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Typography

Behind the Arabetic Calligraphy Veil

Saad D. Abulhab

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ABSTRACT

In the change from scriptural writing systems to textual mechanical systems and most recently to digital, computer generated text, some languages and their typographic representations have suffered. One such language, along with its visible language representation, that has not made a smooth transition is Arabic. The author argues that misinterpreting language tradition prevents what he calls Arabetic typography from embracing an appropriate technological adaptation. Putting forth an evolutionary argument, he critiques the notion that calligraphic styles must prevail and that legibility and readability of Arabic characters are objective. He further states that the resulting typefaces, when the so-called 'Arabic script rules' are abandoned, are similar in visual impact to the 'free calligraphy' typefaces already widely used in the marketplace. Finally he challenges the notion that technological maturity has been reached in digital character input and generation. Following these critiques, he demonstrates the awkward input system for Arabetic text and proposes a Natural Arabetic Input Method. A political and economic subtext runs throughout the essay

INTRODUCTION

Arabetic typography is clearly a subject still surrounded with intense debates. As an international field, the forces governing its progress are still primarily in the western world despite efforts by many to make it look otherwise. This is not surprising since the defining technology behind Arabetic computing continues to be developed outside the Arabic and Muslim worlds, unlike many other scripts where local expertise and innovation are increasingly dominant with international corporations playing a key role. In our global interdependent economy, driven by global technology, Arabetic typography and computing have much less opportunity to freely evolve through local intrinsic forces as others did, especially when it is being restricted by today's complex high tech solutions. But fortunately it does not, and would not need to, do it locally. Instead, Arabetic typography needs only to adhere to the rules of global competition, economical and technological, to succeed, flourish or even survive. Arabic should once again be faithful to its historical past of creative flexibility and adaptability. It should embrace technology by becoming an independent loyal partner to it, not a dependent burden on it. It should embrace simplification and abandon exaggerated rules that compromise both its users and its ability to survive global competition. Arabetic typography must free itself from its handwriting-imposed conventions in a script world not governed anymore by handwriting rules alone.

WHY ARABETIC? WHY NOT ARABIC?

For a careful reader, the first question for this essay should be: why Arabetic and not Arabic? When we first used the word Arabetic in an article about Arabetic typography, we argued that for those involved in the fields of Arabic and derived scripts, Urdu, Farsi, Pashto and Kurdish, for example, there is no single, clear and user friendly Latin word to address them all at once (Abulhab, 2004). A term like 'Latin' can acceptably be used to refer to all Latin based scripts. One can obviously use the limiting word 'Arabic' alienating many in the non-Arabic speaking world or even invoking their objections, let alone compromising intellectual and scientific facts. But also, in our current world's political and economical picture, the need for a unifying term is essential. Arabetic is a unifying term. It has enough flavor of Arabic for the Arabs to appreciate and take appropriate credit for. But at the same time, it is not pure "Arabic," which can justifiably cause sensitivity and may even sound dismissive of those historically crucial and defining contributions of non-Arab users, calligraphers and civilizations to the Arabic language and script. Arabetic is a single, inclusive and unambiguous word to address all these scripts at once without compromising their distinct and unique characteristics.

Using one word to address all Arabic based writing systems is not an artificially proclaimed necessity nor is a cosmetic contribution. Behind our one

term is an explicit call for unity and therefore strength. Typography projects are complex, costly and time consuming. The economics of typography has its own independent factors. The days when a nation would emphasize a calligraphy style as a sign of its power and grace are gone. Today for example, Western typographers design for multiple Latin scripts, contributing positively to the availability, user choice and economics of Latin typography as a whole. Internationalization and Unicode have even paved the way for creating fonts with harmonized

multi-script styles. Insisting on presenting Naskh Taliq as uncompromising separate national identity script styles can only hurt the typographical and technological

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development of Arabic, Urdu and Persian scripts. Arabetic type designers must create commonly accepted and used typefaces in order to survive globally. They must work jointly to make available rich Arabetic font libraries not exaggerated exclusive national type styles.

