

Simplified Arabic: a new form of Arabic type for hot metal composition

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Corrections

p.174, 2nd ¶, 3rd sentence: 'the year of'
altered to 'three years after'.

Simplified Arabic: a new form of Arabic type for hot metal composition

This essay is an investigation into the origins of Simplified Arabic, a typeface developed in the 1950s by the British Linotype company in collaboration with Kamel Mrowa, owner and editor-in-chief of the Lebanese newspaper *al-Hayat*. The essay situates the development of Simplified Arabic within a broader geopolitical context of the Middle East after the Second World War, explains the design concepts underpinning the typeface in relation to the technical requirements of 1950s newspaper production, and assesses the design of the typeface itself. Additional discussion addresses the simplified Arabic typeface introduced subsequently by Intertype, Linotype's competitor, and compares the simplified typefaces of both companies. Brief consideration is given to Simplified Arabic's influence and its lasting impact on Arabic typeface design.

1. Two items of terminology need clarification at the outset. First, although the Arabic script is used for languages other than Arabic, this essay refers only to circumstances in which script and language are both Arabic. The second item involves references to companies named 'Linotype'. Linotype & Machinery Ltd, located in the United Kingdom, operated largely independently of the Mergenthaler Linotype Company, located in the United States. For convenience, Linotype & Machinery will be referred to below as 'Linotype', and Mergenthaler Linotype as 'Mergenthaler'.

Simplified Arabic was a typeface conceived for the requirements of newspaper production. Introduced by the British Linotype company in the 1950s, the principles underlying its design significantly reduced the number of letterforms typically found in Arabic. The success of the typeface served to establish a novel form of the Arabic script as a *de facto* standard, making Simplified Arabic one of the most important innovations in the history of Arabic typography, and one whose influence can still be felt today. This essay traces Simplified Arabic's context, origins, and development.¹

The printing trade and the Middle East after the Second World War

In 1908, development work began in New York on the first Arabic Linotype machine.² Although the impetus to adapt Arabic to machine composition came from the Arab diaspora in the United States, over the following forty years increased publishing activity in the Middle East created the greatest demand for Arabic typesetting equipment there. This shift in the centre of gravity of Arabic typography reflects far larger changes in the geopolitical fortunes of the Middle East. Two world wars had shaken the European powers and the order they, in turn, had imposed on large parts of the world. In the aftermath of the Second World War and with the emergence of the United States and the Soviet Union as superpowers, European colonial power was eroding. The war had been costly for the United Kingdom and France especially, and throughout their territories they were compelled to give way to increasingly articulate national aspirations voiced by those they governed. The Middle East was fundamentally affected by this changing world order. There the retreating colonial powers left a fragmented region where often artificially defined entities struggled to become nation states on a European model. But the outcome was nevertheless comprehensive: between the withdrawal of French troops from Lebanon and Syria in 1946 and the end of France's war in Algeria in 1962, all the former French and British colonies and protectorates in the Middle East had gained their independence.

2. Date from Mergenthaler Linotype Company (1929), p. 4. According to this type specimen, Salloum Mokarzel, editor of *al-Hoda* (The Guidance), a newspaper in Brooklyn, New York, was instrumental in the work of adapting Arabic to the Linotype and the development of the first series of Arabic founts by Mergenthaler.

Later sources suggest that this work was completed by 1910 or 1912, with the installation of the adapted Linotype at the newspaper; see Mokarzel (1968), p. 1, and Anon. (1948). The date of the first edition of *al-Hoda* to be composed on the Linotype has not yet been determined.

These postwar circumstances in the Middle East provided the context for changes in the sphere of typography. The transformation of colonies and protectorates into nation states presented new opportunities to the manufacturers of typesetting equipment. Nationalist sentiments increased the demand for publications printed in local scripts and languages. And with independence and late industrialization came greater demands for printing and typesetting equipment to support growing volumes of communication. To meet the demand, and without indigenous industries to support them, printers and publishers in the Middle East looked to the former colonial powers to supply what they required. The makers of typesetting equipment, principally Linotype and its competitors Monotype and Intertype, sensed both the urgency of the situation and the opportunity, and directed unprecedented levels of resource towards this growing market.³

Kamel Mrowa and *al-Hayat*



Figure 1. Kamel Mrowa, probably in 1966.



Figure 2. Keyboard layout of the German Continental typewriter sent by Mrowa to Linotype. The date stamp of 'Oct 1953' may indicate that Kamel Mrowa approached Linotype that year. 29.2 × 20.5 cm.

Simplified Arabic is located in the early phase of these postwar developments. The origins of the typeface can be traced to 1954 when Kamel Mrowa, a Shiah Muslim, asked Linotype to produce a new typeface for the Lebanese daily newspaper *al-Hayat* (figure 1). Mrowa was the owner and editor-in-chief of *al-Hayat*, which he had founded in 1946, three years after Lebanon's independence. The newspaper typified the entrepreneurialism of Lebanon's early years, as the country developed into one of the Middle East's economic hubs, with Beirut an important Arab capital. Lebanon's advantageous geographic position had fostered a long mercantile tradition, attracting foreign investment and turning the country into one of the most prosperous in the region after the war; its literacy rate, the highest in the Arab world, testified to the country's wealth and its place as a centre of Middle East publishing.⁴ On-going development in the 1950s, encouraged by liberal economic policies, made Lebanon a fertile ground for business.⁵

Against this background, Mrowa approached Linotype with a proposal for a new Arabic typeface. In a meeting with the Linotype representative Herbert Ellis, Mrowa 'described with enthusiasm the satisfactory and simple form of Arabic script available from a German typewriter he is acquainted with. Mr. Mrowa's belief is that the principle embodied in it could be applied to Linotype composition'⁶ (figure 2). This scheme of simplification was based on a reduction of those letterforms required to produce the joined appearance of

3. Sebastian Carter writes that after 1945, Monotype devoted 'a large amount of manufacturing capacity ... to cutting non-Latin faces for the newly independent countries of the British Commonwealth', by implication impeding the development of Latin typefaces. See Carter (1997), p. 23.

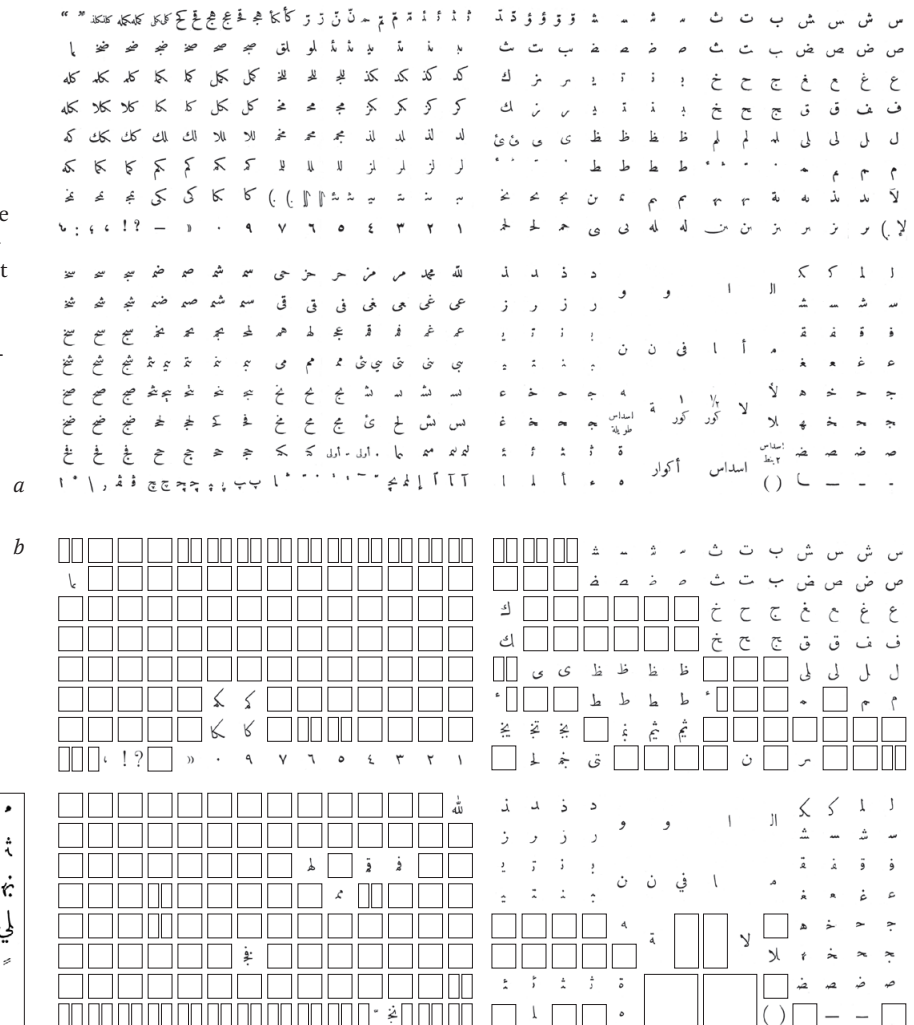
4. For historical accounts see Ayalon (1995) and Hanebütt-Benz, Glass, and Roper (2002).

