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ARTICLE

Crafting global typography: origins, dissemination, and adaptation of *naskh* types from Istanbul

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Abstract

This article examines the transregional life and typographic legacy of a 24-point Ottoman *naskh* printing type (MI-24), developed in 1867 by the Ottoman–Armenian punch-cutter Oḥannes Mühendisyan in collaboration with the court calligrapher Ḳāżīʿasker Muṣṭafá ʿİzzet Efendi. Celebrated for its exceptional calligraphic fidelity and mechanical refinement, MI-24 emerged as the pinnacle of Arabic-script typography in the Ottoman empire. Drawing on previously unexamined archival materials, this study reconstructs MI-24's production, dissemination, and adaptation across a wide geography—from Istanbul to Beirut, Cairo, Tehran, Kabul, and even Chicago, London and Oxford. It explores how regional actors including Jesuit missionaries, Armenian type-founders, Arab Nahḍa intellectuals, and European Orientalists engaged with and modified this typographic model to suit diverse cultural, religious, and technological needs. In tracing these typographic networks, the article situates MI-24 at the intersection of Islamic visual culture, print modernity, and global knowledge circulation. Far from being a product confined to Istanbul's imperial presses, MI-24 became a mobile and malleable artefact—reshaped by local aesthetics and political agendas. Ultimately, this article reframes Arabic-script typography as a dynamic site of visual negotiation and transimperial collaboration, contributing to broader discourses on print culture, design history, and the materialities of Islamicate text production.

Keywords: Arabic typography; global typography; Oḥannes Mühendisyan; Ottoman typography; print culture

Introduction

The nineteenth century marked a transformative era in the history of Arabic-script printing in the Islamicate world, as advances in typographic technology gradually reconciled the aesthetic demands of writing styles—including *naskh* and *nastaʿlīq*—with the mechanical constraints of movable type.[1] Within the Ottoman empire, the culmination of this process

[1] During this period, at least seven *naskh* types were developed in the Iranian cities of Tabriz, Tehran, and Isfahan between 1818 and 1837. Meanwhile, at the Būlāq Press in Cairo, between 1824 and 1844, one *naskh* type and three *nastaʿlīq* types were produced. In Istanbul, a total of nine *naskh* and three *nastaʿlīq* types were developed between 1729 and the 1928 Turkish script reform, with the majority produced in the nineteenth century.

For an overview and analysis of the *naskh* types developed in Istanbul, see U. Derman, 'Yazı san'atının eski matbaacılığımıza akisleri' [Reflections of the art of calligraphy in our early printing], in *Türk Kütüphaneciler*

was the development of a highly accomplished *naskh* type in the 1860s by the Armenian master punch-cutter Oḥannes Mühendisyan (1810–1891) (Figure 1),[2] in collaboration with the court calligrapher Ḳāżīʿasker Muṣṭafá ʿİzzet Efendi (1801–1876).[3] This 24-point type—and its smaller iteration in 16-point which Mühendisyan produced later—in the Ottoman flavour of the *naskh* style, represented a watershed moment in Arabic-script typography. Revered for its calligraphic fidelity, visual harmony, and mechanical sophistication, it set a new standard for Arabic-script typesetting, bringing print closer than ever to the highly evolved visual culture of manuscript production. This type (henceforth MI-24) was, in many ways, the typographic embodiment of Tanẓīmāt-era ideals: a synthesis of tradition and reform, legibility and elegance, technology and refinement (Figure 2).[4]

Soon after its introduction, the MI-24 type appeared in a modified form in which the elevated letter connections—most notably within the *jīm* group (ﺟ، ﭽ، ﺣ، ﺧ) in their medial and final positions—were reconfigured. In the original design, these characters often attach to adjacent letters from both above and below, producing a cascading, descending rhythm reminiscent of manuscript models. In the revised MI-24, however, these connections were lowered onto a rectilinear baseline, producing a more uniform and 'linearised' composition. This rationalised and visually economical adaptation exemplified Mühendisyan's technical and aesthetic sensitivity, demonstrating his ability to reconcile the expressive fluidity of Ottoman calligraphic heritage with the functional and modernising imperatives of the Tanẓīmāt era.[5]

Recent scholarship has increasingly recognised the formal lineage of Arabic-script types developed in Ottoman Istanbul—from İbrāhīm Müteferriḳa's (*circa* 1674–1745) inaugural

Derneği: Basım Yayıncılığımızın 250. yılı bilimsel toplantısı [Turkish Librarians' Association: scientific conference on the 250th anniversary of our publishing history] (Ankara, 1979), pp. 97–109; and O. Yazıcıgil, 'The genealogy of Ottoman Naskh printing types (1729 to 1928)', in *Arabic Typography: History and Practice*, (ed.) T. Nemeth (Salenstein, 2023), pp. 155–227.

For a general discussion of early printing in Iran and detailed accounts of the *naskh* types produced there, see U. Marzolph, 'Early printing history in Iran (1817–ca. 1900): part I: printed manuscript', in *Middle Eastern Languages and the Print Revolution: A Cross-Cultural Encounter*, (eds.) D. Glass, G. Roper, and E. Hanebutt-Benz (Westhofen, 2002), pp. 249–268; U. Marzolph, 'Persian incunabula: a definition and assessment', *Gutenberg-Jahrbuch* 82 (2007), pp. 205–220; N. Green, 'Persian print and the Stanhope revolution: industrialization, evangelicalism, and the birth of printing in early Qajar Iran', *Comparative Studies of South Asia, Africa and the Middle East*, 30.3 (2010), pp. 473–490; and B. Izadpanah, 'Persian and Arabic printing with movable type in Qajar Iran (1818–1900)', in *Arabic Typography: History and Practice*, (ed.) T. Nemeth (Salenstein, 2023), pp. 75–153.

For discussions of the *nastaʿlīq* types produced at the Būlāq Press and in Istanbul, see T. Heinzelmann, 'Taʿlīḳ-drucke in Būlāḳ und Istanbul: zum kalligraphischen Anspruch von Typendruck und Lithographie', in *Oṣmānische Welten: Quellen und Fallstudien. Festschrift für Michael Ursinus*, (eds.) C. Herzog, R. Motika, and J. Zimmermann (Bamberg, 2018), pp. 209–241; and B. Izadpanah, 'From reed to steel: the origins of Nastaʿlīq type-making in nineteenth-century Istanbul and Cairo', in *Bloomsbury Handbook of Global Typography*, (eds.) P. Luna, F. Ross, A. Sherin, V. Singh, and S. Walker (London, 2026), pp. 401–422.

[2] Also spelled Oḥannes, Hovhannes, or Yovhannēs Mühendisyan, and often referred to in Ottoman Turkish as Mühendisoğlu or, in a Persianised form, as Mühendiszâde. It is rendered in Arabic script as اوحانس مهندسيان or مهندساوغلى.

[3] Derman, 'Yazı san'atının eski matbaacılığımıza akisleri', pp. 102–104.

[4] The Tanẓīmāt era (1839–1876) was a period of extensive administrative, legal, and cultural reforms aimed at modernising the Ottoman empire. It reached its peak with the promulgation of the Ḳānūn-ı Esāsī (1876), the first Ottoman constitution, which was suspended by Sultan ʿAbdülhamid II in 1878, marking the end of the era and the beginning of his autocratic rule (Istibdād). See A. E. Topal, 'Political reforms as religious revival: conceptual foundations of Tanzimat', *Oriente Moderno* 101.2 (2021), p. 154.

[5] Both the original and the linearised versions of MI-24 were used alternately in Mühendisyan's print shop and by other printers within and beyond the Ottoman empire. The linearised version, however, entailed the elimination of the elevated sorts, thereby reducing the overall number of sorts required and making it more economical for production and use by typesetters. For a detailed analysis of the linearised version, see Yazıcıgil, 'Genealogy of Ottoman Naskh printing types', p. 184.

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Figure 1. Portrait of Oḥannes Mühendisyan wearing the medals awarded to him in recognition of his contributions to the arts and printing. He received the Order of the Medjidie (fourth class) and the Ottoman Medal of Fine Arts (Sanāyiʿ-i Nefîse Madalyası). *Source*: This image was published in a commemorative piece titled 'Mühendisoğlu', which appeared shortly after his death, in *Şervet-i Fünūn* 5 (April 1891), 53–55.

naskh in the 1720s, to Boġos ʿArabyan's (1742–1835)[6] influential 16-point *naskh* type of the 1790s, and finally to Mühendisyan's 24-point refinement of the script (Figure 3). Within this framework, MI-24 has often been positioned as the apex of Ottoman typography.[7] Yet, despite its celebrated status, the historical study of MI-24 has remained largely bounded by the typographic and bureaucratic context of the imperial capital. While its design is routinely acknowledged for its artistry and influence within state printing offices, much less attention has been paid to its broader circulation across Ottoman and non-Ottoman territories, and to the ways in which it was adapted, modified, and reinterpreted in new settings.

This article seeks to address that gap by tracing the transregional life of MI-24 beyond Istanbul. It explores how this Ottoman *naskh* type was received and reused in diverse

[6] Also spelled Boghos, Boġos, or Poghos Arabyan, or Arabian, and frequently referred to in Ottoman Turkish as ʿAraboğlu. It is rendered in Arabic script as بوغوس عربيان or عرباوغلى.

[7] See, e.g., T. Milo, 'Arabic script and typography: a brief historical overview', in *Language, Culture, Type*, (ed.) J. D. Berry (New York, 2002), pp. 112–127; and Yazıcıgil, 'Genealogy of Ottoman Naskh printing types'.

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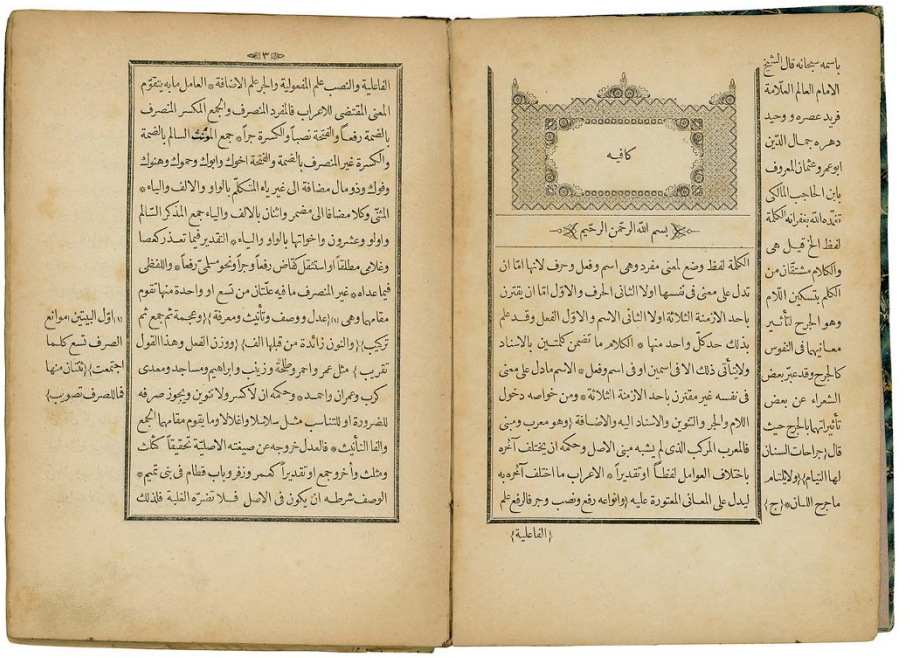

Figure 2. Opening pages of *Kāfīyah*, an Arabic grammatical treatise by ʿUthmān ibn ʿUmar ibn al-Ḥājib (1175–1249), a renowned Kurdish Mālikī jurist and grammarian. This edition is among the earliest works printed by Mühendisyan using the MI-24 type in 1869. Approximate dimensions 21 × 30 cm. *Source*: Private collection.

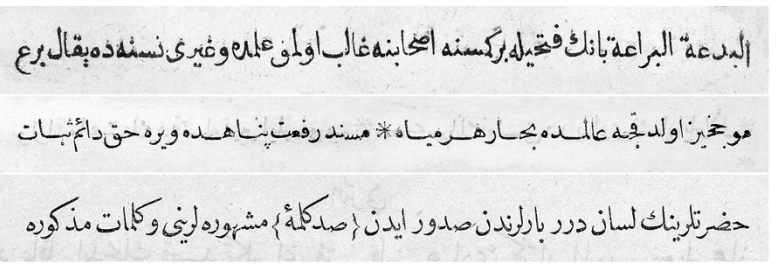

Figure 3. (Top) Specimen of the 16- or 18-point *naskh* type attributed to İbrāhīm Müteferriḳa; (middle) specimen of the 16-point *naskh* type crafted by Boġos ʿArabyan; (bottom) specimen of the 24-point *naskh* type developed collaboratively by Oḥannes Mühendisyan and Muṣṭafá ʿİzzet Efendi (MI-24). The sequence illustrates the progressive refinement of Ottoman *naskh* typography, from Müteferriḳa's early efforts to the technical and aesthetic sophistication of the MI-24 type. Dimensions 4 × 12 cm.

cultural and political contexts, including Jesuit missionary presses in Beirut, Arabic and Turkish journals printed abroad in Chicago and London, state and private publishing projects in Cairo, Persian-language publications in Qajar Iran, and early nationalist and educational efforts in Kabul. While a comprehensive inventory of MI-24's global uses lie beyond the scope of this study, the selected case studies demonstrate the type's remarkable geographic reach and its adaptability across linguistic, religious, and ideological boundaries.

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By reconstructing the trajectory of MI-24, this article advances a broader argument about the typographic modernity of Arabic script. It shows how MI-24 became a template for further innovations—from simplified Arabic typewriter scripts to new printing types developed for scientific and religious publishing—cementing its status as a foundational model for Arabic-script typography in the modern period. It also highlights the multilingual and multiconfessional collaborations that underpinned Arabic typography's evolution, from Armenian craftsmen to Maronite publishers, Muslim reformers, and European missionaries.

Ultimately, this article repositions MI-24 not merely as the capstone of Ottoman typographic refinement but as a nodal point in a much wider network of textual production. In doing so, it contributes to a growing body of scholarship that locates Arabic-script printing within a global history of media, technology, and visual culture.

Historical foundations of *naskh* type-making in Istanbul

The adaptation of Arabic script to movable type in the Ottoman empire was a protracted and intermittent process, shaped by technological innovations and careful negotiation with deep-rooted manuscript traditions. Until well into the eighteenth century, Ottoman textual culture was firmly embedded in manuscript production, sustained by firmly established calligraphic practices that posed significant aesthetic and ideological challenges to early typographers.[8] Nonetheless, Istanbul emerged as a pioneering centre for Arabic-script typography between the early eighteenth and mid nineteenth centuries, notably through the development of three transformative Ottoman-style *naskh* types, introduced around 1729, 1797, and 1867, respectively.[9] Although these printing types appeared across a period spanning roughly 140 years—averaging approximately 70 years apart—their collective impact profoundly shaped typographic standards across the Ottoman empire and informed Arabic-script printing throughout the broader Islamicate world.

The first breakthrough came with İbrāhīm Müteferriḳa, a Hungarian-born convert to Islam and polymath, who established the first Muslim-run printing press in the Ottoman empire under Sultan Ahmed III (r. 1703–1730).[10] In 1729, Müteferriḳa published his first work, *Tercüme-i Ṣıhāh-ı Cevherī* (also known as *Luġat-i Vanqūlī*)—an Arabic–Turkish dictionary in two volumes—using a newly cast *naskh* type (Figure 3).[11] The type was reportedly developed in collaboration with the Jewish printer Yonah ben Yakob Ashkenazi (d. 1745) and marked the debut of Arabic-script typography produced by a Muslim-operated press in the empire.[12]

[8] While earlier orientalist scholarship often interpreted the delayed adoption of movable-type printing in the Ottoman empire as evidence of religious prohibition or cultural resistance to technological change, such interpretations have been critically reassessed in recent studies. Kathryn A. Schwartz, in particular, has demonstrated that the notion of a formal sultanic ban lacks documentary support and emerged instead from Eurocentric historiographical traditions. See K. A. Schwartz, 'Did Ottoman sultans ban print?', *Book History* 20 (2017), pp. 1–39.

[9] The principal *naskh* types produced in Istanbul were those created for İbrāhīm Müteferriḳa's printing press around 1729, the *naskh* type cut by Boġos ʿArabyan *circa* 1797, and the *naskh* type crafted by Oḥannes Mühendisyan around 1867. For a detailed discussion of these types, see Yazıcıgil, 'Genealogy of Ottoman Naskh printing types'.

[10] N. Berkes, 'İlk Türk matbaası kurucusunun dinî ve fikrî kimliği' [The religious and intellectual identity of the founder of the first Turkish printing press], *Belleten* [Bulletin] 26.104 (1962), pp. 715–737; and for a more in-depth discussion of Müteferriḳa's printing activities, see O. Sabev, *Waiting for Müteferrika: Glimpses of Ottoman Print Culture* (Brighton, 2018).

[11] F. Sarıcaoğlu and C. Yılmaz, *Müteferrika: Basmacı İbrahim Efendi ve Müteferrika Matbaası* [Müteferrika: printer İbrahim Efendi and the Müteferrika press] (Istanbul, 2008), p. 83.

[12] S. N. Gerçek, *Türk Matbaacılığı. I: Müteferrıka Matbaası* [Turkish printing, I: the Müteferrika press] (Istanbul, 1939), p. 51.