It is not very clear in my mind why such a word did come about historically. Was it because western colonialists were not interested in a word that can have a lasting, meaningful, unifying effect on the Muslim world? Or was it a byproduct of an orientalist mentality as explored by Dr. Edward Said who argued in his book *Orientalism* (1978) that most western philosophers and thinkers of past centuries simply treated the world outside of Europe as a single entity not worthy of its rich diversity.

LIFTING THE ARABETIC CALLIGRAPHY VEIL

It is not an exaggeration to place Arabetic calligraphy in a class of its own when evaluating its power and beauty. In a few decades after Islam, the Arabs have evolved from people who primarily and fascinatingly memorized words and poetry to one of the most sophisticated script using people in the world. The Quraan, being both their main religious and law (shareeah) book was one of the key forces behind that leap. Centuries later, both the art of reading Quraan aloud (tajweed) and the art of drawing its words and letters (calligraphy) became among the most magnificent, captivating and powerful forces of Islam. Most calligraphy schools revolved around Quraanic text. But unlike the untouchable and unarguable words of god in the Quraan, the Arabic script itself was open

to change, adaptation and artistic creativity. One must point out that Muslims today write the Arabic words of Quraan even in Latin or other scripts without the slightest objection from Muslim religious scholars. The myth repeated by many that Arabic is a sacred, untouchable script or language is just that: a myth. On the contrary, historically, Arabic proved to be a very adaptive script both for Arabs and non-Arabs alike.

The magnificence and beauty of Arabetic calligraphy was without a doubt the leading force behind keeping its underlying scripts away from the popular move of world scripts toward a meaningful simplification in the age

Behind our one term is an explicit call for unity and therefore strength.

of typography. In a way these scripts became victims of their own success. But one must not blame the success of Arabetic calligraphy solely and forever. Calligraphy specified unique rules for specific styles but never for the scripts

themselves. The doors were wide open for the emergence of calligraphic styles, radically different from each other or from the most common ones. In its defense, calligraphy had never eliminated the basic abstract shapes and characteristics of the Arabic letters. The look and feel of an Arabic letter has survived the dictates of the art of calligraphy. More or less, with or without those exaggerated added 'serifs' for connectivity and/or directionality purposes, the letter "Alef" was and still is a vertical line; the letter "Baa" was and still is a horizontal line with one dot under; the letter "Taa" was and still is a horizontal line with two dots above, and so on. (See figures 1, 2 and 3.) The concept of the so-called 'Arabic script rules' is a concept introduced by modern Arabic typography in its continuing struggle to impose standards for duplicating the prevailing calligraphic styles on the machine. It is more a corporate and business concept than it is a genuine Arabic script concept.

There is no historical evidence that letters of Arabic or Arabic-derived scripts must follow certain fixed glyph-changing rules. Various Arabic calligraphy schools introduced two, four or many more shapes per letter as required by their specific style harmony. This clearly shows that the Arabic script has no fixed rules. It is certainly not confined by the rigidly defined multiple shapes per letter model that is implied by USP10.dll. Certainly, a one-glyph per letter can be yet another model based on its open variable shapes approach. Nor is there historical evidence of rules dictating that Arabic letters must appear connected. The Arabic script had most likely evolved from the one isolated shape per letter model of the old Southern Arabian Misnad script to its more practical and economical connected forms as was required by the world of scribes where speed and productivity is crucial. This evolution was a natural

And smart one. But it was not unique to Arabic. Old Cyrillic, Hebrew and other scripts used similar multiple shapes per letters as dictated by adjacent letters or mark combinations. The key concept of the argument here is that Arabic has no fixed rules other than the natural rules of evolution and adaptation. Arabic was and still is as free to adapt new appropriate forms as ever.

The beauty and innovation of the Arabetic calligraphy was a direct beneficiary of its exaggerated freedom to veil basic Arabic letter abstract shapes. Without a doubt, the blown-up letter connectivity approach contributed significantly to its calligraphic and artistic openness and diversity. The key to its success was the excessive freedom available to the hand of the calligrapher.