5. David Gilmour, *Lebanon: the fractured country*, 2nd rev. edn, 1987, London: Sphere Books.

6. Letter from Walter Tracy to Jackson Burke, 'Arabic', September 17, 1954, 1, box P3640, Mergenthaler Linotype Company Records, 1905–1993, Archives Center, National Museum of American History (hereafter 'MLCR Washington DC'). Tracy is quoting information that Ellis had gathered and passed on to him.

Figure 3. Comparison of Arabic fount extent.

- (a) Case arrangement of an Arabic fount containing 470 characters, as used by the Egyptian Government Press in the early twentieth century.
- (b) Notional case arrangement of the first Linotype Arabic fount; characters without a direct equivalent to those shown in (a) are placed in the box at lower left. The reduction from 470 to 181 characters is achieved mainly through the removal of ligatures.



7. Of the 28 letters in the Arabic script, all but six are written in joined sequences and therefore require multiple forms depending on their position within a word. The six remaining letters cannot join the following letters, thus creating breaks within the otherwise joined words.

8. There are various claims to the invention of an Arabic typewriter; early evidence includes a patent secured by the Hammond Type-writer Company: 'Improvements in Type-writers', UK patent no. 10,460, 22 June 1901.

9. An approximate analogy in the context of Latin script might, for example, be the use of only capital letters to typeset literary texts. It is important to note the extent to which the typewriter simplified the character set of the Arabic script: Arabic typefaces for hand composition often had up to 470 characters; existing

Arabic;⁷ broadly speaking, where typographic founts employed a minimum of four shapes for such letters, the typewriter had only two. A typical typewriter character set thus consisted of only 90 characters, including punctuation and figures. Typewriters based on this scheme had been in use for decades,⁸ and despite the simplified appearance of their founts, the text they produced had proved acceptable for certain kinds of documents, such as business correspondence and accounts. But for other, typeset, documents any equivalent to a typewriter's simplification of Arabic would have appeared too unconventional⁹ (figure 3). Mrowa, however, had exactly this in mind. The simplification he was proposing, which would reduce the number of characters to the 90 available on the typewriter, was intended to increase composition speeds while producing text that was still aesthetically acceptable to a typical newspaper readership. His aim was a pragmatic solution that could be implemented within the constraints of typesetting machines but without upsetting reading habits too dramatically.

Arabic typefaces for Linotype composition reduced this number to 180 (the capacity of a Linotype machine fitted with an auxiliary magazine), thereby

profoundly altering the appearance of Arabic (see figure 3); typewriter schemes reduced the number of characters by half again.

Simplified Arabic: proof of concept

When Kamel Mrowa proposed the simplification concept to Linotype, its typographic adviser, Walter Tracy, had been with the company for seven years. Tracy's role was to assess the commercial viability and likely success of new typeface projects. By the 1950s, Linotype (rather than Mergenthaler) handled all machinery and equipment sales and servicing contracts in the Middle East, thus Mrowa's proposal came under Tracy's scrutiny.¹⁰ Tracy's interest and support for simplifying Arabic is evident in his correspondence with Jackson Burke, director of typographic development at Mergenthaler. In a letter of early September 1954 describing Mrowa's proposal, Tracy reasoned:

To wonder why something of this sort was not done long ago is to conclude that the importance of calligraphy as an Arab [*sic*] art, the complicated nature of a running script, and the necessary 'pointing', have made typefounders anxious to provide printers with everything necessary for acceptance by critical readers, regardless of expense. Mechanical composition is comparatively recent in this field; its 'limitations' are still in process of gaining acceptance (though they could probably be turned to definite advantage if prejudices can be removed).¹¹

Tracy then outlined Linotype's plan to develop a trial design 'closely based on our 14-pt double-letter Arabic face' and photographically compose a specimen to assess the interest of potential customers.¹² Mergenthaler's reaction was muted: in an internal memorandum, Chauncey Griffith, Mergenthaler's former director of typographic development, discouraged attempts at *further* simplification of Arabic (i.e. beyond that which had already been implemented in existing typefaces for the Linotype), claiming that it was 'exceedingly difficult, if not impossible, to overcome the inherent prejudice of Arabic thought respecting any material form in the traditional Arabic script'.¹³ Griffith's assessment was likely a reflection of Mergenthaler's experience with its customers who used Arabic typefaces in the USA, mainly small, immigrant newspapers and academic publishers. Where Mrowa primarily needed faster composition speeds for a large and growing newspaper, the Arabic press in the USA probably valued the authenticity of conventional Arabic typesetting. For the academic publishers, linguistic precision was a priority, something simplification could not achieve; and in any case, given their small print runs, they would have little to gain from increases in efficiency. For both press and publishers, a simplified Arabic typeface for the Linotype would have held little value.

Despite the doubts raised by Griffiths, Tracy went ahead with the project, as instigated by Mrowa.¹⁴ As mentioned, Mrowa's proposed simplification scheme was tailored to the requirements of a standard

10. Mergenthaler had earlier dealt with Arabic typeface developments, but ceded this responsibility to Linotype in the 1940s.

11. Letter from Walter Tracy to Jackson Burke, 'Arabic', September 3, 1954, p. 2, box P3640, MLCR Washington DC.

12. Letter from Tracy to Burke, 'Arabic', September 3, 1954, p. 3. In the same letter, Tracy also remarked that 'if it came to the point of making a new Arabic fount according to a simplified scheme, I think we should give thought to the creation of a type face which would meet with greater approval than L & M's present series – widely used though it is', indicating Tracy's assessment that high levels of use did not necessarily equate to popularity, only limited choice.

13. Internal memorandum from Chauncey Griffith to Jackson Burke, 'Re: Arabic L. & M. letter of September 3, 1954', September 14, 1954, p. 2, box P3640, MLCR Washington DC.

14. That the drive for Arabic simplification originated in Lebanon rather than in Europe or North America is worth emphasizing. Any notion that compromises in the printed appearance of Arabic

were the result of colonial arrogance does not therefore seem tenable. At the same time, the origin in Lebanon of efforts to simplify Arabic may stem in part from the country's historic ties to French and US schools and universities, where many in Lebanon's middle and upper classes were (and continue to be) educated.

Western ideas of progress and modernity associated with technological advance encountered in such contexts may have contributed to a readiness to accept the expedience of script simplification for the sake of economic advantage; this would not have been the case in other Arabic countries.



Figure 4. Forms of ب (bā') in different contexts. Typeset in Tasmeem Naskh (DecoType), a typographic model of Ottoman calligraphic practice.

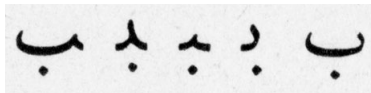


Figure 5. Arabic Series 2 with 3, five characters available for ب (bā'), from an undated specimen, Linotype.

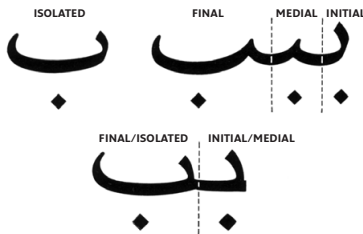


Figure 6. Simplification principle of ب (bā'), detail from a Linotype promotional brochure, 1960/1, reduced.