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Over the next decade, Müteferriḳa produced approximately 17 printed works, covering a wide range of topics from geography and astronomy to political theory and Ottoman history.[13] While his type represented a significant technical achievement in rendering *naskh* style in movable type with relative accuracy—a feat that had long posed challenges due to the script's cursive structure and contextual letterforms—it was perceived as aesthetically inferior when compared to the manuscript tradition. As Uğur Derman notes:

> It is undeniable that the aesthetic quality of these letters [Müteferriḳa's *naskh* type] was far below the level attained by our calligraphic tradition of the same period. Despite the great labour that went into cutting these letters, it is natural and evident that a script system so rich in form could not mature rapidly. Moreover, the fact that the first 50 years of our printing history were marked by uncertainty likely prevented any significant progress in this area.[14]

The letterforms, while functional, lacked the elegance, proportional harmony, and fluidity that characterised manuscripts penned by master calligraphers. Compounding this aesthetic resistance were economic factors. The high cost of Müteferriḳa's printed books rendered them less competitive than manuscript copies, which continued to be produced by a network of scribes at lower cost and in familiar visual formats.[15] Following Müteferriḳa's death in 1745, the press ceased regular operations. Although there were brief attempts to revive printing in the 1750s, and again in the 1780s and 1790s, these efforts—using the same *naskh* type—were limited in scope and failed to establish a sustained typographic tradition.[16]

A second milestone occurred in the 1790s, during the reign of Sultan Selim III (r. 1789–1807), when the state re-established Müteferriḳa's defunct press as the Dārüʾṭ-Ṭıbāʿatüʾl-ʿĀmire (Imperial Printing House).[17] Central to this revival was the introduction of a significantly improved 16-point *naskh* type crafted by the Ottoman–Armenian punch-cutter Boġos ʿArabyan.[18] Likely working in consultation with the celebrated calligrapher Sayyid ʿOs̱mān Efendi (d. 1805), ʿArabyan produced a fount of type (henceforth BA-16) that more faithfully captured the proportional systems and aesthetic conventions of classical Ottoman *naskh* style (Figure 3).[19]

This new design significantly narrowed the visual gap between printed and handwritten texts. It was adopted swiftly across the capital and used in a wide range of publications—religious, scientific, military, and literary—by the revitalised Imperial Press. Following the

[13] For a physical and visual analysis of Müteferriḳa's books, see Y. Gencer, 'İbrāhīm Müteferrika and the age of the printed manuscript', in *The Islamic Manuscript Tradition: Ten Centuries of Book Arts in Indiana University Collections*, (ed.) C. Gruber (Bloomington, IN, 2008), pp. 154–193.

[14] Derman, 'Yazı san'atının eski matbaacılığımıza akisleri', p. 97.

[15] Sabev, *Waiting for Müteferrika*, p. 61.

[16] Yazıcıgil, 'Genealogy of Ottoman Naskh printing types', p. 169.

[17] K. Beydilli, *Türk Bilim ve Matbaacılık Tarihinde Mühendishâne, Mühendishâne Matbaası ve Kütüphânesi (1776–1826)* [The Mühendishâne, its press, and its library in the history of Turkish science and printing (1776–1826)] (Istanbul, 1995), p. 321.

For an inventory of early publications printed following the revival of movable-type printing in Istanbul in the late eighteenth century, as well as a catalogue of works produced by the Mühendishane and Üsküdar presses, see K. Beydilli, *Mühendishane ve Üsküdar Matbaalarında Basılan Kitapların Listesi ve Bir Katalog* [A list and a catalogue of books printed at the Mühendishâne and Üsküdar presses] (Istanbul, 1997).

[18] The earliest reference to its body size as 16-point appears in a court document dated 15 April 1874. See Ottoman Archives (OA), MF.MKT, 18/48.

[19] The calligrapher Sayyid ʿOs̱mān Efendi, known for his occasional erratic behaviour, was nicknamed *deli* (crazy) within his circle. See U. Derman, *Letters in Gold: Ottoman Calligraphy from the Sakıp Sabancı Collection, Istanbul* (New York, 1998), p. 104.

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edict of the Tanẓīmāt, private newspapers began to emerge—starting with *Cerīde-i Ḥavādiṯ* (1840) and followed by *Tercümān-ı Aḥvāl* (1860) and *Taṣvīr-i Efkār* (1861).[20] With the rise of private presses, BA-16 extended beyond imperial printing operations to become the typographic default for these publications. Its success helped ease scepticism about printed books, winning over many who had previously favoured manuscripts.[21] The impact of BA-16 extended beyond Istanbul. When the Būlāq Press was established in Cairo in the 1820s under Muḥammad ʿAlī Pasha (r. 1805–1848), its initial typographic experiments were found insufficient.[22] As a result, Cairo's printers turned to Istanbul's more refined *naskh* types as models.[23] BA-16 thus became a visual lingua franca for Arabic-script printing across much of the Islamicate world, from the Ottoman heartlands to Iran, South Asia, and even parts of Europe (Figure 4).[24]

The third and most distinguished development came in the 1860s, in the midst of the Tanẓīmāt reform era. This period saw the creation of what is widely regarded as the most refined Ottoman Arabic-script type: a 24-point *naskh* type designed by Oḥannes Mühendisyan, a master punch-cutter and engraver at the Imperial Printing House.[25] Mühendisyan collaborated with Ḳāżīʿasker Muṣṭafá ʿİzzet Efendi, a renowned calligrapher, statesman, poet, and music composer who had refined the Ottoman *naskh* and *thuluth* styles in the tradition of masters such as Ḥāfiẓ ʿOṣmān (d. 1698) and Muṣṭafá Rāḳim (d. 1826).[26]

This new *naskh* type (MI-24), introduced in 1867, achieved a new level of calligraphic fidelity in metal type. Contemporary accounts credit Mühendisyan with several technical innovations that allowed the delicate nuances of pen-drawn script to be transferred more precisely into typographic form. Its visual configuration and legibility brought Arabic-script printing to a level of refinement that rivalled the finest manuscripts, fully synthesising classical calligraphic aesthetics with industrial typographic processes.

Together, these three Ottoman *naskh* types—Müteferriḳa's pioneering type, Boġos ʿArabyan's improved BA-16, and Mühendisyan's masterful MI-24—formed a typographic genealogy that defined Ottoman Arabic-script printing for nearly two centuries. By the mid 1870s, MI-24, alongside the earlier BA-16, had emerged as one of the preferred choices

[20] For an analysis of the emergence of Ottoman newspapers and the sociopolitical and technological factors that facilitated their development during the nineteenth century, see E. A. F. Baykal, 'The emergence and growth of the Ottoman press, 1831–1908', in *The Ottoman Press (1908–1923), The Ottoman Empire and Its Heritage* (Leiden, 2019), pp. 13–42.

[21] J. R. Osborn, *Letters of Light: Arabic Script in Calligraphy, Print, and Digital Design* (Cambridge, MA, 2017), pp. 108–109.

[22] For a history of the Būlāq Press—its establishment, major publications, and contributions to the development of Arabic-script typography—see Abū al-Futūḥ Riḍwān, *Tārīkh Maṭbaʿah Būlāq: wa-Lamḥah fī Tārīkh al-Ṭibāʿah fī Buldān al-Sharq al-Awsaṭ* [History of the Būlāq Press: and a glimpse into the history of printing in the countries of the Middle East] (Cairo, 1953). This foundational work remains one of the most detailed Arabic-language sources on the early history of printing in Egypt and offers valuable insight into the technical and institutional evolution of one of the most influential presses in the Arab world.

[23] Yazıcıgil, 'Genealogy of Ottoman Naskh printing types', p. 207.

[24] An illustrative example is the first travel diary of Nāṣir al-Dīn Shāh Qājār's (r. 1848–1896) journey to Europe, *Rūznāmah-'i Safar-i Farangistān*, printed at the Dār al-Ṭibāʿah-'i Daulatī (The State Press) in Tehran in 1874. This publication marked the reintroduction of Persian movable-type printing in Iran after a hiatus of approximately 15 years, following the last known instance of such printing in Tehran in 1859. See Izadpanah, 'Persian and Arabic printing', pp. 141–142.

[25] No information provided by Mühendisyan regarding the body size of this type has yet been located. However, the type—commonly referred to as *ḥurūfāt-ı cedīde*—was frequently listed as 24-point in various Ottoman type specimen catalogues and newspaper articles. Although some prominent Ottoman printers and publishers, such as Aḥmed İḥsān, referred to it as 22-point, this article adopts the 24-point designation for referencing purposes. See A. İhsan, 'Mühendisoğlu', *Şervet-i Fünūn* [Wealth of sciences] 5 (April 1891), pp. 53–55.

[26] For a biographical entry on Ḳāżīʿasker Muṣṭafá ʿİzzet Efendi, see U. Derman, 'Mustafa İzzet, Kazasker', in *TDV İslâm Ansiklopedisi* (2020), https://islamansiklopedisi.org.tr/Muṣṭafá-izzet-kazasker (accessed 14 April 2025).

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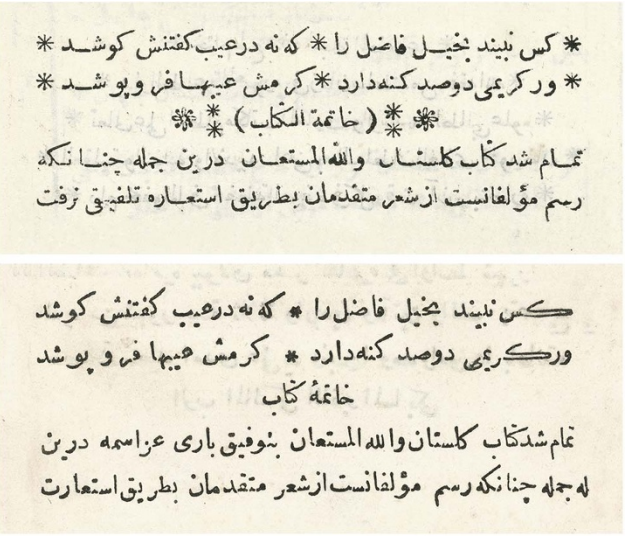

Figure 4. A passage from the *Gulistān* of Saʿdī printed with ʿArabyan's BA-16 *naskh* type (top), alongside the same text printed with the new *naskh* type of the Būlāq Press (bottom). While exhibiting subtle differences, the two types display striking stylistic and dimensional affinities. This suggests that the Būlāq *naskh* type was either closely modelled on the Istanbul original or—less plausibly—that the Istanbul type was adapted for use at the Būlāq Press. Dimensions 10 × 8.5 cm. *Source*: Private collection.

for official, scholarly, and literary publications in the Ottoman empire. Each successive type resolved new challenges in aesthetics, legibility, and technological feasibility, and collectively they helped integrate print into a manuscript-dominated culture.

The influence of these types extended well beyond the borders of the empire. From Cairo's Būlāq Press to provincial centres in the Arab world, Iran, and the Indian subcontinent, Istanbul's typographic standards became a benchmark for Arabic-script printing. This tradition came to an abrupt end in 1928 with the Turkish Republic's script reform, which mandated the replacement of the Arabic script with a Latin alphabet.[27] While this reform brought the Ottoman Arabic typographic tradition to a close, the legacy of its types endures in the broader history of Islamicate print culture.

The genesis of the MI-24 type

Oḥannes Mühendisyan, often hailed as the 'dean of Armenian printers in the Ottoman capital', was born on 21 February 1810 in Samatya, a historically Armenian quarter in Istanbul's Fatih district.[28] After completing his education at the local district school by the age of 15, he began training as a goldsmith. He reportedly demonstrated such exceptional

[27] For a detailed examination of the debates within Turkish society concerning public education and script reform prior to the adoption of the new Turkish alphabet in 1928, see M. Albayrak, 'Yeni Türk harflerinin kabulü öncesinde halk eğitimi ve yazı değişimi konusunda Türk kamuoyunda bazı tartışmalar ve Millet Mekteplerinin açılması (1862–1928)' [Some debates in Turkish public opinion on public education and the change of script prior to the adoption of the new Turkish alphabet, and the opening of the nation schools (1862–1928)], *Atatürk Yolu Dergisi* [Atatürk path journal] 1.4 (1989), pp. 463–495.

[28] T'ēodik, *Tip u Taṛ: Hay Taṛeru Giwt'in Hazar Hing Hariwrameaki ew Hay Tpagrut'ean Ch'orek'darean Krknak Yobeleannerun Aṛt'iw (412–1512–1912)* [Type and letter: a memorial of the 400th anniversary of Armenian typography, 1512–1912] (Istanbul, 1912), p. 73.

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talent in this craft that his master eventually took him on as a partner.[29] This early experience in precision metalwork would later inform his typographic excellence, particularly in punch-cutting.

Encouraged by Khachatur Misakyan, Mühendisyan reportedly turned to printing in 1839.[30] His entry into the field was marked by the creation of an 8-point Armenian lowercase type—described by contemporaries as 'smooth', 'flawless', and so technically refined that it 'took their breath away'.[31] This first foray, shaped by his background in engraving and metallurgy, quickly established his reputation in typographic circles.

Unlike earlier figures in Ottoman Arabic-script typography such as İbrāhīm Müteferriḳa and Boġos ʿArabyan—whose initial engagements centred on producing *naskh*-style types—Mühendisyan's first Arabic-script types were in the more ornate *nastaʿlīq* style. These were created in collaboration with master calligraphers at the Imperial Press more than two decades before he produced his first *naskh* type (i.e. MI-24). His involvement in *nastaʿlīq* typography demonstrated his adaptability and familiarity with different script aesthetics, further distinguishing him from his predecessors.[32]

In addition to his achievements in type-making, Mühendisyan was an accomplished engraver. His talents extended to the design of Ottoman banknotes, which were exhibited at the 1862 International Exhibition in London.[33] He continued to engage in Armenian and lithographic printing alongside his work in Arabic-script typography. However, financial difficulties and shifting market conditions eventually compelled him to undertake a new and ambitious project: the creation of a refined 24-point *naskh* type (MI-24).[34]

Unlike his earlier commissioned work, the MI-24 project was initiated by Mühendisyan himself—despite having already received a substantial state loan of 150,000 ġurūş (equivalent to 30,000 French francs) in support of his typographic endeavours.[35] For this project, he partnered with Ḳāżīʿasker Muṣṭafá ʿİzzet Efendi, the empire's leading calligrapher and a towering figure in the refinement of both *naskh* and *thuluth* scripts. MI-24 was explicitly modelled after ʿİzzet Efendi's *naskh* penmanship, bridging the artistry of established calligraphy with the mechanical logic of type.[36]

T'ēodik's *Tip u Taṛ* remains an essential resource for the history of Armenian contributions to Ottoman printing. Compiled to commemorate four centuries of Armenian typographic and publishing activity, this richly detailed volume offers invaluable biographical information, institutional histories, and typographic records. Despite its encyclopaedic scope and significance, the work is largely anecdotal in tone and lacks critical apparatus or scholarly referencing. As such, while it serves as a foundational source for further inquiry, its contents should be approached with scholarly caution and contextual cross-verification.

[29] T'ēodik, *Tip u Taṛ*, p. 74.

[30] *Ibid*, p. 75.

[31] *Ibid*, p. 76.

[32] These *nastaʿlīq* types were produced in two distinct phases, each involving collaboration with prominent figures in the Ottoman calligraphic and educational elite. The first, completed around 1842, was developed in collaboration with the renowned court calligrapher and Rumelian chief judge (Ḳāżīʿasker), Yesārīzāde Muṣṭafá ʿİzzet Efendi (*circa* 1770s–1849), a leading figure in the Ottoman school of *nastaʿlīq*. The second, created in 1848, was prepared with the assistance of Meḥmed Rāciḥ Efendi, then serving as the instructor of Persian at the Imperial Palace School (Enderūn-ı Hümāyūn). For further details, see Derman, 'Yazı san'atının eski matbaacılığımıza akisleri'.

[33] G. Kürkman, *Osmanlı İmparatorluğu'nda Ermeni Ressamlar, 1600–1923* [Armenian painters in the Ottoman empire, 1600–1923] (Istanbul, 2004), pp. 55–56.

[34] T'ēodik, *Tip u Taṛ*, p. 76. The earliest known Arabic-script lithographed book produced at Mühendisyan's printing house (Mühendisoġlu Ṭabʿḫānesi) is the Turkish translation of the French economist Jean-Baptiste Say's *Catéchisme d'économie politique*, issued under the title *ʿİlm-i Tedbīr-i Menzil* [The science of household management], printed in 1852. The work was translated into Turkish by Saḥaḳ Efendi (also known as Seḥāḳ Ebru).

[35] Ottoman Archives, MF.MKT, 1/150, 23 June 1872.

[36] Mühendisyan's collaboration with Muṣṭafá ʿİzzet Efendi in the creation of the MI-24 type is explicitly acknowledged in the colophons of several early publications produced at his private press using this type. His efforts to publicise the typographic innovation are particularly evident in the grandiloquent introduction to *Ṭarīḳ-i Ṣervet*,

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The first known usage of MI-24 was not in a book but in two separate publications from 23 April 1867: a poem by Ṣafvet Efendi (1795–1867) and a personal *ʿarżuḥāl* (petition) by Mühendisyan himself, both addressed to Sultan ʿAbdülaziz (r. 1861–1876).[37] These early prints, composed with MI-24, not only demonstrated the type's visual fidelity to handwritten models but also made direct reference to ʿİzzet Efendi's calligraphy as its source of inspiration (Figure 5).

It would take approximately two more years before the first full-length book printed in MI-24 was issued. By 1286 (1869/70), Mühendisyan's printing house in Istanbul began producing a series of publications in Arabic, Persian, and Turkish using this newly developed type.[38] These works showcased the elegance, legibility, and technical finesse of MI-24. However, due to the absence of month-specific colophons in many of these publications, it remains difficult to determine precisely which was the first book printed with the new type.