ء آ أ و إ ء ا ب ت ث ج د خ ذ ر ز س ش ص ض ط ظ ع غ ف ق ك ل م ن ه و ي

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ. الْحَمْدُ لِلّٰهِ رَبِّ الْعَالَمِیْنَ.
الرَّحْمٰنِ الرَّحِیْمِ. مَالِكِ یَوْمِ الدِّیْنِ. اِیَّاكَ نَعْبُدُ وَاِیَّاكَ
نَسْتَعِیْنُ. اِهْدِنَا الصِّرَاطَ الْمُسْتَقِیْمَ. صِرَاطَ الَّذِیْنَ
اَنْعَمْتَ عَلَیْهِمْ. غَیْرِ الْمَغْضُوْبِ عَلَیْهِمْ وَلَا الضَّالِّیْنَ. قُلْ
هُوَ اللّٰهُ اَحَدٌ. اللّٰهُ الصَّمَدُ. لَمْ یَلِدْ وَلَمْ یُوْلَدْ وَلَمْ یَكُنْ
لَهُ كُفُوًا اَحَدٌ. اِقْرَأْ بِسْمِ رَبِّكَ الَّذِیْ خَلَقَ. خَلَقَ الْاِنْسَانَ
مِنْ عَلَقٍ. اِقْرَأْ وَرَبُّكَ الْاَكْرَمُ. الَّذِیْ عَلَّمَ بِالْقَلَمِ. عَلَّمَ
الْاِنْسَانَ مَا لَمْ یَعْلَمْ. صَدَقَ اللّٰهُ الْعَظِیْمُ.

ويعيد هذان التمثالان إضافة إلى عدد آخر من التماثلات التي عشر عليها في المناطق المجاورة ما يسمى التماثل "السحابية" وذلك نظرا لمظهرها المشابه للزواحف. والذي يعود أساسا إلى شكل عيونها المشابه لحبوب القهوة وشكل رؤوسها المستطيلة، الذي من المحتمل أن يكون راجعا إلى القمط في فترة الرضاعة. كما تم استعمال القار لإظهار الشعر، وقد تشير الكريات الطينية أو العلامات المصبوغة على الكتف إلى الوشم أو إلى القرابين.

Figure 1 Sample Arabic text using 'Arabetic San Serif' font designed by the author.

To create beautiful calligraphic styles, a calligrapher would veil the visual identity of an Arabic letter leaving ample evidence of its defining characteristics.

The multiple shapes per letter still shared very similar common visual characteristics; defining letter characteristics were preserved. In a way, this is a parallel example to the classical case of a veiled woman's beauty wherein a veil, no matter how exaggerated, can never suppress or eliminate her beauty, but to the contrary for many eyes, it enhances it. Centuries of elaborate calligraphic veiling practices had not eliminated the basic shapes of the Arabetic letters or their unique and defining visual characteristics, beauty or functionality.

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Figure 2 Sample Arabic text using 'Arabetic Serif' font designed by the author.

Figure 3 The letter "Alif" in major traditional Arabetic calligraphy styles



THE POLITICS OF ARABETIC TYPOGRAPHY

Discussing Arabetic typography issues are almost always accompanied by emotion and very legitimately related political debates. One should not shy away from or dismiss the importance of such debates. After all, calligraphy, typography, scripts and language are cultural phenomena directly related and governed by real life international or national political, economical or religious factors. Denying and suppressing this fact is by itself a biased, politically motivated, stand. Many topics are repeatedly brought up when debating Arabetic typography but singled out here are four of the most crucial ones.