Linotype, with a single keyboard and without a side magazine.¹⁵ The fount would be restricted to 90 characters, to fit a 90-button keyboard arrangement and the corresponding 90-channel magazine. The character set therefore was determined by the mechanics of the machine, and the design of the typeface would reflect these constraints. Fitting the Arabic alphabet to the limited character set was achieved mainly by assigning multiple roles to single characters. The approach is well illustrated by the character ب (bā'). In its manuscript form, ب is given numerous context-dependent shapes (figure 4). In its typographic form, the number of different shapes of the letter is significantly reduced. One of Linotype's existing Arabic typefaces, for example, employed five characters for ب (figure 5). But Mrowa's scheme would take this further, employing a mere two shapes to render ب in all contexts (figure 6). Similar reductions were applied to the other letters, but to differing degrees and in Tracy's words only 'where this can be done without undue distortion of traditional shapes'.¹⁶ The result was a fount streamlined from 102 to 69 alphabetic characters.¹⁷ (The remaining 21 characters would consist of figures, punctuation, and spaces.)

Although this basic approach to a simplified Arabic typeface was in place in 1954, progress on the project at Linotype was subsequently sluggish. Eventually, in April 1957, an impatient Mrowa accused Linotype of neglecting the project.¹⁸ To push it toward completion, Mrowa sent his staff calligrapher Nabih Jaroudi to the Linotype office in London.¹⁹ During some two weeks of apparently concentrated effort, Jaroudi revised and corrected Linotype's work on the typeface. A proof of 69 characters in regular and bold weights shows the

15. For discussions of linecaster mechanics and their influence on type design and typesetting, see Legros and Grant (1916), Seybold (1984), and Southall (2005).

16. Letter from Walter Tracy to Dawood, January 30, 1964, Walter Tracy correspondence cabinet, folder 18b, Non-Latin Type Collection, Department of Typography & Graphic Communication, University of

Reading (hereafter NLTC Reading).

17. Some of these characters were half-forms, which only produced a meaningful letterform in combination with other characters.

18. During this time, Tracy collected material and pursued his research into Arabic (although he did not learn the language); Tracy (1995), p. 13.

19. Letter from Walter Tracy to Jackson

Burke, 'Simplified Arabic', April 12, 1957, Box P3640, MLCR Washington DC. A 'staff calligrapher' in this context would be a lettering artist who created the large headlines for the daily editions of a newspaper. The skills required were different to those of a traditionally trained calligrapher whose work might be described as more artistic in approach.

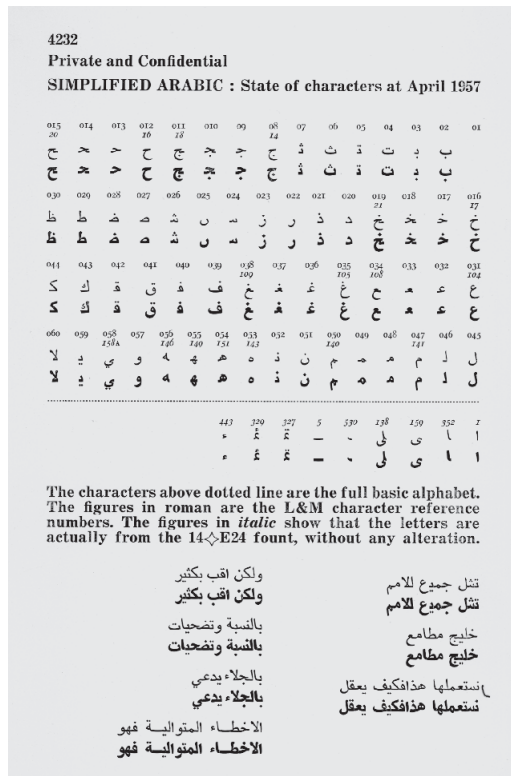


Figure 7. Proof of the 12D size under development, Linotype, April 1957, 25×13 cm.



Figure 8. Detail of front page of *al-Hayat*, 13 December 1957, reduced to 66% linear. This is the first known use of a trial version of Simplified Arabic. The type in the decorated frame is the Intertype fount used at this time by *al-Hayat*.

20. Until the introduction of Simplified Arabic, Linotype's founts were assigned a series number but not given a proper name. 'Arabic 2 with 3' describes a duplexed typeface whose regular and bold weights were struck into the same matrices. Individual founts were described by a code denoting point size, depth of strike, and series. The code 14◊E24, for example, denoted a 14-pt Anglo-American type size (14), struck to 'English' depth (◊), in series E24. A capital D following the point size denoted a type size in Didot points; a triangle instead of the diamond denoted matrices struck to 'US' depth.

21. Walter Tracy, '25th April 1957 et seq: Discussion with Nabih Jaroudi on Simplified Arabic, Commentary on Characters as at April 1957', April 25, 1957, Walter Tracy correspondence cabinet, folder 18b, NLTC Reading.

22. It seems very likely that Linotype's interest in developing a simplified Arabic typeface with Mrowa for *al-Hayat* would have been partly encouraged by the prospect of taking over one of Intertype Corporation's customers. Selling machines to a newspaper usually meant securing it as the client for many years, assuring further sales of equipment, servicing contracts, spare parts, and the replacement of matrices.

simplified design at this time (figure 7), based on the 14-pt size of Linotype's existing typeface 'Arabic 2 with 3'.²⁰ Jaroudi's remarks on the work, recorded in an internal memo, include instructions for the design of characters, their approval or rejection, and advice about the character set.²¹ The remarks in particular address design flaws Jaroudi observed in specific characters, such as the oddly sized diacritic dots on characters of ب (bā') and the unsatisfactory shaping of the head of ح (ḥā') in its isolated and final positions.

Linotype revised the design accordingly, and by late 1957 had produced a trial set of matrices for use by *al-Hayat*. On 13 December, the newspaper's front page featured a column of text set in the new typeface (figure 8). This earliest surviving instance of its use is telling, as it shows the design next to the paper's existing typeface manufactured by Linotype's main competitor, Intertype.²² The Linotype design appears distinctly linear, an effect achieved by minimising curves along its connecting baseline. The result gives a sense of characters connecting and aligning precisely even when the typeface is printed onto absorbent newsprint paper. By contrast, the Intertype typeface has slightly rounded or sagging connections, an unfavourable effect made worse by frequent gaps within letter-groups that interrupt the intended impression of single fused shapes.

But despite these advantages in appearance, several issues can also be observed in this trial. One is the use of a character shape for the ligature لا (lām alif) in all contexts. This produces atypical

LINOTYPE HERE FIRST IN THE WORLD TO PRODUCE A SYSTEM OF

Imprimitif Arabic

FOR MECHANICAL COMPOSITION FROM ONE MAGAZINE

The Arabic script is second only to roman in modern usage; something like one-sixth of the world's people speak languages which are written or printed in Arabic characters. Not all of them are literate; but the development of education is improving the standards of literacy and increasing the demand for printed matter of every kind.

The Arabic alphabet derives from one of the branches of the ancient Semitic alphabet; and is therefore related to Hebrew, Syriac, Ethiopian, and even Greek; there are distinct similarities in the names of some letters in those alphabets, and like Hebrew (and the earliest Greek) Arabic is written from right to left. The Arabic alphabet achieved a distinctive form during the fourth century A.D., but the letters changed their form during the succeeding three hundred years—that is, during the great period of Islamic expansion and scholarship. The script is a particular example of the art that 'alphabet follows religion'; it has been adapted to a variety of languages—Persian, Urdu, Malay, some languages of the Polynesian islands, and some in Africa such as Swahili, Sudanese and others.

Like Hebrew, and many Eastern scripts, there is only one basic form for each letter in the Arabic alphabet; that is to say, there are no capitals as in the Latin and Greek alphabets. And a further similarity is that the letters are consonantal—the vowel sounds are indicated by signs written over or under the letters, the signs being called 'tafsil' or 'tafsil' in all but occidental, religious or classical work.