Of these early MI-24 printings, all but *Ḫulāṣatü'l-Iʿtibār* include some form of publisher's note—ranging from brief mentions to elaborate dedications—announcing the debut of the new *naskh* type (*ḥurūfāt-ı cedīde*) and highlighting the collaboration between Mühendisyan and ʿİzzet Efendi. These notes serve not only as typographic documentation but also as markers of institutional pride and innovation, signalling to readers the beginning of a new era in Arabic-script printing.

Mühendisyan's MI-24 arguably marked the highest point of Ottoman Arabic typography in the nineteenth century. Its widespread adoption in both official and commercial print culture reflects not only the technical success of the design but also its symbolic importance in linking modern printing to the venerable canonised calligraphic practices.

The dissemination and reception of the MI-24 type

Following the debut of MI-24 in 1867, its exceptional calligraphic fidelity and technical precision garnered significant attention from publishers in Istanbul and other Ottoman printing centres, notably Beirut and Cairo. Despite widespread acclaim, the type faced criticism for its high cost, which was substantially greater than that of the earlier 16-point *naskh* type by ʿArabyan.[39]

In an effort to centralise publishing across both nearby and distant Ottoman provinces, the *Vilāyet Niẓāmnāmesi* (Provincial Reform Law) was promulgated in 1864.[40] This marked the beginning of a new period during which types originally developed in Istanbul were gradually distributed to initiate publishing activities in the Ottoman provinces. Within this context, the earliest known use of the MI-24 type outside Istanbul appears in the Vilayet

the Ottoman Turkish translation of Benjamin Franklin's essay *The Way to Wealth*. In this preface, Mühendisyan states: 'I, your humble servant, cut and cast this type based on the *naskh* letters of the supreme calligraphy master, ʿİzzet Efendi, written with a reed pen.' This declaration not only emphasises his technical craftsmanship but also frames the type as a reverent homage to Ottoman calligraphic tradition. See B. Franklin, *Ṭarīḳ-i Ṣervet, Ez-Ḥikmet-i Riḳardos*, trans. B. Hocasaryan (Istanbul, 1869), pp. 1–3.

[37] Derman, 'Yazı san'atının eski matbaacılığımıza akisleri', p. 102.

[38] These publications include *Ḫulāṣatü'l-Iʿtibār, Kāfiyah, Risāle-i Aḫlākiye, Marāḥ, Ṣad Kalimah-'i Ḥaẓrat-iʿAlī,* and *Ṭarīḳ-i Ṣervet, Ez-Ḥikmet-i Riḳardos.*

[39] A court document dated 1872 records a notable price discrepancy: B-16 was sold at a rate of 25 ġuruş (equivalent to 5 francs) per ḳıyye [2.8 lb], whereas MI-24 was priced at 100 ġuruş (20 francs) per ḳıyye. See Ottoman Archives, MF.MKT, 1/150, 23 June 1872.

[40] E. Tural and S. Çapar, *1864 Vilayet Nizamnamesi* [The Provincial Reform Law of 1864] (Ankara, 2015); and A. Birinci and U. Kocabaşoğlu, 'Osmanlı vilâyet gazete ve matbaaları üzerine gözlemler' [Observations on Ottoman provincial newspapers and printing presses], *Kebikeç* 2 (1995), p. 102.

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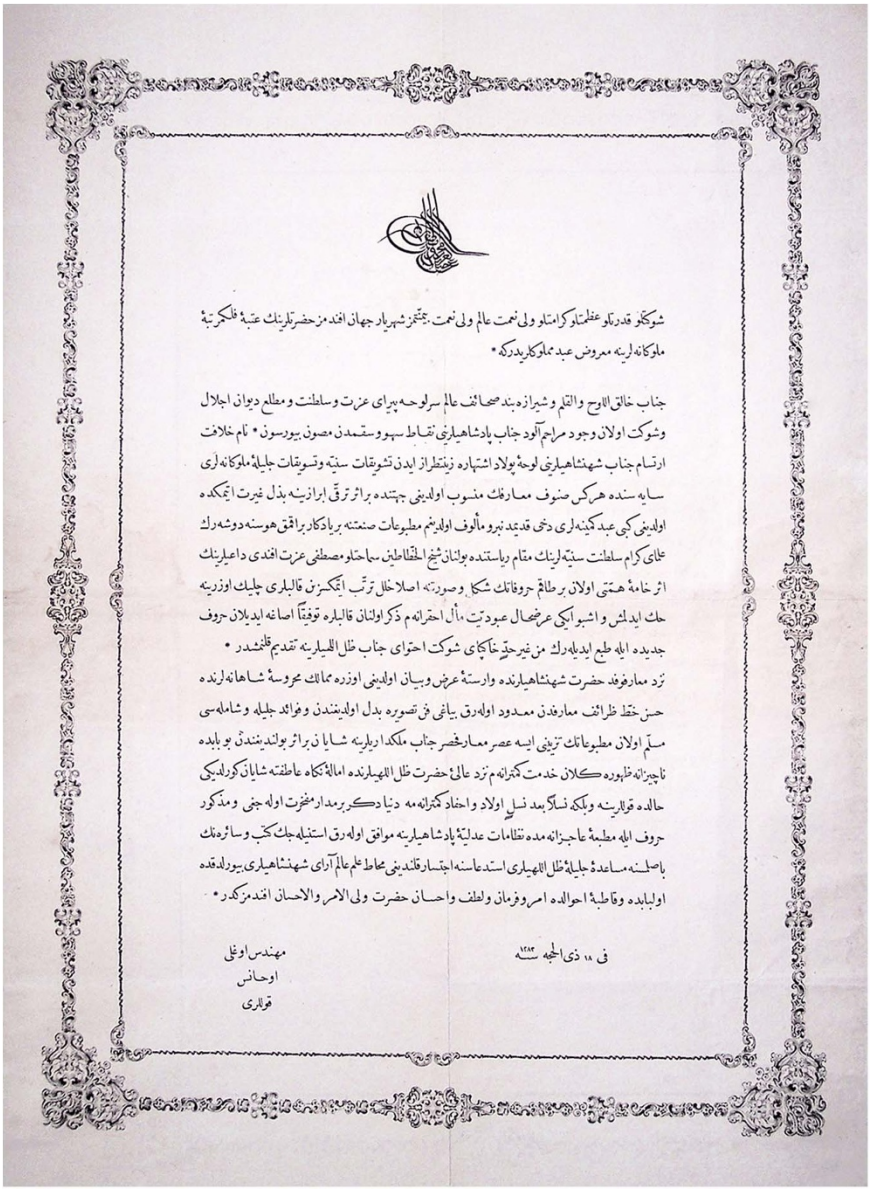

Figure 5. Mühendisyan's *ʿarżuḥāl* (petition) to Sultan ʿAbdülaziz, printed using the MI-24 *naskh* type and dated 23 April 1867. Dimensions 39 × 28.5 cm. *Source*: Courtesy of Thomas Milo.

Press of Ruse in 1875—without any modifications to its appearance (Figure 6).[41] However, these provinces were seen as extensions of the imperial state, serving as conduits for the imperial voice. The first instance of MI-24 being used outside Istanbul—specifically in a non-imperial publishing context—can be found in Beirut in 1876, nearly a decade after

[41] Masʿūd ibn ʿUmar al-Taftāzānī, *Şerḥ-i ʿAḳāʾid Tercümesi* [Translation of the commentary on the [Islamic] creed] (Ruse, 1875), published by Vilāyet-i Celīle-i Ṭuna.

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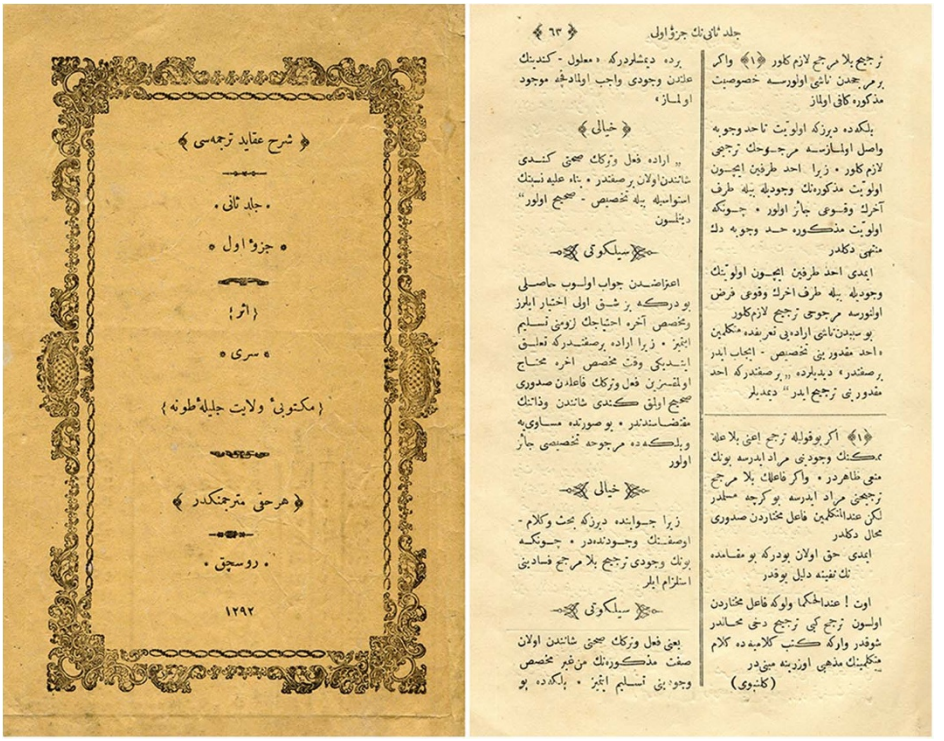

Figure 6. Cover and page 63 of Masʿūd ibn ʿUmar Taftāzānī's *Şerḥ-i ʿAḳāʾid Tercümesi* printed at Vilāyet-i Celīle-i Ṭuna in Ruse (Rusçuk) in 1875/1876. The page features Mühendisyan's MI-24 type for the headings and ʿArabyan's BA-16 type for the body text. Dimensions 25 × 14.5 cm. *Source*: Private collection.

its creation. That year, the Jesuit Convent Press (Maṭbaʿah al-Mursalīn al-Yasūʿīyīn), better known as Imprimerie Catholique, printed an Arabic version of the Bible using MI-24 (Figure 7).[42] The Arabic preface of the edition describes the sudden change in plans after the arrival of printed samples from Constantinople:

> We had initially decided to print the book with different types and had prepared all the necessary printing materials. However, just as we were about to begin the work, we received printed sheets from Constantinople featuring an exquisite type that was unanimously preferred by typographers over all other types used in Arabic printing until now. When we brought this matter to Father Monnot's attention, he immediately halted the printing process and sent for the necessary types from Constantinople to ensure the quality of the work. This addition greatly enhanced the beauty of this book and stands as one of the many merits of this esteemed father, whose efforts deserve to be commemorated on these pages with sincere gratitude and praise.[43]

[42] For a detailed account of the history and activities of the Imprimerie Catholique, see *L'Imprimerie Catholique de Beyrouth et son Œuvre en Orient (1853–1903): fascicule supplémentaire des Relations d'Orient* (Brussels, 1903).

[43] *al-Kitāb al-Muqaddas*, vol. i (Beirut, 1876), pp. 5–8, published by Maṭbaʿah al-Mursalīn al-Yasūʿīyīn.

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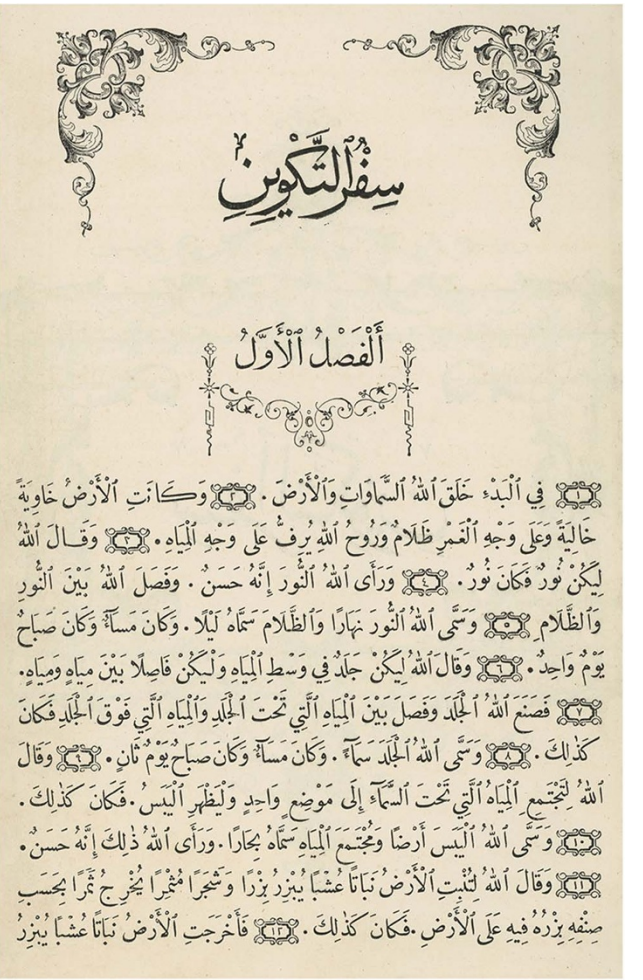

سِفْرُ التَّكْوِينِ

أَلْفَصْلُ ٱلْأَوَّلُ

١ فِي ٱلْبَدْءِ خَلَقَ ٱللهُ ٱلسَّمَاوَاتِ وَٱلْأَرْضَ. ٢ وَكَانَتِ ٱلْأَرْضُ خَاوِيَةً
خَالِيَةً وَعَلَى وَجْهِ ٱلْغَمْرِ ظَلَامٌ وَرُوحُ ٱللهِ يُرِفُّ عَلَى وَجْهِ ٱلْمِيَاهِ. ٣ وَقَالَ ٱللهُ
لِيَكُنْ نُورٌ فَكَانَ نُورٌ. ٤ وَرَأَى ٱللهُ ٱلنُّورَ إِنَّهُ حَسَنٌ. وَفَصَلَ ٱللهُ بَيْنَ ٱلنُّورِ
وَٱلظَّلَامِ ٥ وَسَمَّى ٱللهُ ٱلنُّورَ نَهَارًا وَٱلظَّلَامَ سَمَّاهُ لَيْلًا. وَكَانَ مَسَاءٌ وَكَانَ صَبَاحٌ
يَوْمٌ وَاحِدٌ. ٦ وَقَالَ ٱللهُ لِيَكُنْ جَلَدٌ فِي وَسْطِ ٱلْمِيَاهِ وَلْيَكُنْ فَاصِلًا بَيْنَ مِيَاهٍ وَمِيَاهٍ.
٧ فَصَنَعَ ٱللهُ ٱلْجَلَدَ وَفَصَلَ بَيْنَ ٱلْمِيَاهِ ٱلَّتِي تَحْتَ ٱلْجَلَدِ وَٱلْمِيَاهِ ٱلَّتِي فَوْقَ ٱلْجَلَدِ فَكَانَ
كَذٰلِكَ. ٨ وَسَمَّى ٱللهُ ٱلْجَلَدَ سَمَاءً. وَكَانَ مَسَاءٌ وَكَانَ صَبَاحُ يَوْمٌ ثَانٍ. ٩ وَقَالَ
ٱللهُ لِتَجْتَمِعِ ٱلْمِيَاهُ ٱلَّتِي تَحْتَ ٱلسَّمَاءِ إِلَى مَوْضِعٍ وَاحِدٍ وَلْيَظْهَرِ ٱلْيَبَسُ. فَكَانَ كَذٰلِكَ.
١٠ وَسَمَّى ٱللهُ ٱلْيَبَسَ أَرْضًا وَمُجْتَمَعَ ٱلْمِيَاهِ سَمَّاهُ بِحَارًا. وَرَأَى ٱللهُ ذٰلِكَ إِنَّهُ حَسَنٌ.
١١ وَقَالَ ٱللهُ لِتُنْبِتِ ٱلْأَرْضُ نَبَاتًا عُشْبًا يُبْزِرُ بِزْرًا وَشَجَرًا مُثْمِرًا يُخْرِجُ ثَمَرًا بِحَسَبِ
صِنْفِهِ بِزْرُهُ فِيهِ عَلَى ٱلْأَرْضِ. فَكَانَ كَذٰلِكَ. ١٢ فَأَخْرَجَتِ ٱلْأَرْضُ نَبَاتًا عُشْبًا يُبْزِرُ

Figure 7. Opening page of the Book of Genesis (*Sifr al-Takwīn*) from the first volume of the Arabic Bible, printed at the Imprimerie Catholique in Beirut in 1876. The fully vocalised text is set in a modified version of Mühendisyan's MI-24 type, referred to as 'Type de Constantinople', cast on a 22-point body (TC-22). Dimensions 19.5 × 12.5 cm. *Source*: Private collection.

The Latin preface of the same volume further highlights the enthusiastic reception, yet the considerable financial concern, related to MI-24's procurement:

> through the diligence and care of our director, K. P. Ambroise Monnot, it was discovered that 'there are very beautiful and elegant Arabic types recently composed in Constantinople'. Immediately we were informed of this, but we were terrified by the high price. Then he himself uplifted and reassured us, saying that no expense should be spared to achieve this goal. Therefore, without any delay, it was done.[44]

[44] *Ibid*, pp. 1–4.