The first topic is related to the politics and controversy surrounding change. Many have called the use of one isolated shape per letter a move to 'Latinize' a national script. For the sake of argument let us assume that Latinization is simplification. But Latin has no patent or monopoly on the process of simplification, it is not its inventor or owner, and it can hardly claim it alone. There is no doubt that evolution is an eternal fact like life and death. Evolution has its own internal forces and cannot be stopped. We can only leave our mark on it, divert it or distort its natural course. Accepting the fact of natural evolution is our duty when dealing with 'living' beings including a national script. At the heart of evolution is adaptation, with simplification being one of its complex processes. In a way, today's televisions,

radios, telephones, computers and programs, are very simplified versions of the old ones. Scripts can adapt to both a social environment like language and a materialistic environment like technology. Someone of a specific nationality invents technology, but the basic laws behind it are natural laws that have no cultural flavor. The Arab world invented Algebra or Chemistry, but utilizing them today is not Arabization. Manufacturing automobiles in China or wearing jeans is not Westernization. Simplifying Arabic to smoothly utilize movable printing machines or today's computers is not Latinization or Orientalization. Calling efforts to simplify the Arabic script 'Latinization' is at best absurd. But it is probably a lot more than that. It is a politically motivated stubbornness. Especially when voiced by those who are advocating designs to ensure that Arabic text would look 'good' and 'harmonious' next to a Latin text! These designs, despite their absolute legitimacy, can really be called 'Latinized' since they abandon the main visual characteristics of Arabic, variable x-heights and

Evolution has its own internal forces and cannot be stopped. We can only leave our mark on it, divert it or distort its natural course.

horizontality, in favor of Latin visual characteristics. When we look around us today we see that Arabic typefaces have changed significantly from fifty years ago. The evolution and adaptation process has already taken its course. Hundreds of Arabic fonts, legible and very

acceptable to users, have radically different look and feel from the previously prevailing calligraphic-like type styles. But unfortunately that radical look and feel has not brought any substantial benefits to the Arabic script regarding its competitiveness or future global survival. In a way, we have sacrificed the beauty of Arabic calligraphy for extremely low return. The main cause of this constrained evolution is the imposition of those arbitrarily defined 'Arabic script rules.'

The second favorite debate relates to theories about legibility and readability of scripts. While there is some partial truth in the scientific arguments presented in such theories, they should not be taken for more than what they are: pure theories. They do not amount to definite, absolute, complete, scientific facts. But most importantly, even if they were true facts, these theories can only apply in relation to an existing and established script style. The clarity of a glyph image is relative to what the human eyes and brain perceive that image to be in the first place. This process is governed by both habit formation and practice. Just as it is absurd to compare two different scripts in terms of their legibility or readability characteristics it is absurd to compare two styles of the same script. A calligraphy imitating Arabic script style is more readable

only because most of us grew up with it. Arabic Naskh style is more readable today than Kufi, because ninety percent of the Arabic books and newspapers are printed in Naskh instead of Kufi. Persian readers are more comfortable reading text in Naskhtaaliq than in Naskh because of habit formation not the claims of readability and legibility theories.

Third is the argument of those who claim users will never accept radical change. But they did in front of our eyes and eagerly! Just browse a few magazines or websites in the Arab or Muslim worlds. Examine the beautiful so called 'free calligraphy' typefaces in the market today. They are as unconventional as our proposed, truly free, 'Arabic script rules' challenging

Typography today is about options and choice. It is about display as much as about text.

typefaces, but unfortunately adding no significant value for the future of Arabic scripts. In

addition to being a claim not based on any actual and neutral surveys, research or facts, this dismissive negative position reflects a distorted understanding of what the word 'accepts' means in the age of typography. Let us say that one percent of users will accept new unconventional typefaces, isn't that a very legitimate user acceptance? Isn't that how users gradually accept any new product? But most important, why does anyone, expert or not, corporation or influential individual have the right to speak and act on behalf of users, an action that can effectively be translated to censorship? Typography today is about options and choice. It is about display as much as about text. Type designers and software producers have an obligation to serve their customers by presenting options and preserving user freedom of choice to ensure customer satisfaction for all. New and old styles can live together for a long time as change is rarely an abrupt overnight jump.