Calligraphy is an important art amongst Islamic people. The manuscript books by Arabic and Persian scribes of the past past pages are astonishing for the way they give an intricate pattern of inscription and decoration, richly gilded and coloured, the text written with evident pleasure in the sensuous freedom of the cursive letters.

Admiration for calligraphy as an art, and the religious significance of it, have prevented the script from attaining one of the chief characteristics of the printed roman letter as distinct from the written—the formalising of the letter forms into separate entities. Printed Arabic and Persian had to retain the curvate nature of calligraphy and the flourish and tail and loop forms of the letters as well as their initial and medial forms. This is rather as if we did all our composition in a joined script and had four different forms for the beginning, middle and end of every word used between other letters, or rather, without a joint

stroke, when the letter stands on its own, and a swash form for the end of a word—like this:

حزانت فريقة صف الأفق بالبدني
لقد تلاقى من أصحاب المصالح والقياس

ISOLATED FINAL MEDIAL INITIAL

In the diagram above the first line shows the four forms of the letter 'ba' in traditional Arabic typography. The second line shows how the two forms of the letter in *Mrowa-Linotype Simplified Arabic* serve the same functions. Below is a specimen of the new system.

حزانت فريقة صف الأفق بالبدني
لقد تلاقى من أصحاب المصالح والقياس

The effect of this is that, though there are only 28 letters in the alphabet and there are no capitals as in roman or Greek, the printer has to have 104 alphabet characters (four forms of 22 letters and two forms of six) — as well as figures, punctuations, ligatures and signs. This is not an unusually complicated fault—the full Greek font contains about 180 characters, and most Indian scripts need even more—but it does have a limiting effect on the amount of work accomplished by a compositor or operator in a given time. So it is not surprising that various attempts have been made in recent years to gain economic and productive advantages in printing and publishing by reducing the number of characters in the font.

Some of these reforms have depended on separating the letters in the word (as in roman composition) thus departing from the curvate tradition. Others have relied on the elimination of the flourished forms, or have reduced them to a standardised appendix. In such reforms the visual result, though intelligible, may be unfamiliar or even certainly a considerable amount of tolerance is demanded from the reader.

The Mrowa patented system now to be described avoids these hazards.

The system is the outcome of close co-operation between Linotype and Mr Kamel Mrowa, proprietor of 'Dar Al-Hayat' (*The Daily Star*), one of the principal newspapers in Lebanon. His appreciation of the aesthetics of the Arabic script and of the problems of mechanical composition were invaluable to Linotype in the evolution of the new system.

In the Mrowa system the letters which normally have four forms have been assigned in two forms—where this can be done without undue distortion of traditional shapes. Similarly, the letters which normally have two forms now have one form only. The result is that the total number of alphabet characters is reduced from 104 to 56.

For Linotype users (and there are very many in the Arab world) the system has tremendous advantages. It means that all the frequent characters—the alphabet, the figures, punctuations, some necessary 'pointed' letters and ligatures—can be contained in one 90-channel magazine instead of the multi-and two-magazine necessary for traditional composition.

The significance of this is obvious. The printer's initial equipment costs are reduced. The operator has an easier keyboard to learn and his output of work is increased. The reader of a newspaper or journal set in Mrowa-Linotype Simplified Arabic finds it no more difficult to read than a newspaper set in the traditional roman. That is to say, there is a *stylistic* difference, but no distortions; letters such as these

ح ز ن ت ف ر ق ي ع ص ف ا ف ق ب ا ل ب د ن ي

which would require considerable alteration if simplified, have been retained in their familiar variety of shapes.

Mrowa-Linotype Simplified Arabic is the result of long study and experiment by Mr Mrowa, the originator, and Linotype & Machinery Ltd. In the columns of 'Dar Al-Hayat' the system has proved notably advantageous in the composing room and entirely satisfactory to readers. It strikes a happy balance between the need for speed and economy on the one hand and the preservation of traditional typographic forms on the other. It is the result of a close co-operation between the printer and the system.

The system is a tribute to the judgment and enterprise of Mr Mrowa and to the typographic resources of the Arab world. It is the greatest potential benefit to the whole Arab world.

word-shapes, analogous to using a Latin uppercase letter in the middle of a word set in lowercase (see, for example, the first word in the headline للاستاذ, li l-ustāḍī, ‘for the professor’). Another is this character’s pronounced inclination (also found in ج (lām)) that combines unpleasantly with the more upright, isolated ا (alif) with which it is frequently paired. A third issue are the spelling errors found in the text as typeset, possibly related to the new fount scheme that required the composition of individual letters using two successive keystrokes.²³

Following its trial in *al-Hayat*, work on the typeface continued at Linotype for another two years. Then, in November 1959, in *Lino-type Matrix*, the new typeface was finally announced as the ‘Mrowa-Linotype Simplified Arabic’ (figure 9). An accompanying article highlighted Kamel Mrowa’s central role in the project:

The system is the outcome of close co-operation between Linotype and Mr Kamel Mrowa, proprietor of 'Dar Al-Hayat' ..., one of the principal newspapers in Lebanon. His appreciation of the aesthetics of the Arabic script and his grasp of the problems of mechanical composition were invaluable to Linotype in the evolution of the new system.²⁴

In announcing their new typeface, Linotype emphasized the practical advantages of Simplified Arabic. Among these were a greater ease both in learning its keyboard layout and in the actual keying of copy, which contributed to faster composition.²⁵ These advantages were important selling points in the newspaper industry where production speed and efficiency were crucial. Additionally, the Simplified Arabic scheme allowed the operation of Arabic linecasters to be controlled by coded paper-tape for the first time, resulting in the potential for another three-fold increase in composing speed.²⁶ Together with these productivity gains, Simplified Arabic also cost

23. See for example the first word of the column احسن (aḥsan; better, best), which lacks a tooth between the medial and final character.

24. Linotype & Machinery Ltd (1959),
p. 5.

25. In tests conducted at *al-Hayat* in 1958, a 30 per cent improvement in composing speeds was reported by the newspaper's Linotype operators, and it was speculated that this might increase to as much as 50 per cent once they became better acquainted with the new keyboard layout. Letter from Walter Tracy to Jackson Burke, 'Simplified Arabic', January 13, 1958, box P3640, MLCR Washington DC.

26. 'Teletypesetting' (TTS), in which a paper-tape was coded remotely before being transmitted through wire services and reconstituted by a receiver, eliminated the need to re-key text. Although the most efficient use of TTS required news agencies to provide text already in coded form, agencies in the Middle East rarely did this. However, the technology was used in-house by newspapers in the region to improve their workflows (for example by creating coded tapes to drive multiple composing machines simultaneously).

Figure 10. 'Mrowa Simplified Arabic' [sic], *Linotype Matrix*, 33, May 1960, cover (detail), reduced to 66% linear. See also note 31.