Father Ambroise Monnot (1831–1898), born in Lyon, was appointed superior of the Syrian mission in 1869. He revitalised the mission by founding St Joseph's University in Beirut and establishing two residences in Aleppo and Damascus. He also expanded the Imprimerie Catholique and initiated the daily publication *al-Bashir*. See É. Fouilloux and B. Hours (eds.), *Les Jésuites à Lyon: XVIe–XXe siècle* (Lyon, 2005), pp. 135–136.

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In fact, criticism regarding MI-24's high cost emerged soon after its introduction. An anonymous article in the newspaper *Muḫbir* in 1867 praised the type's aesthetic qualities but lamented its prohibitive price, noting that its expense limited accessibility for many printers.[45] A court document from 1872 corroborates these concerns, comparing MI-24's price to that of BA-16. The document, essentially an assets and liabilities statement, disclosed the 150,000 ġurūş (30,000 francs) loan Mühendisyan had taken from the state. It stated:

> Hereby it is stated that there are no obstacles for printers to purchase the type [24-point *naskh*] made by Mühendisoğlu Oḥannes, who holds the rights for its reproduction and casting. However, since the *naskh* type [ʿArabyan's] based on Ḥāfiẓ ʿOṣmān's pen is sold for 25 ġurūş (five francs) for one ḳıyye (2.8 lb) and Mühendisyan's *naskh* is sold for 100 ġurūş (20 francs) for one ḳıyye (2.8 lb), the type has not attracted the general user's demand and appreciation.[46]

The document further suggested that Mühendisyan's loan could be repaid through the sale of his type. However, it criticised the high pricing, stating that despite Mühendisyan's rights and privileges for casting his type, the exorbitant cost was inappropriate and hindered widespread adoption.

Adaptations of MI-24 at Imprimerie Catholique in Beirut

The Imprimerie Catholique in Beirut did not merely adopt the MI-24 type in its original form; rather, it implemented subtle yet significant modifications. In its 1876 edition of the Arabic Bible, the main text was printed in full vocalisation, reflecting both liturgical requirements and the pedagogical mission of the Jesuits. Alongside the principal type—based on MI-24 design—two smaller companion types were introduced, likely for the first time in this publication. All three types were rendered in visually coherent styles but differed in size and minor design features. The largest was the modified MI-24 derivative labelled 'Type de Constantinople' on a 22-point body (henceforth TC-22). This was complemented by a smaller type on an 18-point body, also labelled 'Type de Constantinople' (TC-18), and a third, still smaller design on a 14-point body, referred to as 'Type Égyptien' (TE-14) (Figure 8).[47]

A close comparison between MI-24 and the TC-22 impressions in the 1876 Bible reveals that while the overall character set remained largely faithful to Mühendisyan's original, some characters exhibit distinct modifications. Notably, variations can be observed in the isolated forms of the letters *nūn, jīm*, and *ʿayn* (Figure 9). The rationale for these changes remains uncertain and warrants further investigation. Possible explanations include adaptation for full vocalisation, aesthetic adjustments for a specific liturgical or textual purpose, or technical constraints of the Beirut press.

These modifications are significant not only in their immediate typographic context but also in facilitating the tracing of lineage and dissemination of Arabic types across the late Ottoman and post-Ottoman periods. Understanding the changes introduced at the Imprimerie Catholique offers critical insight into how MI-24 was received, reinterpreted, and localised.

[45] 'Untitled', *Muḫbir*, 22 May 1867, cited in F. Tansel, 'Arap harflerinin islâhı ve değiştirilmesi hakkında ilk teşebbüsler ve neticeler (1862–1884)' [Early attempts and outcomes regarding the reform and replacement of the Arabic alphabet (1862–1884)], *Belleten* 17.66 (1953), p. 230.

[46] Ottoman Archives, MF.MKT, 1/150, 23 June 1872.

[47] These types are listed on pages 17 and 19 of a type specimen probably produced around 1877. See *Spécimen des caractères fondus à l'imprimerie catholique des missionnaires de la Compagnie de Jésus à Beyrouth* (Beirut, [1877?]), pp. 17–19.

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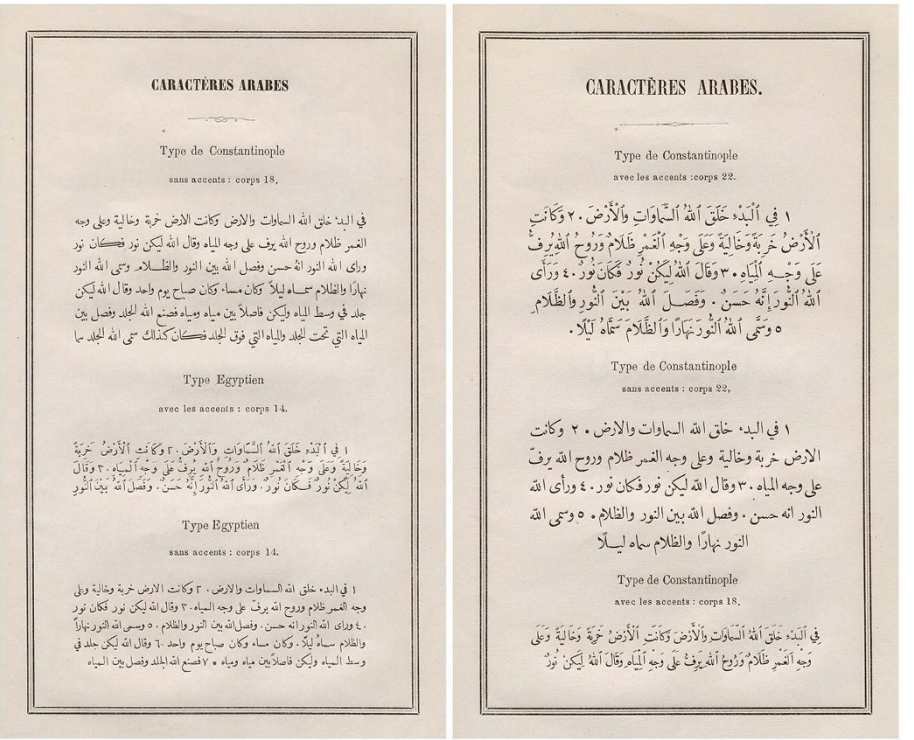

CARACTÈRES ARABES

Type de Constantinople

sans accents : corps 18.

في البدء خلق الله السماوات والارض وكانت الارض خربة وخالية وعلى وجه
الغمر ظلام وروح الله يرف على وجه المياه وقال الله ليكن نور فكان نور
ورأى الله النور انه حسن وفصل الله بين النور والظلام. وسمى الله النور
نهارًا والظلام سماه ليلاً وكان مساء وكان صباح يوم واحد وقال الله ليكن
جلد في وسط المياه وليكن فاصلاً بين مياه ومياه فصنع الله الجلد وفصل بين
المياه التي تحت الجلد والمياه التي فوق الجلد فكان كذلك سمى الله الجلد سما

Type Egyptien

avec les accents : corps 14.

١ فِي ٱلْبَدْءِ خَلَقَ ٱللهُ ٱلسَّمَاوَاتِ وَٱلْأَرْضَ. ٢ وَكَانَتِ ٱلْأَرْضُ خَرِبَةً
وَخَالِيَةً وَعَلَى وَجْهِ ٱلْغَمْرِ ظَلَامٌ وَرُوحُ ٱللهِ يُرِفُّ عَلَى وَجْهِ ٱلْمِيَاهِ. ٣ وَقَالَ
ٱللهُ لِيَكُنْ نُورٌ فَكَانَ نُورٌ. وَرَأَى ٱللهُ ٱلنُّورَ أَنَّهُ حَسَنٌ. وَفَصَلَ ٱللهُ بَيْنَ ٱلنُّورِ

Type Egyptien

sans accents : corps 14.

١ في البدء خلق الله السماوات والارض. ٢ وكانت الارض خربة وخالية وعلى
وجه الغمر ظلام وروح الله يرف على وجه المياه. ٣ وقال الله ليكن نور فكان نور
٤ ورأى الله النور انه حسن. وفصل الله بين النور والظلام. ٥ وسمى الله النور نهارًا
والظلام سماه ليلاً. وكان مساء وكان صباح يوم واحد. ٦ وقال الله ليكن جلد في
وسط المياه وليكن فاصلاً بين مياه ومياه. ٧ فصنع الله الجلد وفصل بين المياه

CARACTÈRES ARABES.

Type de Constantinople

avec les accents :corps 22.

١ فِي ٱلْبَدْءِ خَلَقَ ٱللهُ ٱلسَّمَاوَاتِ وَٱلْأَرْضَ. ٢ وَكَانَتِ
ٱلْأَرْضُ خَرِبَةً وَخَالِيَةً وَعَلَى وَجْهِ ٱلْغَمْرِ ظَلَامٌ وَرُوحُ ٱللهِ يُرِفُّ
عَلَى وَجْهِ ٱلْمِيَاهِ. ٣ وَقَالَ ٱللهُ لِيَكُنْ نُورٌ فَكَانَ نُورٌ. ٤ وَرَأَى
ٱللهُ ٱلنُّورَ إِنَّهُ حَسَنٌ. وَفَصَلَ ٱللهُ بَيْنَ ٱلنُّورِ وَٱلظَّلَامِ.
٥ وَسَمَّى ٱللهُ ٱلنُّورَ نَهَارًا وَٱلظَّلَامَ سَمَّاهُ لَيْلًا.

Type de Constantinople

sans accents : corps 22.

١ في البدء خلق الله السماوات والارض. ٢ وكانت
الارض خربة وخالية وعلى وجه الغمر ظلام وروح الله يرف
على وجه المياه. ٣ وقال الله ليكن نور فكان نور. ٤ ورأى الله
النور انه حسن. وفصل الله بين النور والظلام. ٥ وسمى الله
النور نهارًا والظلام سماه ليلًا

Type de Constantinople

avec les accents : corps 18.

فِي ٱلْبَدْءِ خَلَقَ ٱللهُ ٱلسَّمَاوَاتِ وَٱلْأَرْضَ وَكَانَتِ ٱلْأَرْضُ خَرِبَةً وَخَالِيَةً وَعَلَى
وَجْهِ ٱلْغَمْرِ ظَلَامٌ وَرُوحُ ٱللهِ يُرِفُّ عَلَى وَجْهِ ٱلْمِيَاهِ وَقَالَ ٱللهُ لِيَكُنْ نُورٌ

Figure 8. Pages from the catalogue *Spécimen des caractères fondus à l'Imprimerie Catholique des missionnaires de la Compagnie de Jésus à Beyrouth*, printed in Beirut around 1877. Dimensions 6 × 12.5 cm. *Source*: Imprimerie nationale.

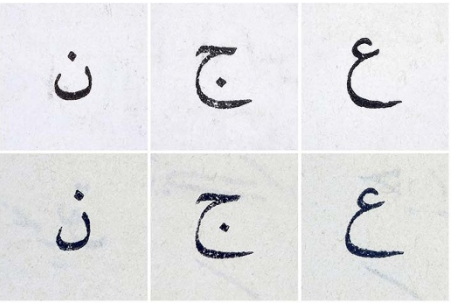

Figure 9. Comparison of the 'Type de Constantinople' on a 22-point body (TC-22, top) and the MI-24 type (bottom), highlighting structural differences in the isolated forms of the letters *nūn, jīm*, and *ʿayn* (from left to right).

One avenue for further comparative analysis lies in the treatment of vocalisation. While fully vocalised Arabic texts are rare in Mühendisyan's early MI-24 publications, one notable exception is the 1286 (1869/70) edition of ʿAbd al-Raḥmān Jāmī's *Ṣad Kalimah-'i Ḥaẓrat-i ʿAlī* (One hundred sayings of ʿAlī), which includes Arabic sections with complete diacritical markings (Figure 10).[48] This edition could serve as a useful case study for examining whether the vowel mark positioning in the 1876 Bible was modified in relation to MI-24's original design or preserved intact.

[48] ʿAbd al-Raḥmān Jāmī, *Ṣad Kalimah-'i Ḥaẓrat-i ʿAlī* (Istanbul, 1869), published by Mühendisoğlu Matbaʿası.

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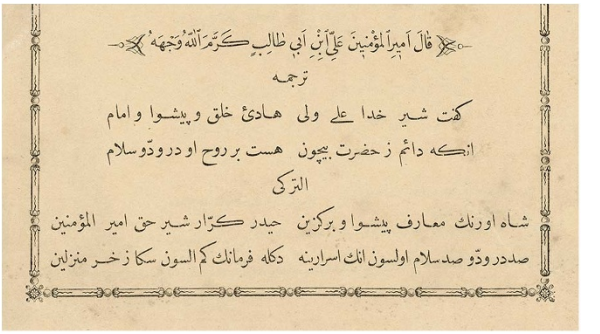

Figure 10. Detail from the opening page of *Ṣad Kalimah-i Ḥaẓrat-i ʿAlī* printed by Mühendisyan using the MI-24 type in 1869/1870. From top to bottom: fully vocalised Arabic text, Persian verses, and Turkish verses. Dimensions 8.5 × 15 cm. *Source*: Private collection.

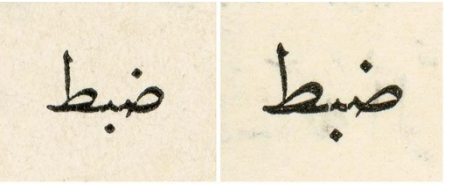

Figure 11. Note the more open counters of the letter *ḍād* in its initial form and the letter *ṭāʾ* in its final form within the Arabic word *ḍabṭ*, as rendered in the TC-18 type (left), compared to the more closed counters in the TC-22 type (right).

The TC-18 type used in the 1876 Bible also deserves closer attention. Though related to TC-22, it is not a simple size reduction of the larger type. For instance, characters like *ṣād* in TC-18 display enlarged counter forms and other optical adjustments necessary for legibility at smaller sizes (Figure 11). These refinements suggest that TC-18 was separately cut rather than mechanically derived—such as through pantographic scaling—from the 22-point version. Nevertheless, it remains possible that some characters were resized using such techniques and then selectively refined.

A further distinguishing feature between MI-24 and the Beirut adaptations lies in the treatment of diacritical dots. In certain instances, particularly with single-dot letters in TC-22, the dots appear larger and more prominently placed than those in the original MI-24 cut. This subtle but deliberate adjustment could have been intended to enhance clarity, especially in a heavily vocalised religious text aimed at broad dissemination and liturgical use.

Significantly, the TC-18 predates Mühendisyan's development of a 16-point *naskh* type around 1882 (henceforth OM-16), which visually echoes the gestures of MI-24 (Figure 12).[49] Although a court document dated 1872 hints at Mühendisyan's intention to cut smaller versions of MI-24, these were not realised until the 1880s.[50] The Beirut version thus anticipates,

[49] This was followed by a 6-point type introduced in 1888. Mühendisyan presented these two types without specifying their body sizes in his type specimen of 1888. Prominent Ottoman authors such as Ebużżiyā Tevfīḳ and Aḥmed Rāsim consistently referred to them as 16- and 6-point types. However, a single instance was found in a typesetter's manual where the 16-point type was presented as 18-point. For consistency, this article adopts the 16- and 6-point designations. See Derman, 'Yazı san'atının eski matbaacılığımıza akisleri', p. 104.

[50] Documentary evidence reveals Mühendisyan's broader ambitions for the MI-24 type. This is addressed in the administrator's response to Mühendisyan as follows: 'Mühendisoğlu's prior request to cut a smaller *naskh* type for

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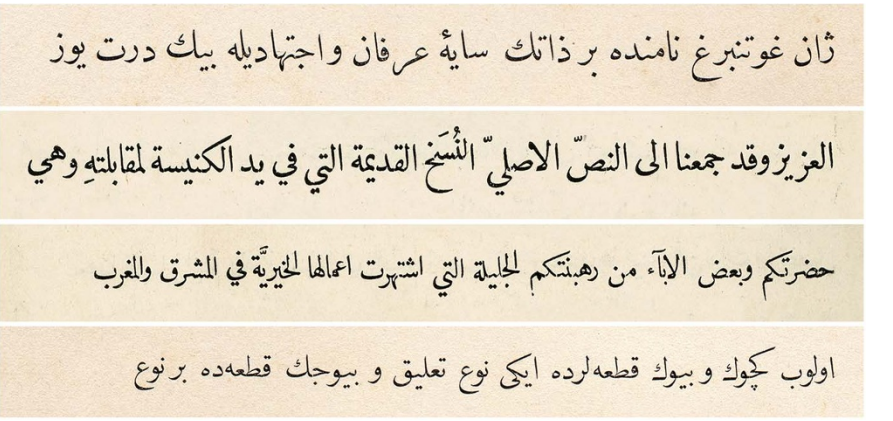

Figure 12. From top to bottom: specimens of MI-24, TC-22, TC-18, and OM-16, arranged in chronological order according to their production dates. Dimensions 5.5 × 11.5 cm.

or perhaps even encourages, later refinements of the Istanbul style in smaller point sizes.[51] The production of smaller companion types in Beirut further underscores the flexibility and aesthetic appeal of MI-24 as a typographic model, even in the face of its comparatively high production cost.

In sum, the Imprimerie Catholique adaptation of MI-24 into TC-22, TC-18, and to a lesser degree TE-14 reflects both the wide influence of Mühendisyan's type and the active role played by regional presses in shaping its legacy. Through these subtle modifications and localised reinterpretations, Beirut's Imprimerie Catholique not only elevated the visual standard of Arabic religious printing but also contributed to the broader typographic evolution of Arabic script in the late nineteenth century.