Fourth and finally, we must discuss the very popular, self-praising and over confident claim that current developments in typography are very advanced and mature, therefore there is no need for change anymore. Even those who advocate simplified Arabic typography in the past found refuge in this very damaging assertion. In addition to being not actually true, this claim may reflect a lack of understanding of the mechanism of technological evolution and the economic factors at its heart, a lack of appropriate technical expertise and experience or even a lack of respect for Arabic scripts. Technology is a constantly changing phenomenon. No software or hardware product will forever be tied to any current stage of a technological evolution cycle. Technology solutions today may not necessarily be appropriate tomorrow. Economics determines the next stage of all technological developments. Scripts must

The Arabic scripts should not constantly be waiting in the dark under the captivity of future dll versions and upcoming software applications.

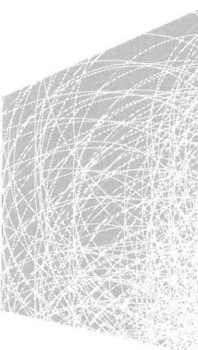
be prepared not only for current technology but for future unknown ones. The Arabic scripts should not constantly be waiting in the dark under the captivity of future dll versions and upcoming

software applications. Furthermore, producing Arabic typefaces after investing thousands of hours of unique technical expertise runs contrary to Arabic typography competitiveness and its future no matter how magnificent the resulting work is. Creating or technologically implementing common Arabic typefaces should not require any unnecessary additional expertise or knowledge of complex and sometimes 'primitive' tools.

Moreover, the technological solutions available today for Arabic computing are not educationally intuitive or user friendly. Reliance on the so-called smart font glyph-substituting approach introduced a hyper model in which glyphs are constantly and annoyingly changing shapes. In addition to violating the actual natural Arabic input process, this alien model is discouraging and unattractive to new learners. And to add insult to injury, this 'dancing glyphs' model was further supplemented by the imposition of a complex bi-directional overhead requirement leading to a hyper complex environment where glyphs, spaces, punctuation and cursors can potentially change even their positions in front of users' eyes.

Let us examine this further. In a bizarre decision of the influential Arabic computing circles, we were told that Arabic, a clearly and predominantly right to left script, was really a bi-directional (bidi) script since users write numbers in a left to right order for fifty percent of the cases. This was a legitimate and valid observation, but to solve this impossible obstacle, the great Arabic computing minds introduced a model where users would input numbers correctly for this fifty percent of the cases, but now input them incorrectly for the other fifty percent of the cases! All for nothing, they added an annoying model that users do not really need for most of their normal daily activities. In actuality this bidi environmental 'trap' is only important for the less frequent situation of mixing left to right scripts with Arabic within a single paragraph. As for dealing with numbers, during the Arabic typewriter era, when numbers were keyed in always from right to left, this was not completely useless. But we must admit that the bidi model can be useful in heavily mathematical or accounting documents containing extra long numbers. Bidi should therefore become an option not the

norm; Arabic has enough problems on its own without this. Table 1 illustrates to those unfamiliar with Arabic what a user has to go through when typing Arabic in a typical bidi environment word processor today, with text aligned left. It demonstrates a hypothetical example substituting an English equivalent typing string “abC (D)”



User action	Desired Result	Screen Result	Auto Actions taken
press 'a'	a	A	"A" displayed
press 'b'	ab	aB	"B" displayed and "A" changes to "a"
Press "c"	abC	abC	"C" displayed and "b" changes to "b"
press "Space Bar"	abC	abC	Space is added and "B" changes to "b"
press '('	abC ()abC	Wrong parenthesis added to left
press 'd'	abC (D	abC (D	"D" displayed, Parenthesis moves right and changes shape
press ')'	abC (D)	(abC (D	Wrong parenthesis added to left
press "Space Bar"	abC (D)	abC (D)	Parenthesis moves right and changes shape

Table 1 Hypothetical process to type the string “abC (D)”

Has this shakey kludged approach above really solved permanently and satisfactorily the Arabetic technological challenges? Displaying text is only one aspect of script computerization. Clearly, today’s technology has not yet conquered the complexities of calligraphic Arabetic scripts nor does it need to. These scripts should be allowed to adapt naturally in order to conquer technology instead. We need to design smarter, more innovative typefaces not smarter complex technologies. It is not forgivable that Arabic, which is known historically for its design openness and flexibility, should fail the challenges of modern typographic design.