<p>CALEDONIA a brilliant book face from America</p> <p><small>W. A. Duggins: A type face is good if it is easy to read. No concession that interferes with ease of reading may be made either to beauty of appearance or to mechanical felicity. Legibility is the basic law, the sine qua non.</small></p> <p><small>Legibility is helped by keeping the shapes of the characters distinct one from another—so that one easily tells an 'e' from a 'c', etc. Obscurity is the penalty of forcing the characters to fit a too restricted range of body sizes.</small></p>	<p>Minerva with <i>italic</i> and bold a classical display face designed by Reynolds Stone</p> <p>GOTHIC CONDENSED 25 for news headlines</p>	<p>JUBILEE created especially for newspaper texts</p> <p><small>Jubilee is the first original newspaper text face to have been designed in Great Britain for twenty-three years. Combining practical and aesthetic virtues it stands midway between Times and Excelsior. It meets the requirements of dry-fong stereotyping and high-speed rotary machining by being as open and sturdy as Excelsior and as big on its body. But in set-width it has almost the same economy as Times. Its serifs are blunt but not square.</small></p>
<p>JULIANA warmly welcomed by the publishing world</p>	<p>MROWA SIMPLIFIED ARABIC</p> <p>لقد حازت طريقة صف الأحرف بالإنشيتيب على ثقة الآلاف من اصحاب المطابع لقد حازت طريقة صف الأحرف بالإنشيتيب على ثقة الآلاف من اصحاب المطابع</p> <p>BASKERVILLE Bold and <i>bold italic</i> make it even more useful and versatile</p>	<p>ADSANS sans-serif clarity for small advertisements</p>
<p><small>The addition of Juliana to the type face range marks a further step in Linotype's programme of typographic development. The increasing use of the Linotype system of composition in book production revealed the need for a text type of sixteenth-century Italian character. Juliana meets that need—very satisfactorily, too, to judge by the favourable comments of many people who know a good type when they see one. A number of leading printers now have founts of Juliana, and it has proved its worth in normal conditions of book production.</small></p>	<p>PILGRIM : an Eric Gill design</p> <p><small>In its general appearance Pilgrim is very close to Gill's Joanna type, which was made for the Hague & Gill press and in which his Essay on Typography was composed. From the study of Pilgrim in mass it can be seen that the face is even in colour, with no letter asserting itself against others by reason of awkward design or uneven distribution of weight. The shading in round sorts is vertical; thick and thin strokes are not strongly contrasted; and the capitals are about the same weight as the lower-case.</small></p>	<p><small>TELEPHONE OPERATOR required, experienced, for afternoon work on New Zealand Exchange. Hours: 2.30-5.30. Salary: £1.10. 21. TELETYPE OPERATOR required, experienced, for afternoon work on New Zealand Exchange. Hours: 2.30-5.30. Salary: £1.10. 22. TELETYPE OPERATOR required, experienced, for afternoon work on New Zealand Exchange. Hours: 2.30-5.30. Salary: £1.10. 23. TELETYPE OPERATOR required, experienced, for afternoon work on New Zealand Exchange. Hours: 2.30-5.30. Salary: £1.10. 24. TELETYPE OPERATOR required, experienced, for afternoon work on New Zealand Exchange. Hours: 2.30-5.30. Salary: £1.10. 25. TELETYPE OPERATOR required, experienced, for afternoon work on New Zealand Exchange. Hours: 2.30-5.30. Salary: £1.10. 26. TELETYPE OPERATOR required, experienced, for afternoon work on New Zealand Exchange. 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TELETYPE OPERATOR required, experienced, for afternoon work on New Zealand Exchange. Hours: 2.30-5.30. Salary: £1.10. 100. TELETYPE OPERATOR required, experienced, for afternoon work on New Zealand Exchange. Hours: 2.30-5.30. Salary: £1.10.</small></p>

less to purchase since it required significantly fewer matrices than other Arabic typefaces.²⁷

Apart from the practical and economic advantages Linotype claimed for Simplified Arabic, the article in the *Linotype Matrix* also asserted that 'a reader of a newspaper or journal set in Mrowa-Linotype Simplified Arabic finds it no more different from the normal than italic is different from roman'. Linotype backed up the assertion by pointing out that some characters 'that would require considerable alteration if simplified, have been retained in their familiar variety of shapes'.²⁸ Customers were assured that the new type would be 'entirely satisfactory to readers' as it 'strikes a happy balance between the need for speed and economy on the one hand and the preservation of traditional typographic forms on the other. It is therefore evolutionary rather than revolutionary.' These statements suggest a perception at Linotype that their new typeface required some explanation because the simplified principle was so far-reaching as to be potentially unsettling.²⁹ Tracy, probably the author of the article, may not at this point have felt sufficiently well-informed about Arabic typography to justify the radical approach of the new system with full confidence. Instead, responsibility for it is effectively delegated to Mrowa, with Linotype merely providing the infrastructure:

The system is a tribute to the judgment and enterprise of Mr Mrowa and to the typographic resources of Linotype; and it is of the greatest potential benefit to the whole Arab world.³⁰

It may be conjectured that the conspicuous credit given to Mrowa was prompted by a degree of caution on the part of Linotype to embrace the new typeface. But if the company was exercising caution, it was wholly unnecessary in light of the typeface's subsequent success. By the next issue of *Linotype Matrix*, in May 1960, Simplified Arabic featured prominently on the cover as one of the 'New faces of the 50s' and exemplary of Linotype's innovation in type design (figure 10).³¹ The company's increased confidence in the new design is

27. Wear and tear on matrices inside the Linotype linecaster meant that they had to be replaced regularly, resulting in on-going costs for users. Income from the supply and replacement of matrices was an important part of the business models developed by typesetting machine manufacturers.

28. Linotype & Machinery Ltd (1959), p. 5; quotes in the following sentence are also from this source. Two letters to which this applied were ح (hā') and ع ('ayn). Later, ع was simplified; see discussion below.

29. No similar statements are found in earlier articles about Arabic Linotype composition; cf. Linotype & Machinery Ltd (1955), p. 2.

30. Linotype & Machinery Ltd (1959), p. 5.

31. The two lines of Arabic on the cover nevertheless both contain errors in the spelling of 'Linotype'. Notably, too, 'Linotype' has been left out of the typeface name, which is instead rendered 'Mrowa Simplified Arabic'.

Figure 11. Mrowa-Linotype Simplified Arabic, proof specimen of three additional sizes, as reproduced in the *Linotype Matrix*, 34, December 1960, p. 2, actual size.

لقد أجمع القائلون على شؤون الطباعة بأن طريقة اللينوتيب هي أسرع الوسائل لجمع الحروف. وقد خلف اختراعها منذ سبعين عاما تغييرا شاملا في دور الطباعة في أكثر من نصف العالم، لقد أجمع القائلون على شؤون الطباعة بأن طريقة اللينوتيب هي أسرع الوسائل لجمع الحروف. وقد خلف اختراعها منذ سبعين عاما تغييرا شاملا في دور الطباعة في أكثر من نصف العالم،

10D-E26 Casts on 9-pt Didot

لقد أجمع القائلون على شؤون الطباعة بأن طريقة اللينوتيب هي أسرع الوسائل لجمع الحروف. وقد خلف اختراعها منذ سبعين عاما تغييرا شاملا في دور الطباعة في أكثر من نصف العالم، ولا يزال هذا التطور مستمرا في دور الطباعة في أكثر من نصف العالم، لقد أجمع القائلون على شؤون الطباعة بأن طريقة اللينوتيب هي أسرع الوسائل لجمع الحروف. وقد خلف اختراعها منذ سبعين عاما تغييرا شاملا في دور الطباعة في أكثر من نصف العالم، ولا يزال هذا التطور مستمرا في دور الطباعة في أكثر من نصف العالم،

14D-E24 Casts on 12-pt Didot

لقد أجمع القائلون على شؤون الطباعة بأن طريقة اللينوتيب هي أسرع الوسائل لجمع الحروف. وقد خلف اختراعها منذ سبعين عاما تغييرا شاملا في دور الطباعة في أكثر من نصف العالم، لقد أجمع القائلون على شؤون الطباعة بأن طريقة اللينوتيب هي أسرع الوسائل لجمع الحروف. وقد خلف اختراعها منذ سبعين عاما تغييرا شاملا في دور الطباعة في أكثر من نصف العالم، لقد أجمع القائلون على شؤون الطباعة بأن طريقة اللينوتيب هي أسرع الوسائل لجمع الحروف. وقد خلف اختراعها منذ سبعين عاما تغييرا شاملا في دور الطباعة في أكثر من نصف العالم،

18D-E95 Casts on 18-pt Didot

also demonstrated by the rapid addition of sizes: by December 1960, 10D and 18D founts were available for purchase. The additions were publicized in *Linotype Matrix*, 34 (figure 11), which noted the ‘remarkable success’ that Simplified Arabic had achieved ‘in the short period since it was announced.’³² The release of Mrowa-Linotype Simplified Arabic, Series 2 with 3,³³ marks the start of a new position of influence Linotype would assume in Arabic typography.