The development of new Istanbul-style Arabic types at Imprimerie Catholique

The development of refined Istanbul-style Arabic types at the Imprimerie Catholique in Beirut during the late nineteenth century is primarily attributed to two key figures: Elijah Marie Elias (1840–1901) and Antoun ʿAbdallah (Anṭūn ʿAbd Allāh, 1853–1923) (Figure 13).[52] Their collaborative efforts laid the groundwork for what would become one of the most ambitious Arabic printing projects of the period: the production of the Arabic Catholic Bible,

the printing of the Qur'an is to be rejected owing to the ongoing attempts by both internal and external forces to print the Qur'an illegally.' Ottoman Archives, MF.MKT, 1/150, 23 June 1872.

[51] Interestingly, like the Beirut versions, Mühendisyan's smaller type sizes also featured optical adjustments, such as enlarged bowls on characters like *nūn* and *lām*.

[52] Elijah Marie Elias was born in Haifa to a family of grooms and stable hands. He worked at the Carmelite monastery before converting to Christianity, an event he attributed to surviving a life-threatening incident through the intercession of the Virgin Mary. He was baptised in Zahlé on 28 October 1855 and joined the Jesuit Order in 1862. Assigned to the Catholic Press in 1869, he specialised in technical tasks, including metalwork. His innovations in Arabic typecasting—particularly combining *tashkīl* (diacritics) and letters into a single sort—were widely adopted internationally. For more details, see 'Le Frère Marie Elias', in *Relations d'Orient: Liban, Syrie, Égypte, Arménie: janvier–avril 1902* (Beirut, 1902), pp. 25–38.

Antoun ʿAbdallah was born in Damascus and joined the Jesuit Order as a lay brother in 1871. From 1872 until his death, he worked at the Catholic Press, initially as an assistant to Brother Elias and later as his successor. He specialised in Arabic typography, mastering design, engraving, and typecasting, and played a central role in advancing these crafts with exceptional skill and dedication. See *Les Jésuites en Syrie, 1831–1931: Université Saint-Joseph, vi: Les œuvres de presse, Beyrouth* (Paris, 1931), pp. 66–67.

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Figure 13. (Left) Antoun ʿAbdallah (1853–1923); (right) Elijah Marie Elias (1840–1901). *Source*: (ʿAbdallah) Taken from A. Nūrū, *Al-Asṭaranjīlīyah al-Mustaqillah: Taṣmīm Ṭabāʿī Jadīd lil-Ḥurūf al-Suryānī* [The independent Estrangelo [style]: a new typographic design for the Syriac script] (Beirut, [196–?]), p. 12; (Elias) Reproduced from H. Charles, *Jésuites missionnaires, Syrie, Proche-Orient* (Paris, 1929), p. 31.

a publication that not only exemplified typographic excellence but also responded directly to the growing influence of Protestant missionary presses in the Levant.

Elijah Elias, a Muslim convert to Catholicism, played a foundational role in both the technical and institutional growth of the press. Beginning his career there in 1861, Elias was instrumental in training new staff and introducing various typographic innovations. He officially assumed the role of director of personnel and machinery in 1871 and, that same year, was sent to France to study contemporary European printing practices. His initial two-month apprenticeship, however, proved insufficient. Upon returning to Beirut, Elias recognised significant gaps in his knowledge—particularly concerning type casting.[53]

In search of further instruction, he approached the director of the American Press in Beirut, then one of the region's leading Protestant-run printing houses. Although outwardly cordial, reportedly the director deliberately misled Elias, providing him with faulty techniques, which led to further setbacks before Elias realised the deception. Recognising the need for deeper technical expertise, Elias returned to Paris in 1873.[54] There, he studied at the Imprimerie Nationale, immersing himself in French innovations in typography and presswork. During this stay, he also encountered a travelling English salesman who introduced him to a new galvanoplasty process that used a wax matrix—considered superior to the prevailing French method—for producing printing plates. Determined to investigate, Elias travelled to London, where he successfully learned the secret technique, under the condition that he would not reveal it in France.[55]

Upon his return to Beirut in mid 1874, Elias was determined to apply these techniques to the press's most ambitious project yet: the publication of an Arabic Catholic Bible that could rival, and ideally surpass, the Protestant versions circulating in the region. At the

[53] *Ibid*, pp. 21–22.

[54] M. Jullien, 'Chapitre vii: l'imprimerie', in *La nouvelle mission de la Compagnie de Jésus en Syrie (1831–1895)*, vol. ii (Tours, 1898), p. 93.

[55] *Ibid*, p. 94.

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time, Arabic typography was hindered by the separation of diacritical marks from the letterforms, a cumbersome system that made typesetting complex and inconsistent. Elias proposed a radical solution: to cast letters and their diacritical marks as single units, significantly improving typographic consistency and simplifying the printing process.[56]

This innovation, however, presented practical challenges. The compositor's case—which already included 825 compartments to accommodate the vast number of Arabic letterforms and diacritics—would now require 1,369 compartments under Elias's new system. Nonetheless, the potential gains in clarity and efficiency justified the undertaking.[57]

Initially, Elias intended to use a modified version of the American Arabic type, which was considered one of the most attractive in the region. However, in 1875, he encountered the newly developed MI-24 from Istanbul. Impressed by its superior aesthetic and technical quality, Elias proposed switching to this 'Stambouli type' for the Bible project—a proposal that was approved without hesitation. By October 1875, the first pages of the Arabic Catholic Bible, typeset with this elegant and innovative type, began to roll off the press.[58]

The casting and production of these new types were carried out under the joint leadership of Elias and Antoun ʿAbdallah, who would later succeed Elias as director. While the precise division of labour between them remains unclear, ʿAbdallah is widely credited with making significant contributions to the project. A skilled engraver and typographer, ʿAbdallah underwent extensive training in France, visiting major European type foundries and mastering the art of steel punch engraving. Described by contemporaries as 'highly skilled and ingenious', ʿAbdallah would go on to develop numerous types in Arabic, Syriac, and other regional scripts.[59]

The first volume of the Arabic Bible, concluding with the Book of Esther, was completed in 1876. It was followed by the New Testament in 1877 and the remaining books of the Old Testament in 1879. Each volume was supplemented with explanatory notes drawn from biblical texts and the writings of the Church Fathers. Despite its relatively high cost, the publication was a commercial and cultural success. By 1885, the New Testament (second volume) had been reprinted four times; by 1890, the first volume had seen five reprintings; and by 1899, the third volume had been reprinted three times—bringing the total distribution across all volumes to 23,345 copies.[60]

A deluxe, two-volume edition of the Bible was presented at the Paris Exposition Universelle of 1878, where it won a gold medal for typographic excellence.[61] The judges praised the edition for its unparalleled print quality, which surpassed all previously known Arabic-script publications. Curiously, however, the accolade was not awarded to Elias or ʿAbdallah. Instead, it was attributed to Ibrāhīm al-Yāzijī (1847–1906), the main editor of the Bible and a towering intellectual figure of the Arab Nahḍa (the Awakening).[62] Though his editorial contributions were substantial, the exclusion of Elias and ʿAbdallah from

[56] A. Banzet, 'Imprimerie catholique de Beyrouth et son œuvre en Orient (1853–1903)', in *Revue du monde catholique: recueil international dogmatique, politique, scientifique, historique et littéraire* (Paris, 1904), pp. 747–748.

[57] Jullien, 'Chapitre vii: l'imprimerie', p. 95.

[58] *Ibid*.

[59] *Les Jésuites en Syrie*, pp. 67–68.

[60] Banzet, 'Imprimerie catholique de Beyrouth', pp. 754–755.

[61] *Les Jésuites en Syrie*, pp. 37–38.

[62] S. Khūrī, 'Al-Shaykh Ibrāhīm al-Yāzijī wa-al-Maṭbaʿah al-Kāthūlīkīyah bayna 1872 wa-1881' [Shaykh Ibrāhīm al-Yāzijī and the Catholic Press between 1872 and 1881], *al-Mashriq* [The East] 1 (1991), pp. 125–147. Also see R. Herzstein, 'The Oriental Library and the Catholic Press at Saint-Joseph University in Beirut', *Journal of Jesuit Studies* 2.2 (2015), p. 259 n. 39.

For general information on the Nahḍa, see N. Tomiche, 'Nahḍa', in *Encyclopaedia of Islam, New Edition Online*, https://referenceworks.brill.com/display/entries/EIEO/SIM-5751.xml (accessed 29 April 2025).

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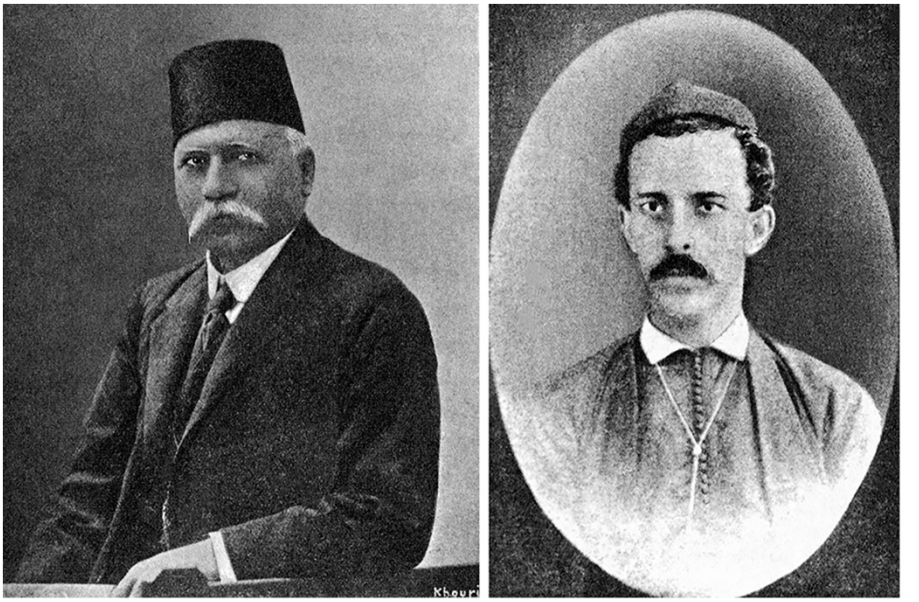

Figure 14. (Left) Khalīl Khaṭṭār Sarkīs (1842–1915); (right) Ibrāhīm al-Yāzijī (1847–1906). *Source*: Reproduced from 'Khalīl Sarkīs', p. 130, and 'Al-Shaykh Ibrāhīm al-Yāzijī', p. 88, in Ṭarrāzī, *Tārīkh al-Ṣiḥāfah al-ʿArabīyah*.

the official commendation reflects broader historical patterns of erasure, especially of technical and artisanal labour in typographic history.

In retrospect, Elias and ʿAbdallah's work at the Imprimerie Catholique represents one of the most important achievements in nineteenth-century Arabic typography. Their efforts not only brought Istanbul-style types into new regional and religious contexts but also advanced the visual and technical standards of Arabic-script printing in ways that would resonate across the Arabic-speaking world for decades. Their innovations laid the groundwork for a more integrated typographic system—one capable of handling vocalised Arabic with clarity and beauty—and helped usher in a new era of Arabic publishing in both the Levant and the wider Islamicate world.

Al-Yāzijī, Sarkīs, and the Nahḍa's contribution to Arabic typography

During the 1880s, the MI-24 type—originally developed in Istanbul—inspired further modification and refinement in Beirut, guided by two leading figures of the Arab Nahḍa: Ibrāhīm al-Yāzijī and Khalīl Khaṭṭār Sarkīs (1842–1915) (Figure 14).[63] Both men played pivotal roles in advancing Arabic typography, publishing, and language reform during a critical phase in the history of print culture in the Arab world.

[63] For detailed accounts of the lives and work of these figures, see 'Al-Shaykh Ibrāhīm al-Yāzijī', pp. 88–98, and 'Khalīl Sarkīs,' pp. 129–138, in Fīlīb dī Ṭarrāzī, *Tārīkh al-Ṣiḥāfah al-ʿArabīyah* [The history of Arabic publishing], vol. ii (Beirut, 1913); and 'Al-Shaykh Ibrāhīm al-Yāzijī' in Jurjī Zaydān, *Tarājim Mashāhīr al-Sharq fī al-Qarn al-Tāsiʿ ʿAshar* [Biographies of notable figures of the East in the nineteenth century], 2nd edn, vol. ii (Cairo, 1911), pp. 119–136. In addition, the journal *al-Masarrah*, published by the Greek Catholic Patriarchate in Harissa, devoted its entire sixth issue of volume 33 (1947) to al-Yāzijī on the centenary of his birth. The issue gathered contributions from scholars and contemporaries, including several of his students and associates, offering a valuable collective appraisal of his intellectual and literary legacy.

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Al-Yāzijī, often described as a true polymath—philologist, poet, journalist, calligrapher, engraver, and philosopher—was renowned for his mastery of Arabic penmanship.[64] As noted in Viscount Fīlīb dī Ṭarrāzī (Philippe de Tarrazi) in his *Tārīkh al-Ṣiḥāfah al-ʿArabīyah*, al-Yāzijī's precision extended to every aspect of his art, from composition to handwriting:

> [Al-Yāzijī's] meticulousness also extended to his handwriting, which was elegant from a young age and remained so throughout his life. His script followed Persian [*nastaʿlīq*] calligraphic principles, and anyone who read one of his handwritten letters would be equally captivated by the beauty of the script as by the eloquence of its content. Similarly, his talent for drawing was apparent; he once painted a self-portrait using a mirror—a vivid likeness that hung in his home.[65]

Dī Ṭarrāzī's account highlights not only al-Yāzijī's refined aesthetic sensibility but also his technical mastery of the manual arts. His brother, Shaykh Naṣṣār al-Yāzijī, was an accomplished goldsmith, and Ibrāhīm frequently visited his workshop, assisting with drawing, engraving, and related tasks—an early apprenticeship that honed his precision and sense of form.[66] His aptitude for engraving and design also attracted attention during his visits to the American Press in Beirut, directed by Cornelius Van Dyck (1818–1895).[67] According to Van Dyck's son, Edward Van Dyck, al-Yāzijī began by engraving seals as a pastime before progressing to the design of intricate patterns and illustrations. Among his most notable achievements was the creation of the first Arabic wall calendar, an innovative work that combined mechanical precision with artistic elegance. With support from the press's foreman, Mūsá ʿAṭá, he gained access to specialised tools and materials that enabled him to execute typographic designs of exceptional accuracy. The letters and numerals of his calendar, Edward Van Dyck observed, were 'remarkable in their precision and beauty'.[68]

At that time, the so-called 'American Arabic' types were already circulating in Beirut and other Levantine presses. However, their production remained prohibitively expensive due to their complexity and the large number of character variants and compounds.[69] Dī Ṭarrāzī contrasts them with the Istanbul-style (Islāmbūlī) types, including MI-24, which, although more economical to cast, he regarded as comparatively less refined. Recognising the need for a type that combined elegance, clarity, and efficiency, al-Yāzijī undertook in 1886 to design a new fount of Arabic type.[70]

This design, cut in multiple sizes and later known as the 'Sarkīs type' (*ḥarf Sarkīs*), was produced at Maṭbaʿah al-Adabīyah (the Literary Press), founded by Khalīl Sarkīs in Beirut

[64] Ibrāhīm al-Yāzijī also served as editor of *al-Najāḥ* ('for several months' in 1872) and *al-Ṭabīb* (1884–1885) in Beirut, and later founded the Cairo-based periodicals *al-Bayān* (1897–1898) and *al-Ḍiyāʾ* (1898–1906). See ʿĪsá Mīkhāʾīl Sābā, *al-Shaykh Ibrāhīm al-Yāzijī, 1847–1906* (Beirut, 1955), pp. 24–25; and ʿIsá Iskandar Maʿlūf, 'Al-Shaykh Ibrāhīm al-Yāzijī al-Lubnānī: (3) al-Mutafannin' [Shaykh Ibrāhīm al-Yāzijī the Lebanese: (3) the polymath], *Al-Muqtaṭaf* 33.8 (1908), pp. 635–636.

[65] Dī Ṭarrāzī, 'Al-Shaykh Ibrāhīm al-Yāzijī', p. 93. According to ʿĪsá Iskandar Maʿlūf, al-Yāzijī was proficient in several styles of calligraphy, particularly *naskh* and *nastaʿlīq*. See ʿIsá Iskandar Maʿlūf, 'Al-Shaykh Ibrāhīm al-Yāzijī: al-rajul wa-fannuh' [Shaykh Ibrāhīm al-Yāzijī: the man and his art], *Al-Masarrah: majallah Baṭriyarkīyat al-Rūm al-Kāthūlīk* 33.6 (1947), pp. 339–340.

[66] Maʿlūf, 'Al-Shaykh Ibrāhīm al-Yāzijī al-Lubnānī', pp. 635–636.

[67] Cornelius Van Alen Van Dyck was an American physician, missionary, and author who served as a consular clerk and vice-consul in Lebanon and Egypt from 1873 to 1882. See Lutfi L. M. Saʿdi, G. Sarton, and W. T. Van Dyck, 'Al-Ḥakīm Cornelius Van Alen Van Dyck (1818–1895)', *Isis* 27.1 (1937), pp. 20–45.

[68] Dī Ṭarrāzī, 'Al-Shaykh Ibrāhīm al-Yāzijī', p. 93.

[69] For further discussion of the 'American Arabic' types, see J. F. Coakley, 'Homan Hallock, punchcutter', *Printing History* OS 45, 23.1 (2003), pp. 18–41.

[70] Dī Ṭarrāzī, 'Al-Shaykh Ibrāhīm al-Yāzijī', p. 96.