INTRODUCING NAIM: NATURAL ARABETIC INPUT METHOD

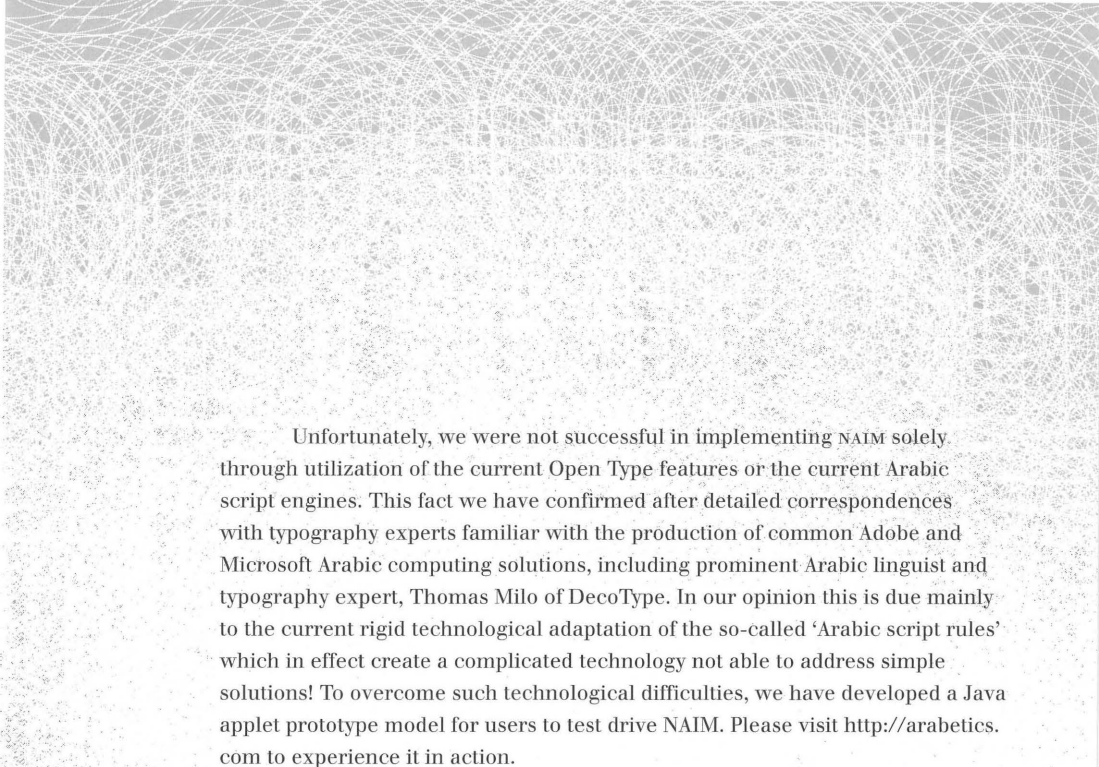
To bring the Arabetic scripts and typography back to a user focus, we have been working on an alternative input method (U.S. Utility Patent pending) to the prevailing one today. The proposed method, NAIM, works in harmony with, and as close as possible to, how users actually write and visualize Arabetic characters in a word while it is being typed. It works best with a two glyphs per letter model, but can be implemented in today’s widely used four-glyphs per letter model as well. As a background, the two-glyph per letter model consists of one unique ‘normal’ glyph per letter and an alternative ‘final’ glyph to be

displayed only at the end of words or as an isolated shape. This model is what we have implemented in the design of our Mutamathil Taqlidi families of fonts (Abulhab, 2004). In that model we combined current Open Type ‘initial’ and ‘medial’ shapes into one ‘normal’ glyph, and the ‘final’ and ‘isolated’ shapes into one ‘final’ glyph. Here is how NAIM works. As users key in a word, the first letter is always displayed in its ‘normal’ (or ‘initial’ shape in a four-glyph per letter model)