Intertype Abridged Arabic

Soon after Simplified Arabic’s entry into the market and its evident early success, Linotype’s competitor, the Intertype Corporation, began to develop a simplified Arabic typeface of its own. Like Linotype, Intertype manufactured machines for hot metal type composition.³⁴ The mechanics of the Intertype linecaster were notably based on those of the Linotype and its introduction in 1913 soon after the expiry of Mergenthaler’s patents was not coincidental. But the Intertype also incorporated improvements on its Linotype rival, as its construction was informed by ‘research into the principal defects and most troublesome features of extant linecasters’. After a difficult start, the Intertype eventually became a formidable competitor to the Linotype and by 1957 some 27,000 had been sold.³⁵

32. Linotype & Machinery Ltd (1960), p. 2. The twelve month production time for the two additional weights seems quick, given that type development and the manufacture of matrix founts were often slowed by the production capacity of the Linotype works.

33. The addition of ‘Series 2 with 3’ to the ‘Mrowa-Linotype Simplified Arabic’

name is in reference to the earlier typeface it was based on.

34. The Intertype Corporation was founded in 1911 as the International Typesetting Machine Company; see Wallis (1988), p. 10. The quote that follows is from this source.

35. Seybold (1984), p. 41. Seybold additionally estimates that ‘Intertype’s sales

from 1950 on seem to have equalled or exceeded those of Mergenthaler. In 1956, for example, Intertype shipped 1,150 units’ (p. 41). Wallis states that Intertype was only able to secure its position in the market in 1918, helped by an order for 31 linecasters from *The New York Times*; see Wallis (1988), p. 12.

كان امس منزل حسن الامين ملتقى
 نخبة من الادباء لبوا دعوة للاشتراك
 بتكريم شاعر العرب الياض فرحات
 فالقى الشيخ ابراهيم برى مقطوعة
 شعرية في تحية الضيف كمالقى
 عاصم الامين قصيده لعمه حسن
 وسرعان ما اندمج الشاعر بالجو
 فتدفق بشعره على الحاضرين مما
 ولن تحتفل بيروت بهذه الذكرى
 وحدها فان طرابلس قد استعدت لها
 فقد افتتحت الجلسة في الساعة
 الخامسة والنصف من بعد ظهر
 الاثنين الواقع في الرابع عشر من
 المنصرم وذلك بحضور كل من
 السادة رئيس واعضاء المجلس
 وذلك للنظر بامور تتعلق بشئون
 الاصطياف في الربوع اللبنانية

Figure 12. Intertype Abridged Arabic, early proof of the fount under development, Harris-Intertype Ltd, 1960, actual size.

While Intertype's activities in Arabic typography are not well documented, the company had apparently established itself in the Middle East by the 1930s, and counted among its clients the prestigious Egyptian daily newspaper, *al-Ahram*.³⁶ By the 1950s, Mrowa's *al-Hayat* was also using Intertype machines. After the successful launch of Simplified Arabic, and possibly influenced by *al-Hayat*'s consequent shift to Linotype machines, competition between the two companies intensified. Thus in January 1960, only a few months after Simplified Arabic was made public, a proof of a trial Intertype design on a similar simplified basis was obtained by Walter Tracy (figure 12). Like Linotype, it appears that Intertype derived its design from an existing typeface in its inventory. But the design's overall appearance in proof is crude and is marred by composition errors probably related to the fount scheme adopted. Remnants of a strong horizontal baseline on the right side of numerous characters, retained for composition in medial positions, impede their use at the beginning of words (see, for example, ف (fā') in figure 12, eighth line from top, first word) and increase the type's visual unevenness. For its character set, Intertype's design shows a number of differences from Linotype's Simplified Arabic: ه (hā'), for example, is represented by two rather than three distinct characters, omitting a dedicated character for medial positions (an omission that was later reinstated); لا (lām alif), by contrast, retains two distinct characters for isolated and final positions, where Linotype employs only one. Issues such as these show that despite copying a concept already established by Linotype, Intertype's design process was not without difficulties and did not at first produce a convincing result.

By June 1960, Intertype was able to provide its Middle Eastern customers with a more advanced specimen of a single size of their simplified typeface (16-pt), and announced a further three sizes in development (9-, 12-, and 18-pt)³⁷ (figure 13, opposite). The typeface shows improved alignment between characters and less noticeable right-hand joining strokes. A pronounced horizontality in the lines of text and the shapes of some characters such as د (dāl) suggest a move toward the Mrowa-Linotype design. But in the typeface finally released by Intertype, additional styling and character set features were incorporated that are distinctive and that indeed improve on Linotype's simplification scheme. Notably, Intertype reduced the

36. According to Hišām Baḥarī, a long-time employee of *al-Ahram*, the newspaper helped to develop Arabic Intertype machines and first introduced them in 1932; Baḥarī (1968), p. 138. The date is confirmed by a 1933 issue of the Intertype journal, *Interludes*: 'Intertypes equipped for Arabic composition are now being installed'. Intertype Ltd (1933), p. 9. *Al-Ahram*'s prestige initially derived from its status as one of the oldest Arabic dailies (founded in 1875). It attained particular political significance in the 1950s when Mohamed Hassanein Heikal, a well known journalist and friend of Gamal Abdel Nasser, became its editor-in-chief. Although *al-Ahram*

was government-aligned and played an important role in disseminating Nasser's ideology, Heikal is also credited for making *al-Ahram* the most objective and accurate source of political news in the Arab world during his tenure (1957–74).

37. This specimen was apparently obtained by Linotype surreptitiously through its agent Michael Nahas in Beirut, who explained in an accompanying letter: 'This only specimen copy was obtained from our friend mechanic, which should be returned back, as soon as possible, to the customer from whom he borrowed it'. Letter from Michael A. Nahas to Walter Tracy, June 7, 1960, Simplified Arabic box, NLTC Reading.



Figure 13. نموذج من العربي المختصر جسم ١٦ بنط (Namūdağ min al-‘arabiyy al-muhtaṣar ġism 16 bunṭ; *Sample of the Abridged Arabic 16-pt body*), advance specimen, Harris-Intertype Ltd, June 1960, reduced to 75% linear.

number of characters required for ح (hāʾ) to just one, for both initial and medial positions. The letterform devised for this purpose was better integrated stylistically than the trial version. The reduction of the ح characters also freed up positions in the magazine and on the keyboard for other characters. Among these were two for ي (yāʾ), in final and isolated positions whose inclusion helped bring words closer to their conventional shapes.

In the latter half of 1960 or sometime in 1961, the new design was released as ‘Intertype Abridged Arabic’ in four sizes³⁸ (figure 14, over-leaf). And by the beginning of 1962, *al-Ahram* was using the typeface for large quantities of text (figure 15). In retrospect, the development of the Abridged Arabic can be seen as consistent with Intertype’s

38. It has not been possible to establish a more precise release date.



Figure 14. Intertype Abridged Arabic, specimen, undated, Harris-Intertype Ltd, p.3, 28×21 cm.



Figure 15. Detail of *al-Ahram*, February 5, 1962, p.1, reduced to 66% linear. This cutting from the newspaper shows the bold weight of Intertype Abridged Arabic alongside a larger size of Intertype's normal Arabic fount (opening paragraph), together with hand-lettered headlines.

policy of adapting competitors' typefaces, a policy that today might be considered unethical, and indeed competitors at the time found it objectionable.³⁹ But if Intertype Abridged Arabic was to a large extent based on the Mrowa-Linotype Simplified Arabic, it also brought new and different qualities to the simplification of Arabic that were recognized by Linotype as improvements.

