqi Catholic priest Yusuf Da'ud (Albin 1993: 116).
- 1861 C.E. Ottoman writer and dramatist Ibrahim Shinasi founds the newspaper *Tasvir-i Efkâr*. The paper's writing is marked by a directness of language and short simple sentences that reflect the spoken Turkish of the day. By merging the styles of *naskh* and *kufic*, typographers of *Tasvir-i Efkâr* succeed in reducing the number of glyphs from 500 to only 112 forms (Berkes 1964: 198).
- 1861 - 1864 C.E. Faris al-Shiddayaq publishes an Arabic language newspaper in Istanbul.
- 1862 C.E. In a speech to the recently-formed Ottoman Scientific Society, Münif Pasha cites the deficiencies of Arabic alphabet as a hindrance to the teaching of Ottoman Turkish literacy (B. Lewis 1961: 421; Mardin 1961: 268-269; Berkes 1964: 195-196; G. Lewis 1999: 28).
- 1864 C.E. Azerbaijani writer and dramatist Feth-Ali Ahundzade presents the Ottoman Scientific Society with a specific proposal for alphabetic reform. The proposal suggests the invention of new vowel signs to facilitate phonetic rendering of spoken Ottoman Turkish. These vowel marks would be placed between consonants similar to Latin letters. Ahundzade comments that difficulties with Arabic script are a problem of literacy rather than religion, and that there should therefore be no Islamic objection to a new script (Berkes 1964: 196).
- 1866 C.E. The first printing press opens in Tripoli, Libya.
- 1874 C.E. Cevdet Pasha publishes the first print edition of the Qur'an in Ottoman lands. The text is printed from a lithograph copy penned by Sekerzade Mehmet Effendi (d. 1753) in the style of Shayk Hamdullah (Acar 1999: 197). Cevdet Pasha receives government permission for his undertaking, but he does not request a religious decision from the Sheyh ül-Islam.
- 1877 C.E. The first printing press opens in Yemen.
- 1878 C.E. An Arabic translation of the Bible printed by the American Press in Beirut wins a gold medal at the Paris Exposition (Lunde 1981).

- 1882 C.E. The first printing press opens in Saudi Arabia
- 1909 - 1922 C.E. A local Arabic press opens in Haifa in 1909. In 1922, this press relocates and becomes the first printing press in Jordan.
- 1913 - 1918 C.E. During World War I, the Ottoman Ministry of War employs a system of writing designed by Enver Pasha. The system utilizes Arabic letters without ligatures and variegated forms to distinguish among vowels (G. Lewis 1999: 29).
- 1918 - 1924 C.E. Muslim scholars gather in Egypt to standardize the numbering of *surahs*. Their efforts result in the publication of the standard Islamic and Arabic Qur'an in 1924. The Qur'an is printed in a *naskh* typeface.
- 1921 C.E. King Fuad I of Saudi Arabia invites the Turkish calligrapher Muhammad 'Abd al-'Aziz ar-Rifa'i to Cairo. ar-Rifa'i transcribes the Qur'an and Fuad has the decoration on the final product is gilded. The King Fuad also founds a school to preserve the artistry of Arabic calligraphic tradition (Schimmel 1984: 48)
- 1926 C.E. Turkish essayist Kılıçzade Hakki publishes an article entitled "Gabriel didn't bring the Arabic letters too, you know." The article argues that the sacred nature of the Qur'an does not extend to the alphabet in which it was written, and there is therefore no reason for modern Turkish to employ the Arabic alphabet (G. Lewis 1999: 32).
- 1928 C.E. Behind the leadership of Kemal Mustafa Ataturk, modern Turkey discards Arabic script in favor of the Latin alphabet. The move is a deliberate attempt to build national identity, breaking with a traditionalist and "religious" past and shift the culture toward the modern European powers (Jensen 1969: 18). When scholars comment that the shift will take five years, Ataturk replies "We shall do it in five months."
- The same year, *Tuhfe-i Hattatin*, a comprehensive biographical tome of Ottoman scribes, is printed in Ottoman Turkish with Arabic typeface.

1936 C.E. The Academy of the Arabic Language in Cairo gathers to discuss the transliteration of foreign names within the Arabic press (AbiFarès 2001: 73). The Academy decides that new configurations of diacritical marks and basic letter shapes of the Arabic alphabet will be used for the representation of foreign sounds without significantly altering the structure of the script itself.

1945-1959 C.E. In an effort to confront the problem of illiteracy in the Arab world, the Academy of the Arabic Language in Cairo circulates an open call for proposals of Arabic script reform and receives over 200 suggestions.

The Academy classifies the received proposals into three categories: (1) projects proposing a break with Arabic tradition and the use of Latin letters; (2) projects that retain Arabic letters but add vowels and additional letters; and (3) projects that retain Arabic letters and propose a single form for each letter and the use of vocalization marks.

None of the proposals are formally adopted, but, in 1955, the Academy forwards three suggestions for script reform: (1) the addition of new diacritical markings for the representation of non-Arabic sounds; (2) the obligatory use of diacritic vocalization marks for educational material; and (3) a reduction of the Arabic character set from 300 glyphs to 169 forms (AbiFarès 2001: 74).

1949 C.E. + The first recognized exhibition of modern Arabic calligraphy opens in 1949 at the Georgetown Public Library in Washington, D.C. The artist, Madiha Omar, drafts a declaration entitled *Arabic Calligraphy: An Element of Inspiration in Abstract Art* to accompany the exhibit (Ali 1997: 152).

Around the same time, a series of local art movements in the Arabic and Islamic world begin to apply Arabic letters to contemporary designs. In popular tourist markets, artistic Arabic letters serve as symbolic marks of religion, culture, language, and nation. Artistic experiments in the abstraction of Arabic letterforms respond to the artistic use of the letter and draw upon lettering techniques employed by Western artists.

- 1956 C.E. Linotype develops its Simplified Arabic font set for use in newspapers and magazines. The set reduces the number of print characters to fifty-six (AbiFarès 2001: 81). Around the same time, Lebanese printer Kamel Mrowa designs the *Mkarzel* Arabic font with eighty-eight characters. The Lebanese daily *al-Hayat* adopts *Mkarzel* as its standard typeface (Munro 1981).
- 1960 –1970 C.E. Dr. E.B. Plooji of Amsterdam devises a new method for printing complex Arabic calligraphic styles. The new method divides Arabic script into a collection of line segments rather than individual letters. The use of line segment allows Plooji to construct a variety of letter shapes and ligatures (AbiFarès 2001: 78).
- 1961 C.E. The first official audio recording of the Qur'an, the *al-Mushaf al-Murattal*, is completed on July 23 in Cairo for the ninth anniversary of the Egyptian revolution (al-Sa'id 1975: 84).
- 1990 – C.E. Arabic type manufacturers begin converting their typefaces to digital typesetting. Digital manipulation allows for greater variation in visual styles, and many designers attempt to mine the calligraphic tradition of Arabic writing. In digital typesetting, the three letters of *alif*, *ayn*, and *sin* commonly provide the base forms from which the proportions and design of a new font are constructed (AbiFarès 2001: 183). The use of three letters to preserve the visual consistency of Arabic fonts contrasts with the calligraphic system of Ibn Muqlah, which is based upon the *nokte* and the single letter *alif*.

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