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in the mid 1870s.[71] Reports from the early twentieth century indicate that al-Yāzijī not only designed the letterforms but also engraved the steel punches and crafted the copper matrices himself—an indication of his rare holistic combination of artistic and technical mastery.[72] The Sarkīs type soon found wide circulation, being adopted by presses across Syria and Egypt and later by Arab émigré publishing houses in North America, where it became one of the most recognisable Arabic types of the late nineteenth and early twentieth centuries.[73]

One of al-Yāzijī's most consequential contributions to Arabic-script typography was the creation of a 20-point version of the Sarkīs type (henceforth IY-20).[74] According to dī Ṭarrāzī's account, al-Yāzijī developed this new type following his relocation to Cairo, where it quickly gained traction in the city's expanding print industry and soon became a standardised type in Egyptian publishing (Figure 15).[75] Beyond this achievement, he is credited with introducing new diacritical marks—partly inspired by European typographic conventions—to represent non-Arabic phonemes with greater accuracy, an innovation that proved essential for the translation of scientific and technical terminology into Arabic during the Nahḍa.[76]

In 1903, the Egyptian government launched an initiative to design a new 'simplified' Arabic type for use at the Būlāq Press, then one of the most prestigious state printing institutions in the Arab world.[77] Although al-Yāzijī was widely recognised as the most capable and qualified figure for such a task—renowned for both his technical skill and calligraphic expertise—the commission was ultimately awarded to another party.[78] In retrospect, Jurjī Zaydān lamented that this decision had deprived Arabic typography of a potentially transformative development—one that might have further modernised its graphic structure, enhanced legibility, and improved its adaptability to mechanised printing systems, thereby, as he put it, 'bearing fruitful results for the Arabic language as a whole'.[79]

Among al-Yāzijī's most forward-looking contributions was his development of a 'simplified' Arabic script, known as al-Ḥarf al-Mukhtaṣar ('the simplified' or 'abbreviated' script) (Figure 16).[80] Conceived as a means of adapting Arabic to mechanical reproduction, the

[71] *Circa* 1874–1876, see *ibid*.

[72] Zaydān, *Tarājim Mashāhīr al-Sharq*, p. 134.

[73] *Ibid*.

[74] Reliable information concerning the production and initial use of the printing types attributed to Ibrāhīm al-Yāzijī remains limited and inconclusive. Secondary sources—including the accounts of Maʿlūf, dī Ṭarrāzī, and Zaydān—provide no precise chronology for the creation of the various cuts of the so-called Sarkīs types, particularly the 20-point version. Nevertheless, examples of these types can be identified in the publications of Maṭbaʿah al-Adabīyah. Among the earliest known specimens are *Kitāb al-Nadá al-Raṭīb fī al-Ghazal wa-al-Nasīb* [The book of the fresh dew on love poetry and amatory verse] by Salīm Shāhīn Sarkīs (1886), and *Dīwān Ashʿār al-Hāshimīyīn* (1890) (Figure 15).

[75] Dī Ṭarrāzī, 'Al-Shaykh Ibrāhīm al-Yāzijī', p. 96.

[76] For al-Yāzijī's proposal of new diacritical marks and modified letterforms to represent European phonemes in Arabic script, see Ibrāhīm al-Yāzijī, 'Ikhtirāʿ ʿaṣrī: li-taftīsh al-maʿārif al-Miṣrīyah' [A modern invention: for the dissemination of Egyptian knowledge], *Al-Ḍiyāʾ* 8.16 (1906), pp. 523–531.

[77] These efforts were documented in two publications issued in 1903: Aḥmad Zakī Bey, *Ikhtibārāt li-al-Muqāranah Bayna Uslūb al-Ḥurūf al-Aṣlīyah al-Mustaʿmalah al-Ān wa-Bayna al-Uslūb al-Mukhtaṣar al-Jadīd: Wayalīhā Jawādil Shāmilah li-Kāffat Anwāʿ wa-Ṣuwar al-Ḥurūf al-Mustaʿmalah al-Ān fī al-Ṭibāʿah bi-Būlāq / Lajnat Iṣlāḥ wa-Taḥsīn al-Ḥurūf al-ʿArabīyah bi-Maṭbaʿah Būlāq al-Ahlīyah. Commission de la Réforme et de l'Amélioration du Caractère Arabe de l'Imprimerie Nationale de Boulaq. 2e fascicule* (Cairo, 1903); and *Khulāṣah Wajīzah ʿAlá Mabāḥith wa-Aʿmāl al-Lajnah / Lajnat Iṣlāḥ wa-Taḥsīn al-Ḥurūf al-ʿArabīyah bi-Maṭbaʿah Būlāq al-Ahlīyah. Commission de la Réforme et de l'Amélioration du Caractère Arabe de l'Imprimerie Nationale de Boulaq. 1er fascicule* (Cairo, 1903).

[78] Dī Ṭarrāzī, 'Al-Shaykh Ibrāhīm al-Yāzijī', p. 96.

[79] Zaydān, *Tarājim Mashāhīr al-Sharq*, p. 134.

[80] See ʿĪsá Iskandar Maʿlūf, *Lamḥah fī al-Kitābah* [A glimpse into writing] (Baabda, 1895), pp. 40–41; and Maʿlūf, 'Al-Shaykh Ibrāhīm al-Yāzijī: al-rajul wa-fannuh', pp. 340–341. In the latter source, Maʿlūf refers to this type as

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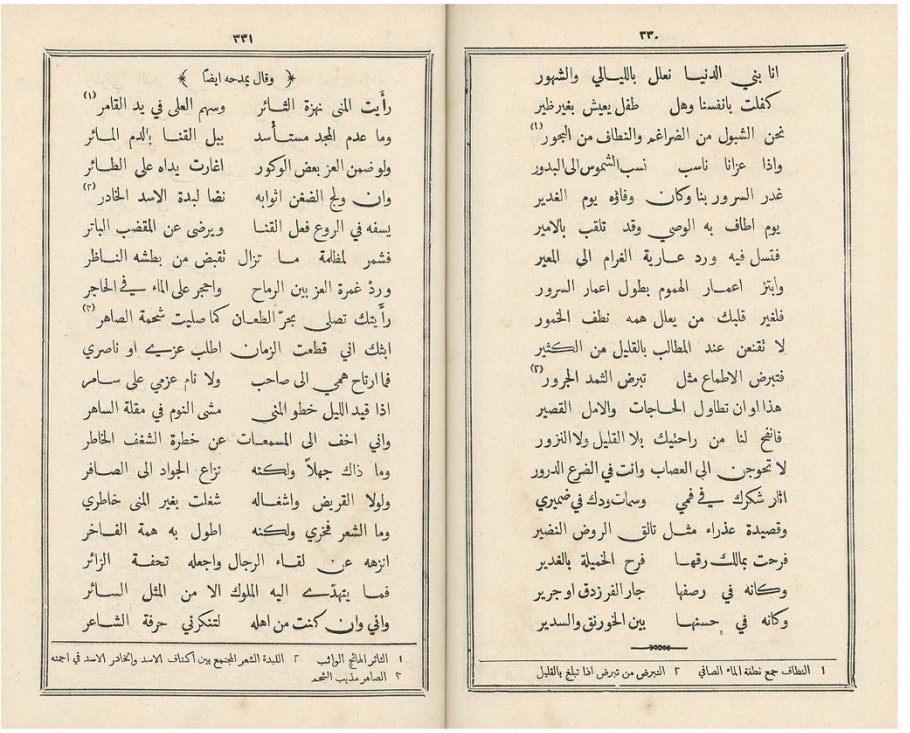

٣٣٠

انا بني الدنيا نعل بالليالي والشهور
كفلت يانفسنا وهل طفل يعيش بغيرظير
نحن الشبول من الضراغم والنطاف من الجمور[1]
واذا عزانا ناسب نسب الشموس الى البدور
غدر السرور بنا وكان وفاؤه يوم الغدير
يوم اطاف به الوصي وقد تلقب بالامير
فتسل فيه ورد عارية الفرام الى المعير
وابتز اعمار الهموم بطول اعمار السرور
فلتغير قلبك من يعلل همه نطف الخمور
لا تقنعن عند المطالب بالقليل من الكثير
فتبرض الاطماع مثل تبرض الشمد الجرور[2]
هذا اوان تطاول الحاجات والامل القصير
فانفخ لنا من راحتيك بلا القليل ولا النزور
لا تحوجن الى العصاب وانت في الضرع الدرور
اثار شكرك في فمي وسمات ودك في ضميري
وقصيدة عذراء مثل تالق الروض النضير
فرحت بمالك رقها فرح الخميلة بالغدير
وكانه في رصفها جار الفرزدق او جرير
وكانه في حسنها بين الخورنق والسدير

١ النطاف جمع نطفة الماء الصافي ٢ التبرض من تبرض اذا تبلغ بالقليل

٣٣١

﴿ وقال يمدحه ايضاً ﴾

رأيت المنى نهزة الثائر وسهم العلى في يد القامر[1]
وما عدم المجد مستأسد بيل القنا بالدم المائر
ولو ضمن العز بعض الوكور اغارت يداه على الطائر
وان ولج الضغن اثوابه نضا لبدة الاسد الخادر[2]
يسفه في الروع فعل القنا ويرضى عن المقضب الباتر
فشمر لمظلمة ما تزال تقبض من بطشه الناظر
وردّ غمرة العز بين الرماح واحجر على الماء في الحاجر
رأيتك تصلى بحرّ الطعان كما صليت شحمة الصاهر[3]
ابثك اني قطعت الزمان اطلب عزيمي او ناصري
فما ارتاح همي الى صاحب ولا نام عزمي على سامر
اذا قيد الليل خطو المنى مشى النوم في مقلة الساهر
واني اخف الى المسمعات عن خطرة الشغف الخاطر
وما ذاك جهلاً ولكنه تزاع الجواد الى الصافر
ولولا القريض واشغاله شغلت بغير المنى خاطري
وما الشعر فخري ولكنه اطول به همة الفاخر
انزهه عن لقاء الرجال واجعله تحفة الزائر
فما يتهدّى اليه الملوك الا من المثل السائر
واني وان كنت من اهله لتنكرني حرفة الشاعر

١ الثائر الطالب الرائب ٢ اللبدة الشعر المجتمع بين أكتاف الاسد والخادر الاسد في اجمه
٣ الصاهر مذيب الشحم

Figure 15. Specimen of al-Yāzijī's 20-point *naskh* type (IY-20)—used for setting prose and poetry verses of the first volume of *Dīwān Ashʿar al-Hāshimīyīn* by Muḥammad ibn al-Ḥusayn Sharīf al-Raḍī, printed at *Maṭbaʿah al-Adabīyah* in Beirut in 1890 (pp. 330–331). Dimensions 21 × 26 cm. *Source*: Private collection.

project sought to rationalise the script's structure by drastically reducing the number of individual sorts required for typesetting. Traditional Arabic printing—especially when fully vocalised or using compound-heavy styles—demanded hundreds of distinct pieces of type to accommodate contextual letterforms. By contrast, al-Yāzijī's streamlined system reduced this number from over 300 to roughly 60, aligning Arabic script typography with the practical limitations of emerging typewriter and mechanical typesetting technologies at the turn of the twentieth century.[81]

The structural logic of al-Ḥarf al-Mukhtaṣar drew heavily on earlier typographic models, most notably the Istanbul-style types. Al-Yāzijī's designs retained the visual authority and calligraphic equilibrium of these Ottoman precedents while introducing functional adaptations essential for mechanisation. His innovations formed a crucial link between

al-ḥarf al-iqtiṣādī (the economical type) and reproduces a sample of its use on page 340. In the present article, the designation al-Ḥarf al-Mukhtaṣar is used instead, following the terminology employed in the Maṭbaʿah al-Adabīyah type specimen reproduced in Figure 16.

[81] Maʿlūf, 'Al-Shaykh Ibrāhīm al-Yāzijī al-Lubnānī', p. 635. Specimens of al-Ḥarf al-Mukhtaṣar were featured in *Lisān al-Ḥāl* newspaper; for instance, see the front page of the issue dated 4 May 1892, where it is presented as 'al-ḥarf al-thālith al-jadīd'. See also *Spécimen de caractères Arabes: Imprimerie des Belles-Lettres, Beyrouth (Syrie)* (Beirut, 1908), p. 24. This type was also used for printing marginal notes of a portion of al-Yāzijī's book *Najʿat al-Rāʾid*, as illustrated in Maʿlūf, 'Al-Shaykh Ibrāhīm al-Yāzijī: al-rajul wa-fannuh', p. 340. For a recent and well-researched study of early attempts to produce Arabic typewriters, see H. S. Deuchar, 'A case of multiple identities: uncanny histories of the Arabic typewriter', *International Journal of Middle East Studies* 55.2 (2023), pp. 238–259.

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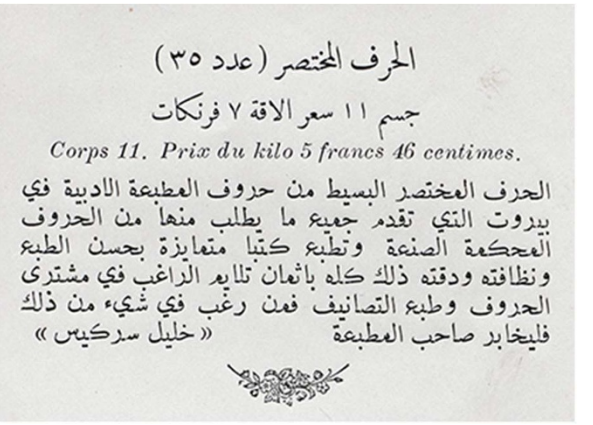

Figure 16. Specimen of Ibrāhīm al-Yāzijī's al-Ḥarf al-Mukhtaṣar ('the simplified' or 'abbreviated' script), cast on an 11-point body and priced at 5 francs 46 centimes per kilogram, from *Specimen de caractères arabes* (Beirut, 1908), p. 24. The accompanying Arabic text reads: "al-Ḥarf al-Mukhtaṣar is one of the scripts [types] of the Maṭbaʿah al-Adabīyah in Beirut, which supplies all requested types in a finely crafted manner and prints books distinguished by the beauty, cleanliness, and precision of their printing—all at prices suited to those wishing to purchase type or print publications. Anyone interested in any of these services should contact the proprietor of the press, Khalīl Sarkīs." *Source*: Letterform Archive.

the established calligraphic conventions of manuscript culture and the utilitarian requirements of emerging Arabic typewriting systems. According to ʿIsá Iskandar Maʿlūf, al-Yāzijī's 'simplified' type even enabled Salīm Shiblī Ḥaddād to devise his Arabic typewriter ('Dactylo Arabe'), whose letterforms were reportedly modelled on al-Yāzijī's design.[82]

Although the exact date of al-Ḥarf al-Mukhtaṣar's introduction remains uncertain, contemporary accounts suggest that versions of this script were already in use by the late nineteenth century.[83] Tragically, most of the physical evidence of this work—including punches, matrices, and printed specimens—was lost in a fire at Maṭbaʿah al-Adabīyah in Beirut in the early twentieth century.[84] This press had been one of the leading Arabic-language printing establishments in the eastern Mediterranean, serving not only as a platform for al-Yāzijī's typographic experiments but also as the site where Khalīl Sarkīs launched *Lisān al-Ḥāl* in 1877.[85] The semi-weekly newspaper soon became one of the most influential publications in the Arab world, maintaining its prominence for nearly a century.

The emergence of *Lisān al-Ḥāl* coincided with an era of growing restrictions on freedom of expression and the press within the Ottoman empire.[86] The intellectual output and perseverance of figures such as al-Yāzijī and Sarkīs appear all the more noteworthy when situated within the context of Sultan ʿAbdülhamid II's autocratic rule—commonly referred to as

[82] Maʿlūf, 'Al-Shaykh Ibrāhīm al-Yāzijī: al-rajul wa-fannuh', p. 341.

[83] One of the earliest identifiable specimens of this type appears in the aforementioned issue of the *Lisān al-Ḥāl* newspaper from 1892.

[84] Dī Ṭarrāzī, 'Khalīl Sarkīs', p. 130.

[85] *Lisān al-Ḥāl* was initially published using the American Arabic types cut by Homan Hallock (1803–1894). See Coakley, 'Homan Hallock, punchcutter'. In 1889, the newspaper transitioned to the 'Type de Constantinople' series, specifically TC-18 and TC-22. Digitised issues are accessible through the Centre for Research Libraries' *Middle Eastern and North African Newspapers* collection: https://gpa.eastview.com/crl/mena/?a=p&p=publication&sp=laah.

[86] Example of a privately published work from the Nahḍa period, illustrating the growth of non-state printing initiatives in the late nineteenth century. For a discussion of such private efforts, see A. Ayalon, 'Private publishing in the Nahḍa', *International Journal of Middle East Studies* 40.4 (2008), p. 565.

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the Istibdād (despotism) period.[87] During this time, state-imposed censorship was rigorously enforced, and typographic production was subject to intense scrutiny, with instances of prohibition and confiscation. A court document dated 1900 underscores the significant obstacles faced by Sarkīs and his contemporaries under these restrictive conditions:

> Although the casting of 'Turkish' [Arabic] types is prohibited, Khalīl Sarkīs Efendi from the Armenian community and Bedvi Efendi [Khalīl ibn Mīkhāʾīl al-Badawī (1863–1931)], who respectively manage *Lisān al-Ḥāl* and *al-Aḥwāl* newspapers, have been reported for casting types. They and the Jesuit and American missionary schools have all been warned and their types have been confiscated.[88]

Despite the oppressive conditions of the Istibdād period and the subsequent loss of much of his material legacy, al-Yāzijī's contributions remain foundational to the history of Arabic typography. His work must be situated within the broader genealogy of Arabic type-making, much of which was shaped by the introduction and diffusion of MI-24. Istanbul-style types, especially Mühendisyan's refined *naskh* types, became the de facto models for subsequent type designs across the Levant, Egypt, and the Ottoman provinces of North Africa. These styles were often collectively referred to as 'Islāmbūlī types', a testament to the lasting authority of Ottoman visual standards in defining the aesthetics of Arabic print well into the modern era.