A new design

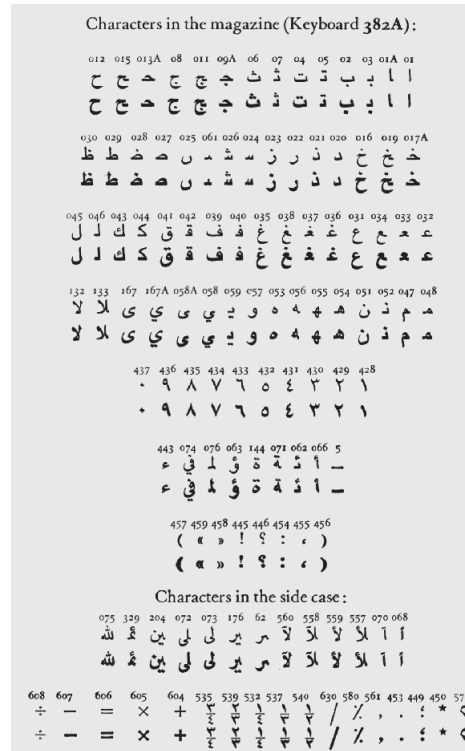
Despite the substantial investment in research and development made by Linotype and Mrowa in Simplified Arabic, the patents reportedly registered for its simplification scheme, and Intertype's putative infringement of the system, no legal action was taken by Linotype.⁴⁰ While Linotype's resentment towards Intertype was apparently shared by others in the industry, the differences in Intertype's simplification scheme and in the design of the typeface

39. Reporting on the new Intertype Arabic typeface to C.A. Ainsworth, a member of Linotype's management, Walter Tracy was unambiguous in his characterization: 'It is obvious that the Intertype Abridged Arabic is substantially the same scheme as Linotype Simplified Arabic. In view of the fact that we have taken the trouble to apply for patents for our own scheme in a number of

countries, it seems necessary to consider whether action should be taken against Intertype'. Letter from Walter Tracy to C.A. Ainsworth, July 5, 1960, Simplified Arabic box, NLTC Reading.

40. Linotype promotional material and business correspondence make reference to patents associated with Simplified Arabic, though no such patents have been located; cf. following note.

Figure 16. Mrowa-Linotype Simplified Arabic Series 8 with 9, specimen (and detail, at right) of 12D size, Linotype, 1962, 29.2 × 20.5 cm.



itself were apparently sufficient to make the success of a lawsuit for infringement too uncertain.⁴¹

At the time Intertype released its Abridged Arabic, Linotype had further sizes of Series 2 with 3 in development. This apparent commitment to the design would seem to make the prospect of an immediate successor unlikely. And yet Linotype embarked on exactly this course when it commissioned a new version of the Mrowa-Linotype Simplified Arabic from Nabih Jaroudi.⁴² While there is no confirming evidence, the timing of the initiative suggests that it was in part prompted by the introduction of Intertype's Abridged Arabic.⁴³ Now, however, Linotype would pursue an entirely new design rather than adapt an existing typeface. Work on this new design progressed much faster than had been the case with its predecessor and by 1962 a first 12D size was ready. A specimen of the 'new design in Mrowa-Linotype Simplified Arabic' credited the typeface to Jaroudi, and announced that additional sizes were underway (figure 16).

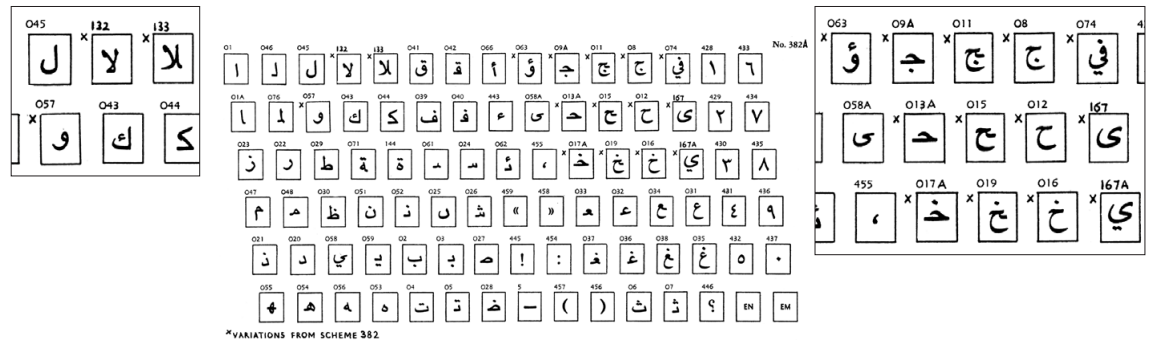
Linotype's new design was linked to a new keyboard layout. A diagram dated September 1962 shows how the layout varied from its predecessor, and where characters had been added or repositioned (figure 17, overleaf). Ironically, the changes reflect exactly those improvements Intertype had introduced to their Abridged

system and we are negotiating with them regarding the cutting by us of a simplified Arabic.' Internal memorandum, 'Simplified Arabic, Mr D. Stevens letters BEY/41 and 43 of 31st May and 5th June', August 10, 1962, correspondence folder Arabic (Egyptian 2), MDO Salfords.

42. This new version would become known as 'Series 8 with 9'.

43. Recalling his work on Arabic typefaces, Walter Tracy makes no mention of a competitor, suggesting that the decision to revise the first Simplified Arabic was quality driven: 'There was a mixed reception [of the first version], and we were urged to hire a professional scribe to design a new face according to the simplified principle'. Tracy (1995), p. 13.

Figure 17. Keyboard layouts for Mrowa-Linotype Simplified Arabic, original (above) and revised (below), Linotype, 1962. Keys marked (x) in the revised layout (enlarged in boxes) indicate character set changes copied from Intertype's scheme.



Arabic: for example, in lieu of four forms of ح (ḥā'), only three are employed, allowing additional characters for ي (yā') and لا (lām alif) to be introduced. But overall, the new design benefitted a great deal from being wholly conceived within the now well understood limitations that simplification placed on character set and composition scheme. The design of the characters also changed: rounded and curved elements were reduced in favour of sharper and more angular ones, producing a more linear and even effect; text settings looked streamlined and efficient – appropriately so for a newspaper. The new typeface also benefitted from apparently improved manufacture that resulted in precise alignments that minimized gaps between characters, giving the desired impression of fused letter groups.

In the succeeding years, additional sizes of the 'new design' Mrowa-Linotype Simplified Arabic became available. A specimen from 1963 showed founts in 9D and 10D; an 18D size followed in 1965, and in 1966 a 7D fount. The continuous expansion of sizes indicates that the typeface was indeed popular.⁴⁴ But if so, the road to popularity was not entirely straight. The profound differences in appearance between Simplified Arabic and other Arabic typefaces that more closely resembled manuscript letters, ensured that Arabic readers would not embrace the concept of simplification universally. In a letter of December 1969, some ten years after the introduction of Simplified Arabic, Linotype's Middle East representative Ralph Goodman listed those places where the system had been accepted (Dubai, Lebanon, Kuwait, Syria, Tunisia, Bahrain, Libya, Sudan, Aden, Egypt), where Simplified Arabic founts had been sold but were not wholly accepted (Algeria, Iraq, Saudi Arabia), and where Simplified Arabic had 'not yet broken in' (Jordan, Morocco).⁴⁵ The factors Goodman identified as crucial to the acceptance of Simplified Arabic were pragmatic ones:

Of course, where we have broken in, as with Tunisia a few years back, it is mainly for newspapers, and there is still some resistance to using

44. Walter Tracy claimed that it was 'amongst the most popular of all Arabic types'. Tracy (1995), p. 13.

45. Letter from Ralph Goodman to Barnard, December 10, 1969, p. 1, Walter Tracy correspondence cabinet, folder 18a, NLTC Reading; The following quote is also from this source (p. 2).

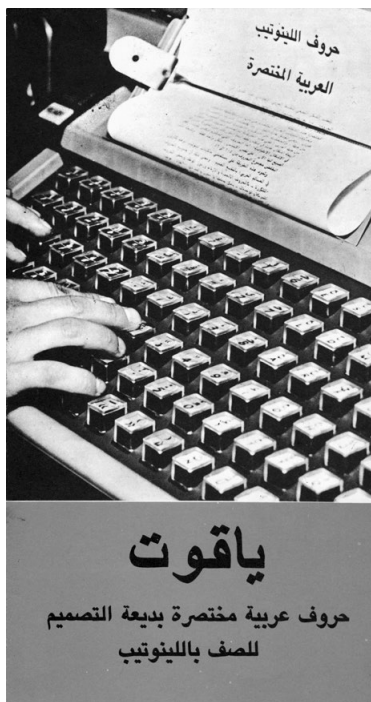


Figure 18. Yakout, the typeface formerly known as Mrowa-Linotype Simplified Arabic, specimen, Linotype, not dated, Arabic language cover, 24.5×13 cm.

