

Arabic hot metal: the origins of the mechanisation of Arabic typography

Article

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Figure 1 Salloum Mokarzel, circa 1940. Courtesy of The Khayrallah Center for Lebanese Diaspora Studies, North Carolina State University.

Figure 2 Mergenthaler 22-pt Arabic, *Specimen Book of Type Styles*, 1915, 483, actual size.

Figure 3 Stages of pattern making, from left to right: plain brass plates; after cutting of the outline; finished pattern, ready to guide the pantographic punch-cutting machine in the making of the punch. From Legros and Grant, *Typographical Printing-Surfaces*, 208.

Figure 4 Schematic drawing of the pattern's function in guiding the punch-cutting machine. From Beatrice Warde, "Cutting Types for the Machines: A Layman's Account", in *The Dolphin*, no. 2, (New York: The Limited Editions Club, 1935), 65.

Figure 5 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 right. The reduction from 470 to 181 characters is achieved mainly through the removal of ligatures.

Figure 6 Schematic view of the casting edge of a composed line of Arabic linecaster matrices. Note how the linear arrangement of matrices prevents the casting of kerning characters. From *al-Munaḍḍadā al-ʿarabiyyā*, (Brooklyn, New York: Mergenthaler Linotype Company, 1929).

Figure 7 Illustration of kerning problems. On the left the notional widths of individual matrices of Mergenthaler's 22 pt fount are indicated: no character elements can extend beyond the body of the matrix. For comparison, the desirable interlocking of character elements is demonstrated on the right with Decotype's digital Emiri typeface, character elements that typically kern are outlined.

Figure 8 Illustration of inner-word spaces (grey) and word spaces (outlined). Left: In Mergenthaler's 22 pt fount inner-word spaces are so wide that they may be confused with word spaces. Right: Correct and unambiguous differentiation of spaces is illustrated with Decotype's digital Emiri typeface.

Figure 9 Illustration of spacing irregularities: Although numerically identical widths of inner-word spaces (grey) are not a necessity, they should be generally more similar to each other than in Mergenthaler's 22 pt fount, and more clearly distinguishable from the word spaces (outlined).

Figure 10 Illustration of inadequate mark positioning, same configuration as in figure 8. In the Mergenthaler fount the word image is compromised because of the lack of kerning.

Figure 11 Detail of *Al-Mustaqbal*, an Arabic newspaper published in Paris, France, 12 May 1916, 1. Courtesy of Internationales Zeitungsmuseum Aachen.

Figure 12 Specimen of Mergenthaler's Arabic founts. From *Linotype faces*, (New York: Mergenthaler Linotype Company, 1940), 879, actual size.

Figure 13 "14 point Arabic", specimen, 19 January 1921, actual size. NMAH, box 3614. Enlargements illustrate the principle and use of half-forms for the construction of the letter ف *fā'*. From top to bottom: (a) optimal setting and break-down into the individual characters (b) composition error and composition with the correct character (c) correct but unwieldy rendering.

Figure 14 Opening page of the chapter about linecasters in Legros and Grant, *Typographical Printing-Surfaces*, 421. Arabic text composed on a Linotype, actual size.