Al-Yāzijī's legacy thus lies not only in his individual achievements—his refined designs, punch-cutting skills, and technical innovations—but also in his role as a cultural mediator, adapting classical forms for the requirements of modern print culture. Through his collaborations with figures like Khalīl Sarkīs, and his engagement with the most advanced typographic technologies of his time, al-Yāzijī helped articulate a distinctly Arab vision of typographic modernity—one that balanced fidelity to tradition with the imperatives of functionality and reform. His career epitomises the convergence of calligraphic heritage, technological experimentation, and intellectual renewal that defined the Nahḍa. It underscores that the modernisation of Arabic script was not merely a technical enterprise but a deeply cultural and ideological project—one pursued by scholars and craftsmen who viewed typography as a vehicle for linguistic refinement, educational progress, and cultural self-definition in an era of sweeping transformation.

From Istanbul to Cairo to Oxford and London: the transregional journey of Mühendisyan's naskh types

Armenian type-founder Krikor Rafʾelyan (1846–1911), based in Istanbul, played a pivotal role in the dissemination of Mühendisyan's *naskh* types to Cairo during the late nineteenth century. Having collaborated with Mühendisyan between 1882 and 1883, Rafʾelyan earned distinction as a 'master type-founder'.[89] A petition submitted by him to the Ottoman court in 1894 attests to his involvement in transporting types from Istanbul to Cairo (Figure 17).

> I have yet to receive payment for the 200 ḳıyye (566 lb.) of type previously ordered by Yusuf Asaf Efendi for his Egyptian newspaper, *Cerīde al-Maḥākim*. Since the shipment was halted by the Ministry of Education, I have been unable to cash the cheque. I

[87] For more information on this period, see D. J. Cioeta, 'Ottoman censorship in Lebanon and Syria, 1876–1908', *International Journal of Middle East Studies* 10.2 (1979), pp. 167–186.

[88] Ottoman Archives, DH.MKT, 2309/49, 22 February 1900.

[89] Tʿēodik, *Tip u Taṛ*, p. 79.

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Figure 17. Portrait of Krikor Rafʿelyan (1846–1911). *Source*: Tʿēodik, *Tip u Taṛ*, p. 87.

> respectfully request that the ministry authorise this and future deliveries of type to the gentleman in question.[90]

In addition to overseeing the production and export of types from Istanbul, Rafʿelyan also established and ran a type foundry in Cairo. This is further evidenced by a recently unearthed Arabic type specimen catalogue—featuring a 20-point *naskh* type—which details his operations in Egypt:[91]

> Al-Sharq Type Foundry was the first of its kind, established in 1894 in Egypt by the late Krikor Rafʿelyan, a renowned figure in both Egypt and al-Āstāna [Istanbul]. At that time, Egypt had no foundries other than the Egyptian Foundry, which produced types using handmade moulds. Most major printing presses imported their type and materials from abroad, particularly from al-Astana and other manufacturing hubs. Recognising this gap, Rafʿelyan—an accomplished artisan from Islāmbul [Istanbul]—transported machinery from the foundry he had previously managed in al-Astana to Egypt. This enabled him to meet the demands of local newspapers and printing presses by offering a diverse range of types. His mastery of the craft quickly earned him widespread recognition, as no one else in Egypt matched his skill in this specialised art.
>
> By God's will, the foundry has remained true to its founding principles and continues to thrive. Today, it stands as Egypt's premier type foundry, fully equipped to supply a wide selection of Arabic and French types in various styles. These types serve

[90] Ottoman Archives, İ.HUS, 56/84, 17 May 1894.

[91] This catalogue of Rafʿelyan's type-foundry in Cairo was first presented and analysed in Yazıcıgil, 'Genealogy of Ottoman Naskh printing types', pp. 215–217.

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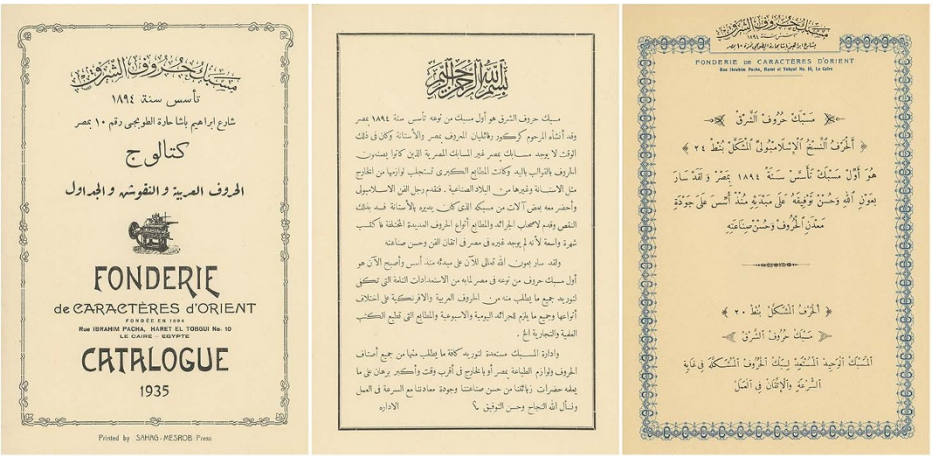

Figure 18. From left to right: title page, preface, and specimen pages featuring the Isambūlī 24-point and vocalised 20-point *naskh* types from the type specimen catalogue of Masbak Ḥurūf al-Sharq (Fonderie de Caractères d'Orient), printed at the Sahag-Mesrob Press in Cairo in 1935. Dimensions of each page: 22 × 15 cm. *Source*: Private collection.

the needs of daily and weekly newspapers, as well as printing presses that produce educational and economic literature (Figure 18, middle).[92]

The type specimen catalogue—published in 1935—features three *naskh* types in body sizes of 20-, 24-, and 36-points (henceforth KR-20, KR-24, and KR-36). The KR-24 type, which reflects Mühendisyan's original design, is displayed alongside his decorative brackets.[93] Additionally, the caption 'al-ḥarf al-naskh al-Islambūlī, bunṭ 24' (Istanbul *naskh* type, 24-point) further confirms its origin (Figure 18, right). The KR-20 appears to be a scaled-down, parametric version of the 24-point design and also mirrors the distinctive forms of Mühendisyan's types.

Unlike the Beirut versions, the Cairene version of Mühendisyan's types faithfully adheres to the subtleties seen in the original version from Istanbul—particularly the shape of *nūn* in the 24- and 20-point sizes (Figure 19). One clear distinction between the KR types and the MI types is the inclusion of additional swash characters. KR-20 and KR-24 were widely used by Egyptian publishers in the printing of Arabic and Turkish books. Cairene presses such as Emin Hindiyye Matbaʿası and Terakḳḳī Matbaʿası—which also frequently published Turkish books—adopted and employed KR types at the beginning of the twentieth century in Cairo.

Among Cairene publishers, Emin Hindiyye emerged as a prominent figure, both as a publisher and printer, who maintained a wide network of connections with international scholars and booksellers in Istanbul. Together with his brother, Necib Hindiyye—a dissident publisher opposing Sultan ʿAbdülhamid II's regime—he founded *Ḫilāfet*, a Turkish and Arabic newspaper, in London in 1901. Although the newspaper's address was listed as London, an investigation conducted by Ottoman imperial officers in 1901 determined that *Ḫilāfet* was not printed at a British printing house in London, but rather in Egypt by Emin

[92] al-Idārah, *Katālūj al-Ḥurūf al-ʿArabīyah wa-al-Nuqūsh wa-al-Jadāwil: Maṣbaḳ Ḥurūf al-Sharq* [Catalogue of Arabic types, ornaments and tables: the Oriental Type Foundry] (Cairo, 1935), [p. 3].

[93] The earliest use of the aforementioned brackets was found in the first books printed with MI-24 in 1869, particularly *Ṣad Kalimah-'i Ḥaẓrat-i ʿAlī* and *Maraḥ*. Until the 1880s, these decorative brackets appeared exclusively in books printed by Mühendisyan, with a few exceptions—such as İbrāhīm Şināsī's *Dīvān* in 1870—which also marked the first use of MI-24 by a press other than Mühendisyan's.

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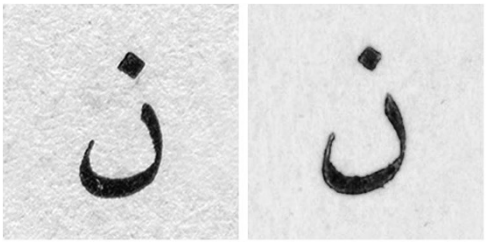

Figure 19. The isolated form of the letter *nūn*, shown at the same scale in MI-24 on the left and KR-24 on the right.

and then smuggled to London, where Necib organised its distribution.[94] *Ḫilāfet* made full use of Mühendisyan's original MI-24 and OM-16 types in their linear format (Figure 20).

Emin Hindiyye's relationship with the Oxford Arabist David Margoliouth eventually facilitated the export of KR-24, which first appeared in Cairo and was then shipped to Oxford.[95] This development is documented in the Oriental type specimen catalogue printed by Oxford University Press in 1959. The catalogue—displaying a wide array of types in various scripts—includes a *naskh* type nearly identical to KR-24. The case layout lists 309 sorts, including the original decorative brackets along with additional isolated and final swash characters. Following the list of sorts, a caption provides technical details and explains how the type was acquired (Figure 21):

> A small fount of type (27 lb.) on a 24-pt. Didot body was first procured from M. Emin Hindié of Cairo, in 1909, at Professor Margoliouth's desire for use on 'Rylands Library Catalogue of Arabic MSS.' In the same year, 272 matrices were ordered from R. P. Bannerman. From these, including adaptations, the existing fount was cast at Oxford in 1928 on a 3-line Nonp. body. Use Points of 14-pt. Fount Cast on 6-pt and 2-pt. bodies. Weight of fount December 1956: 1,228 lb.[96]

Mühendisyan's types saw renewed use in England during the First World War, amid a surge of pro-Ottoman activism. One of the key figures in this movement was Marmaduke Pickthall (1875–1936), an English intellectual, novelist, and later a convert to Islam, who became one of the most prominent Muslim voices in Britain at the time. Deeply sympathetic to the Ottoman empire and critical of British imperial policy in the Muslim world, Pickthall co-founded and actively supported organisations that advocated for the Ottoman cause during the war.

Among these was the Central Islamic Society (CIS), a London-based group that aimed to counter anti-Ottoman narratives and promote solidarity among British Muslims and colonial subjects. The CIS operated a press at 158 Fleet Street—then a hub of publishing

[94] E. Şahin, '19. yüzyıl sonlarında Avrupa'da bir Arap muhalif: Necib Hindiye ve Hilafet gazetesi' [A European Arab dissident at the end of the nineteenth century: Necib Hindiye and the Hilafet newspaper], *Uludağ Üniversitesi Fen-Edebiyat Fakültesi Sosyal Bilimler Dergisi* [Uludağ University Faculty of Arts and Sciences journal of social sciences] 21.38 (2019), p. 11.

[95] David Samuel Margoliouth was an English orientalist who served as professor of Arabic at the University of Oxford from 1889 to 1937. See Encyclopaedia Britannica, 'David Samuel Margoliouth', *Encyclopaedia Britannica*, www.britannica.com/biography/David-Samuel-Margoliouth (accessed 18 March 2025).

[96] Oxford University Press, *List of Ancient and Modern Greek and Oriental Founts at the University Press* (Oxford, 1959), p. 16.

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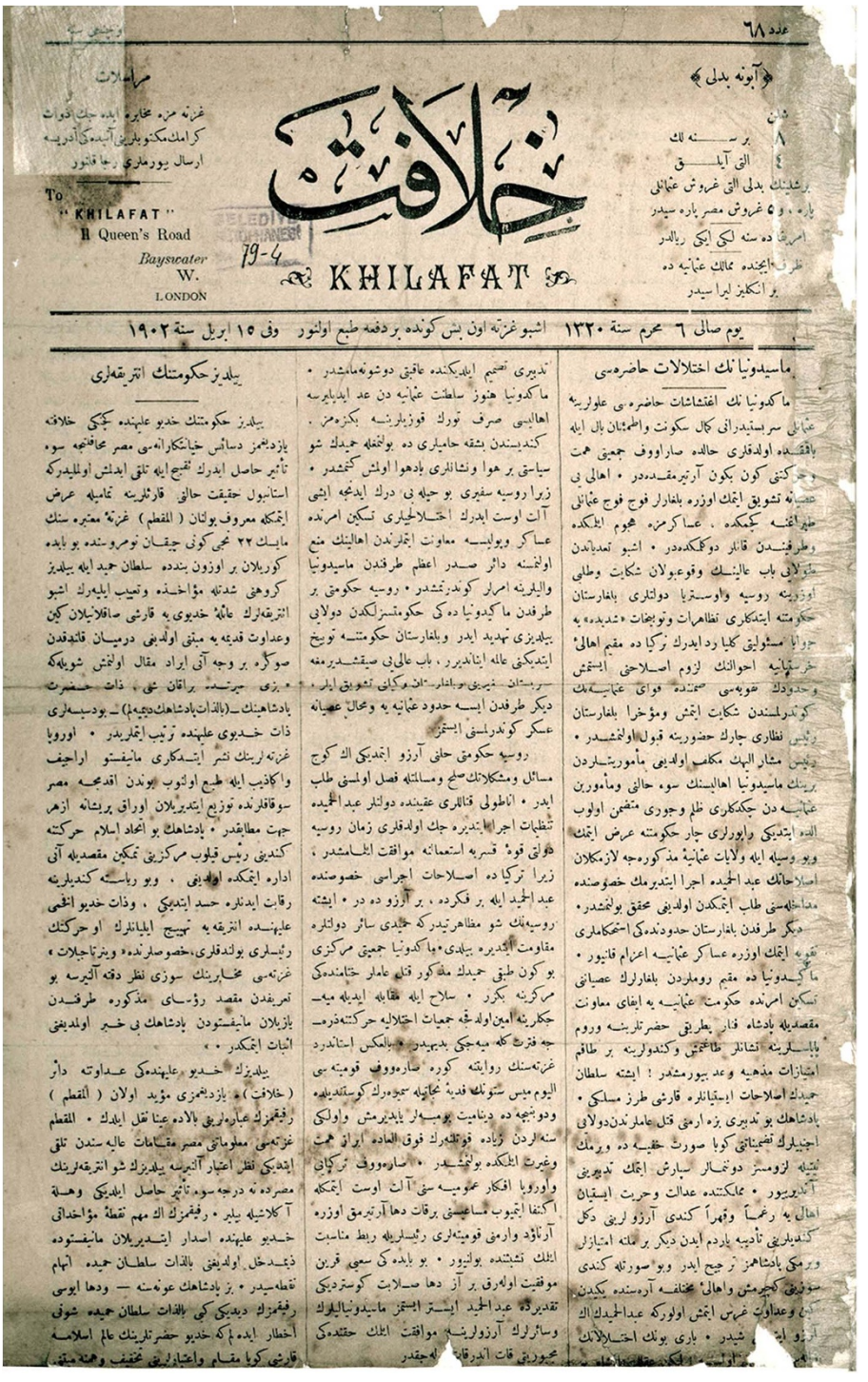

عدد ٦٨

خلافت

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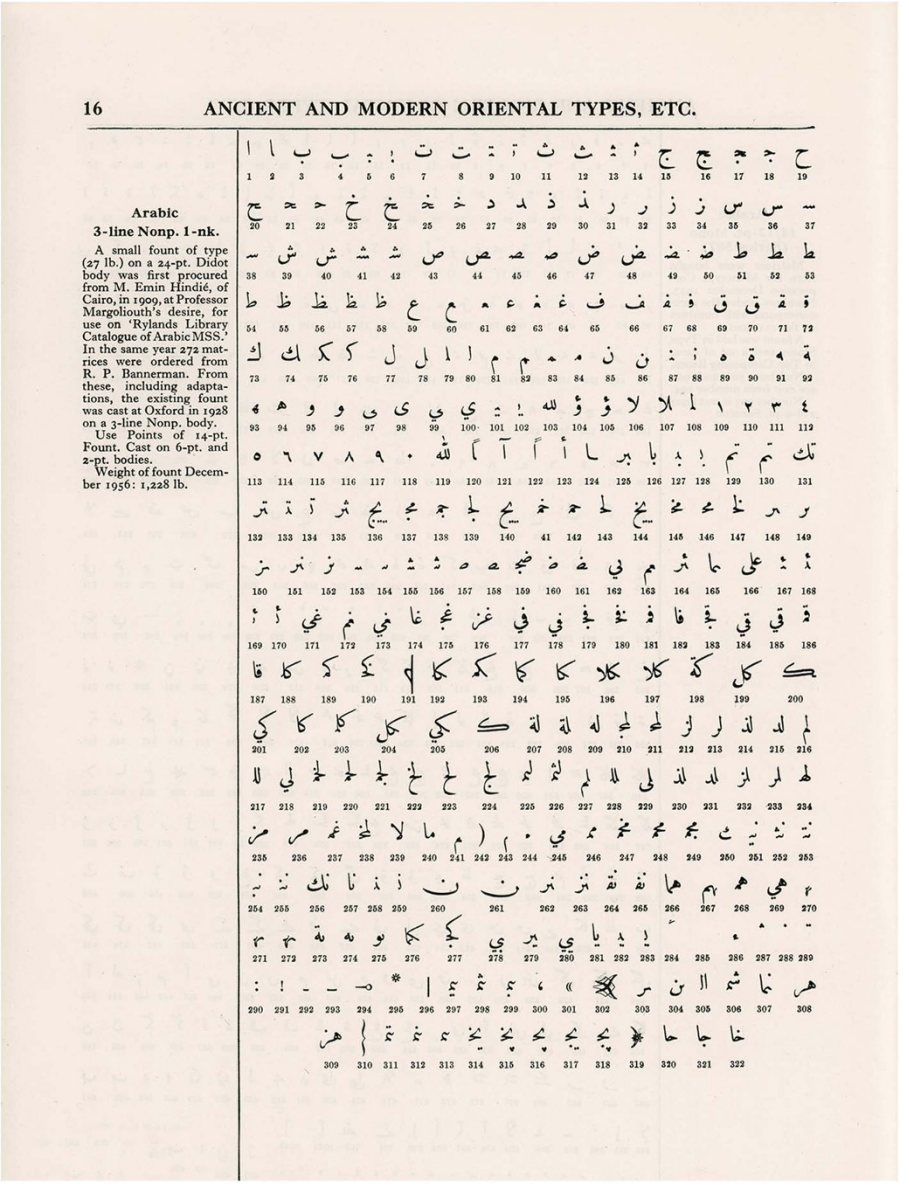

16 ANCIENT AND MODERN ORIENTAL TYPES, ETC.

Arabic
3-line Nonp. 1-nk.