46. Ross (2002). The general commercial printing market would include products ranging from magazines to packaging.

47. For example, the founts of the first version of Mrowa-Linotype Simplified Arabic Series 2 with 3 were designated 10D E26, 14D E24, and 18D E95 for its 10D, 14D, and 18D sizes, respectively; for the successor design, Series 8 with 9, the designations were 7D G69, 9D G43, 10D G44, 11D G41, 14D G15, and 18D G48 for its range of sizes.

48. Linotype's Simplified Arabic is still marketed as 'Yakout' today. Monotype GmbH (2013). The change of name also served to disguise the type's origins in hot metal machine composition. The adoption of the name Yakout for 'Series 8 with 9' and the discontinuation of 'Series 2 with 3' have both caused some confusion about the history of Simplified Arabic. Hrant Gabeyan was never credited by Linotype for conceiving the name of one of the best selling and most widely read and copied Arabic typefaces. Elsewhere, Gabeyan did pioneering work on the first computer-aided Arabic typesetting system installed in the Egyptian *al-Ahram* newspaper in 1969. See Gabeyan (2002).

Simplified for bookwork or for Government work, and certainly for the Koran. But the overwhelming pressure of price, speed and ability to move from hot-metal manual on to tape and eventually photocomposition systems, all work in favour of Simplified. It is considerably cheaper to buy a machine using Simplified, a fount of matrices is cheaper in Simplified – the operator can obtain greater speeds when he no longer has the side magazine Keyboard to think about, he can be trained to touch-type as in Roman, ... the printer can move on to tape, and even computers ... and one day photocomposition.

Goodman's remarks indicate that the case for Simplified Arabic mainly revolved around the economics of production, as indeed it had for Kamel Mrowa initially. The implication is that gains in efficiency, speed, and cost savings would eventually overcome concerns about aesthetics and stylistic appropriateness. And indeed most newspapers in Arabic countries did eventually adopt simplified typefaces, whether by Linotype or by other manufacturers, making this form of printed Arabic widely read throughout the Middle East.

There is little doubt that Simplified Arabic was crucial to the success of Linotype's Arabic typography programme. Continued developments together with technical advances and increased resources meant that by the 1980s Linotype commanded a 95 per cent share of the Arabic newspaper market and an 80 per cent share of the general commercial printing market.⁴⁶ Simplified Arabic's popularity was supported by on-going refinements, though a change of name may have helped, too. As noted above, prior to the making of Simplified Arabic, Linotype's Arabic typefaces had been identified only by series numbers that for some were probably confusing or difficult to remember and which in any case hampered effective marketing.⁴⁷ To address the situation, in 1967 Linotype's Egypt representative, Hrant Gabeyan, sought out suitable names for all the company's existing Arabic typefaces, following the practice long established for Latin script typefaces. Mrowa-Linotype Simplified Arabic Series 8 with 9 became 'Yakout', after the 13th-century calligrapher Yāqūt al-Musta'şimī (figure 18).⁴⁸

Looking forward, looking back

Simplified Arabic was conceived in the particular postwar circumstances of the Middle East. The efforts of many emerging nations to modernize, often by adopting Western technology, were also accompanied by attempts to shape progress in appropriate and authentic ways. Industrialization and imported expertise were necessary and pragmatic but needed to be balanced with expressions of national, cultural, and linguistic identity, and the requirements of education. These dynamics were not always or easily compatible and so their co-existence required compromise and often a re-ordering of priorities. This was certainly true of the Arabic typographic scene in the postwar period, part of whose legacy is Simplified Arabic. Given the circumstances, Kamel Mrowa's role in Simplified Arabic was crucial, as he brought to the project technical expertise and foresight, experience of commerce and trade in the region, and a cultural awareness and sensitivity that enabled him to (correctly) gauge whether

Figure 19. Sample of digital typefaces based on simplification principles.

- (a) Arial/Times New Roman Arabic, Microsoft.
- (b) Yakout, PostScript version, Linotype AG.
- (c) Yakout, OpenType version, Monotype GmbH, redesigned by Tim Holloway and Fiona Ross.

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a simplified Arabic typeface would be acceptable for a prominent national newspaper.

The practical achievement of Simplified Arabic is located in the concept established by Kamel Mrowa to make the composition of Arabic better suited to the needs of newspaper production. The advantages it held over earlier typefaces made it a compelling choice when production efficiency, speed, and costs were given priority over aesthetic concerns, linguistic precision, or script conventions. More broadly, the typeface conveyed a sense of modernity and technical progress, and was a timely answer to the urgent needs of a fast evolving newspaper world and of national presses responding to change and upheaval in the Middle East.⁴⁹

Despite the spirit of modernity and progress caught by Simplified Arabic, the type composition system it was developed for – the Linotype linecaster – was nevertheless soon superseded by photocomposition. But Simplified Arabic proved immune to obsolescence, as it was adapted largely unchanged to the new typesetting technology. More recently, Simplified Arabic has again been similarly adapted to digital technology as the basis for default Arabic system fonts on most computers (figure 19).⁵⁰ Here its influence continues to grow, despite the fact that digital typography would readily allow Arabic typefaces to regain their uncompromised appearance. Instead, the features and principles of Simplified Arabic, born of the mechanical constraints of the Linotype, proliferate and impose a legacy of technical compromise that might have been dispensed with.⁵¹ In turn, Arabic simplification, a product of the 1950's, continues to shape the experiences and expectations of Arabic readers in contexts far removed from where it began.

49. Nevertheless, as Simplified Arabic became more popular, the roles played by Mrowa and to a lesser degree by Jaroudi gradually fell from view in Linotype's promotional materials. While early specimens for the 'Mrowa-Linotype Simplified Arabic' gave full credit to Kamel Mrowa, and as late as 1964, in his article 'The flourishing reed', Walter Tracy acknowledged Mrowa by name for his work on Simplified Arabic (see Tracy (1964), p. 145), by 1965–6 neither Mrowa nor Jaroudi are mentioned in specimens for new sizes of the typeface, which was now also referred to only as 'Simplified Arabic'. Much later, in Tracy's recollections of work on Simplified Arabic (1995, p. 13), Mrowa is not mentioned by name, though Tracy does refer to his assassination: 'not long after [the development of Simplified Arabic], he [Mrowa] was shot dead as he left his office one day; for political reasons, not typographic'. The apparently flippant remark suggests that Tracy did not fully appreciate the political importance of Mrowa's death, which occurred at the start of a series of events that culminated in the outbreak of civil war in Lebanon in 1975. Historian Charles Winslow argues that the assassination, on May 16, 1966, although 'not usually emphasized in these accounts, may well have begun the "hostility-reaction formation" that brought on the protracted civil chaos that wracked Lebanon for nearly

two decades'. Charles Winslow, *Lebanon: war and politics in a fragmented society*, 1996, London & New York: Routledge, p. 152.

50. Arial and Times New Roman, two of the most widely installed Latin system fonts, both include an Arabic character supplement whose design is based on the principles of Simplified Arabic. Despite the distinctive designs of the two typefaces, both share the same Arabic glyphs. The use of a single Arabic design for two stylistically unrelated Latin typefaces is suggestive of the low priority major software providers have long assigned to Arabic typography. Recent original Arabic typeface designs for Microsoft's

Windows 8 may, however, point to changing priorities. While Linotype's Yakout has undergone numerous revisions, most recently in 2002 when the typeface was redesigned and enlarged to take advantage of a new font format (OpenType), its overall design remains defined by the principles of simplification.

51. Ross similarly remarks that 'the unfortunate, but not uncommon, practice of replicating font synopses of the past, which were constrained by previous technologies, is often inappropriate to current typographic possibilities', here referring to the evolution of Bengali printing types. See Ross (1999), p. 77; also Ross (2012), pp. 132–3.

Sources and references

This essay draws mainly on three archives. The Non-Latin Type Collection in the Department of Typography & Graphic Communication, University of Reading, holds most of Walter Tracy's correspondence during his time as typographic adviser at Linotype. The Mergenthaler Linotype Company Records 1905–1993, held at the Archives Center, National Museum of American History, Washington DC, complement Tracy's correspondence, as in many cases they contain the other side of exchanges between the British and US Linotype companies. The archive of the Monotype Drawing Office, located at Monotype Ltd, Salfords, UK, offers the perspective of a competing business.

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