The proposed method works in harmony with, and as close as possible to, how users actually write and visualize Arabic characters in a word while it is being typed.

form, as it naturally should be. The second letter typed would again be displayed in its ‘normal’ form in a two-glyph per letter model, or in its ‘medial’ form in a four-glyph per letter model. As users keep on typing, letters would continue to be displayed in their ‘normal’ (or ‘medial’ in a four-glyph per letter model) forms until a ‘final trigger’ character is keyed, in which case the last glyph typed would be replaced with its ‘final’ shape glyph. A ‘final trigger’ is basically any non Arabic letter or diacritic character like space, number, punctuation mark or any other designated character. In both models, exceptions apply to letter shape selections when said letters are typed after letters that cannot connect simultaneously with other letters from two sides in traditional Arabic or when isolated shapes are desired.

The main goal of the NAIM model is to eliminate as much as possible the negative effects of the current glyph substitution model which we have referred to as the ‘dancing’ or ‘hyper’ model. Implementing NAIM, particularly when combined with the two-glyph per letter typeface design model, would have significant technological, typographical and most importantly educational impact. Technologically, it would eliminate the excessive complexities of Open Type features and their corresponding software libraries. Typographically, it would make developing Arabic fonts easier and more economical and as a result expand the production and availability of more fonts, especially non calligraphic fonts. Educationally, it would make learning Arabic script much easier. New learners would not quit the educational process early due to the many ‘confusing’ shapes needed to be memorized up front. They can instead appreciate learning such optional shapes if they are interested in Arabic calligraphy later on. Ordinary users would also benefit from editing the resulting static Arabic documents.



Unfortunately, we were not successful in implementing NAIM solely through utilization of the current Open Type features or the current Arabic script engines. This fact we have confirmed after detailed correspondences with typography experts familiar with the production of common Adobe and Microsoft Arabic computing solutions, including prominent Arabic linguist and typography expert, Thomas Milo of DecoType. In our opinion this is due mainly to the current rigid technological adaptation of the so-called 'Arabic script rules' which in effect create a complicated technology not able to address simple solutions! To overcome such technological difficulties, we have developed a Java applet prototype model for users to test drive NAIM. Please visit <http://arabetics.com> to experience it in action.

CONCLUSION

Centuries later, the development of modern Arabic typography is still being shaped by a hidden struggle between choice and passion. A struggle wherein freedom of choice, which can only be guaranteed by the availability of options, a crucial condition for script evolution, is being challenged by a runaway, yet incomplete or even distorted, passion for past Arabic calligraphy beauty and glory. The passion of engineers, programmers, publishers and others who responded to the challenges of Arabic typography, calligraphy and script, and were intrigued by the technical complexity of the so-called script rules, but were not as intrigued by the fine details of calligraphy itself. This is an intellectually satisfying passion for solving unique technical challenges of common Arabic script styles in the age of automation. But behind the shadow of this sometimes-obsessive passion, users' desire for choice and options, which is the natural and fundamental aspect of script renewal and survival, is being unnecessarily compromised. In our computer era, preserving genuine historical Arabic calligraphy or its modern simplified typeface imitation is as important as preserving the script itself. Still, the safest way to accomplish that is by guaranteeing free choice through the availability of wide-open options, not by imposing handwritten calligraphy rules as script rules.

A C K N O W L E D G E M E N T

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R E F E R E N C E S

- Abulhab, Saad D. 2004. The Mutamathil Type Style. *Visible Language* 38.3, 306-333.
Said, Edward W. 1978. *Orientalism*. New York: Pantheon Books.

A U T H O R N O T E

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