A small fount of type (27 lb.) on a 24-pt. Didot body was first procured from M. Emin Hindié, of Cairo, in 1909, at Professor Margoliouth's desire, for use on 'Rylands Library Catalogue of Arabic MSS.' In the same year 272 matrices were ordered from R. P. Bannerman. From these, including adaptations, the existing fount was cast at Oxford in 1928 on a 3-line Nonp. body.

Use Points of 14-pt. Fount. Cast on 6-pt. and 2-pt. bodies.

Weight of fount December 1956: 1,228 lb.

Figure 21. Recto of page 16 from *List of Ancient and Modern Greek and Oriental Founts at the University Press, Oxford* (Oxford, 1959), showing the character synopsis of 'Arabic 3-line Nonp. 1-nk'. The character set of this 24-point *naskh* type—with added swash characters—not only closely mirrors the letterforms of the MI-24 type but also incorporates Mühendisyan's distinctive decorative brackets, as seen in sorts numbered 294 and 302. Dimensions 26 × 20 cm. *Source*: Library of St Bride Foundation.

activity—and became a key site for the production of pro-Ottoman literature in both English and Turkish.[97]

[97] J. Gilham, 'Marmaduke Pickthall and the British Muslim convert community', in *Marmaduke Pickthall: Islam and the Modern World*, (ed.) G. P. Nash (Leiden, 2017), p. 49.

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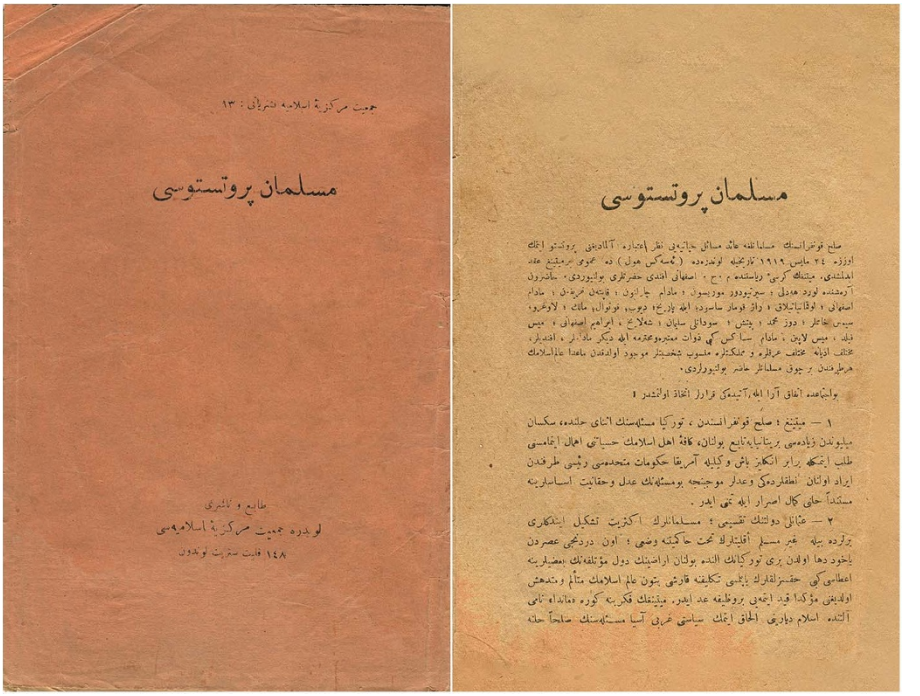

Figure 22. Cover and first page of *Müslümān Protestosu*, published and printed by The Central Islamic Society in London in 1919. Dimensions of each page: 23 × 15 cm. *Source*: Private collection.

To effectively reach its multilingual audience, the CIS required Arabic-script types for printing Turkish texts. The press printed its materials utilising original versions of MI-24 and OM-16 types, as well as the 12- and 36-point *naskh* types cut by Ḥaçik Kevorkyan (henceforth HK-12 and HK-36)—a prolific Armenian type-maker based in Istanbul.[98] These types were employed in publications such as *Müslümān Protestosu* (The Muslim protest), a notable example of wartime propaganda aimed at mobilising Muslim opinion in favour of the Ottoman state. The cover page of this publication explicitly stated that they were printed and published (*ṭabᶜ ve neşr*) in London, underscoring the strategic importance of importing and using renowned and celebrated types originating from Istanbul in their communications (Figure 22).

Sulaymān al-Bustānī and the global circulation of Ottoman typography: Musavver Şikago Sergisi at the 1893 Chicago World's Fair

In 1893, amid the grandeur of the World's Columbian Exposition—popularly known as the Chicago World's Fair—Sulaymān al-Bustānī (1856–1925), a Maronite Catholic intellectual from Bkheshtin (a town in Mount Lebanon) and a scion of a prominent family associated with the Nahḍa, launched an ambitious Ottoman Turkish–language journal titled

[98] According to Aḥmed Rāsim's accounts, Kevorkyan was the most prolific Ottoman type-maker, responsible for ten typefaces in three *ḫaṭṭ* (writing) styles—*naskh, ruqᶜah*, and *kūfī*. A. Rāsim, 'Ḫaṭṭ-ı kūfī: Ḥaçik Kiğorkyan' [Kūfī script: Haçik Kiğorkyan], *İḳdām* (newspaper), 18 August 1922, p. 3. For more information on Kevorkyan's type-making activities, see Yazıcıgil, 'Genealogy of Ottoman Naskh printing types', p. 198.

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Musavver Şikago Sergisi (The Chicago Fair illustrated) (Figure 23).[99] Notably, the publication was printed in Chicago using the MI-24 type, a typographic link connecting Istanbul's printing innovations to the global stage.

Al-Bustānī, already distinguished as a writer, translator, and future Ottoman Minister of Commerce and Agriculture, later recounted his experiences in his 1908 Arabic-language memoir, *ʿIbrah wa-Dhikrā, aw, al-Dawlah al-ʿUthmānīyah Qabla al-Dustūr wa-Baʿdahu* (A lesson and a memory, or the Ottoman state before and after the constitution). There, he offered a rare first-hand account of the intersection of Ottoman print culture, diplomacy, and exhibitionary nationalism abroad.[100]

In preparation for the exposition, al-Bustānī initially sought permission to publish a Turkish journal that would highlight Ottoman contributions and promote the achievements of science, industry, and invention. However, he hesitated. The financial burden of launching a publication overseas—combined with the political sensitivities of producing content in a foreign land—gave him pause. He feared that even minor deviations from sanctioned discourse might spark controversy upon his return to Istanbul, where the press was under constant surveillance.[101]

Support came from a high-ranking source: İbrāhīm Ḥaḳḳı Paşa (1862–1918), then minister of education and Ottoman commissioner to the Chicago exhibition. Recognising the potential of al-Bustānī's project to enhance the empire's global prestige, Ḥaḳḳı Paşa encouraged him to proceed, promising minimal bureaucratic interference. He offered to review and approve proofs before publication and assured al-Bustānī that the state would purchase enough copies to defray the costs. Al-Bustānī, however, requested further assurance in the form of an imperial decree (*irāde-i seniyye*) granting him the right to publish without fear of reprisal. While Ḥaḳḳı Paşa initially dismissed the request as unnecessary—such decrees were not typically issued for publications abroad—he eventually relented. The document offered al-Bustānī both legal cover and peace of mind.[102]

To bring the journal to life, al-Bustānī turned to his trusted friend and prominent Istanbul publisher Ebużżiyā Meḥmed Tevfīḳ (1849–1913), who supported the project by supplying the MI-24 and OM-16 types, as well as the 12-point *naskh* type cut by Ḥaçik Kevorkyan around 1890.[103] Additionally, he sent printing equipment and an experienced assistant, Meḥmed b. ʿAlī Efendi, from his press staff. Ebużżiyā's contribution extended to the design of the journal's *kufī*-style masthead, which bore his signatures (in both the Arabic and Latin scripts) (Figure 23).

The journal's first issue was printed on 1 June 1893, at the press of J. B. Campbell & Co. in Chicago. Al-Bustānī was joined in editorial duties by Meḥmed ʿUbeydullah Ḫaṭipoġlu (1858–1937), an Ottoman politician whose involvement went uncredited due to his strained relationship with the government. ʿUbeydullah's participation later caused difficulties for both al-Bustānī and Meḥmed Efendi upon their return to the Ottoman capital.[104]

Following the fair, al-Bustānī recounted an encounter with the Ottoman minister of foreign affairs, who praised the journal's contribution to the empire's international reputation. However, the minister also inquired about the whereabouts of the borrowed *naskh* types.[105] Al-Bustānī explained that the types had been left with his agent in New York, intended for sale to a Syrian émigré newspaper publisher. The government requested that,

[99] For an account of al-Bustānī's engagement with the *Musavver Şikago Sergisi* journal, see Sulaymān Khaṭṭār al-Bustānī, *ʿIbrah wa-Dhikrā, aw, al-Dawlah al-ʿUthmānīyah Qabla al-Dustūr wa-Baʿdahu* (Cairo, 1908), pp. 75–81.

[100] *Ibid.*

[101] *Ibid.*

[102] *Ibid.*

[103] *Ibid.*

[104] *Ibid.*

[105] *Ibid.*

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حسن ابتدا

جناب حق دور جلیل همایونلری غبطه فرمای اعصار اولان ولی نعمت پمتنمز سوکیلی پادشاهمز ظل ظلیل یزدانی خلیفهٔ پمدانی سلطان عبدالحمید خان ثانی افندمز حضرتلرینی دنیالر طوردیجه سریر شوکتمصیر ملوکانه‌لرنده باقی بیورسون آمین .

افکار حکمت آثار ملوکانه‌لری کرسیٔ خلافت اسلامیه‌یه رونقبخشای مکانت اولدقلری کوندنبری مستمراً امتك استحصال اسباب سعادتنه معطوف وجلائل همت خسروانه‌لری اورنك سلطنت عثمانیه‌یه سطوتفزای مهابت اولدقلری زماندنبری مملکتك عمران وترقیسنه مصروف اولان او پادشاه ترقیپرورك عهد سعیدشهنشاهیلرینی ادراك شرفیله مباهی بولنان اقوام عثمانیه دلالت همایون ملوکانه‌لری سوقیله برطریق سلامته کیردیلر . وتشویقات فیوضاتغایات تاجدارانه‌لرینك بخش ایلدیکی شوق وغیرتله اوشاهراه ترقی ومعرفتده آززمانده چوق مسافه قطع ایلدیلر .

مساعیٔ بی‌نهایهٔ جهاندارلریله تبعهٔ شاهانه‌لرینك یقین وقتنده نقطهٔ مطلوبهٔ سعادته واصل اولهجقلری قطعیاً محققدر .

جلوس همایون ملوکانه‌دن اول دولت عثمانیه‌نك غرب ایله اولان مناسباتی یالکز اوروپایه منحصر واوده برمناسبت سیاسیه‌دن عبارت ایکن بوکون سایهٔ شاهانه‌ده صنایع ومعارف وبالخاصه تجارت جهتلریله‌ده تأسیس مناسبات ایدلش ومناسبات مذکوره یالکز اوروپایه دکل ممالك متمدنه‌نك عمومنه شامل قیلنمشدر .

او مساعیٔ جلیله سایه‌سنده‌درکه دولت علیه‌لری شیقاغو سرکیسنه رسماً اشتراك وسایهٔ شاهانه‌لرنده تبعهٔ شهریارلری سرکیده برمهم وشرفلی موقع احراز ایلمشدر .

ارشادات حکیمانهٔ ظل‌الاهیلرندن کندی ادراکنجه بهره‌مند رشد وسداد اولان بو عبد عاجز دخی سلطنت سنیه‌لرینك شیقاغو سرکیسنده اشغال ایلمکده اولدیغی موقع عالینك تزیید شرفنه خدمت ایدر اعتقادیله شو جریده‌نك شیقاغوده طبع ونشرینه تشبث ایتدم . بو جریده‌دن مملکتمزجه حاصل اولهجق استفاده‌یی زیرده‌کی مقدمه‌مزده لایقیله تعیین ایده‌مامش اولسه‌ق بیله ارباب تقدیره کوره بو نقطه جای بحث کورلسه کرکدر .

ذاتاً قلب الهامجلب همایون حضرت خلافتپناهی مهبط انوار الهی اولوب بزم دوشونه‌میه‌جکمز نیجه فوائد دخی منافع عمومیه خادملرینك مرشد دل آکاهی اولان او شهریار منور الافکارك خاطر عاطر همایونلرینه سانح وواردد اولغله وفوائد مذکوره‌نك تأمین حصولنه وساطت ایچون شیقاغوده ترجمه برغزته نشری اولبابده شرفصادر اولان امروفرمان کرامتبیان جناب شهنشاهی مقتضای منیفندن بولنغله یکانهٔ مدار موفقیت اولان‌او ارادهٔ مقدسهٔ حضرت شهریارینك تنفیذی خدمت فاخره‌سنی در عهده ایلدم . والله‌الموفق

سلیمان البستانی

مرتبی : درسعادت مکتب صنایعندن مأذون محمد بن علی

Figure 23. Front page of the first issue of *Musavver Şikago Sergisi*, printed by J. B. Campbell & Co. and dated 1 June 1893. This issue was set using the MI-24 type alongside a 12-point *naskh* type cut by Ḥaçik Kevorkyan. Dimensions 37 × 24.5 cm. *Source*: Bavarian State Library.

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if the types were still available, they be handed over to the Ottoman Consul in New York. Al-Bustānī complied, dispatching a telegram at the state's expense. The consul later confirmed receipt of the type, and payment was made to al-Bustānī, settling the matter amicably.[106]

Despite this smooth resolution, the episode led to a misguided policy response. Ottoman authorities, apparently unnerved by the international circulation of their typographic assets, banned the export of printing types from the empire.[107] Al-Bustānī criticised the move as short-sighted and ineffective, pointing out that foreign postal services routinely transported parcels globally and that European foundries had no need for Ottoman types.[108] In his view, such restrictions were ill-suited to an increasingly interconnected, transimperial print economy.

Regardless of these complex circumstances, al-Bustānī's *Musavver Şikago Sergisi* serves as a remarkable case study in the global circulation of Ottoman typography, the political entanglements of print culture, and the agency of intellectuals navigating between empire, diaspora, and modernity. His use of Mühendisyan's *naskh* types in Chicago illustrates how Ottoman typographic design travelled across continents and media networks, not merely as a visual form but as a cultural and political instrument.

In bridging Istanbul's typographic legacy with an international platform, al-Bustānī did more than document an exhibition—he redefined the reach of Ottoman print modernity, leaving a legacy as dynamic as the fair itself.

The spread and adoption of Mühendisyan's *naskh* in Iran

Arabic-script printing with movable type was introduced to Iran in the early nineteenth century, marking a pivotal shift in the country's print culture. The earliest known Persian publication printed using movable type was a treatise (Risālah) titled *Jahādīyah*, authored by ʿĪsá ibn Ḥasan (Mīrzā Buzurg) Qāʾimmaqām Farāhānī (d. 1822). It was printed in 1818 in Tabriz by Muḥammad ʿAlī ibn Ḥājjī Muḥammad Ḥusayn Āshtiyānī, representing one of the earliest documented efforts to apply typographic technology to Persian printing.[109]

Beginning in 1823, movable type printing expanded to Tehran, which quickly emerged as the primary centre for this new craft. During its initial phase in Tabriz, movable type printing remained modest in scale. Between 1818 and 1831, only about ten publications were produced using this method. However, after 1831, Tabriz ceased to use movable type altogether.[110] With the introduction of lithographic printing in 1834, the city transitioned exclusively to lithography—a format better suited to the visual and stylistic demands of Persian calligraphy and manuscript aesthetics.[111]

[106] *Ibid*.

[107] In 1897, the imperial authorities prohibited the export of printing type to destinations outside Istanbul. See Ottoman Archives, DH, ŞFR 243/114, 23 September 1897.

[108] al-Bustānī, *ʿIbrah wa-Dhikrā*.

[109] See Muḥammad ʿAlī Tarbīyat, 'Mabdaʾ-i tārīkh-i Īrān'shināsī dar Urūp: tārīkh-i taʾsīs-i maṭbaʿah—maṭbūʿāt-i Fārsī' [The beginnings of the history of Iranian Studies in Europe: the history of the establishment of the printing press—Persian publications], *Yaghmā* 12.6 (1931), pp. 369–381, and 12.7 (1931), pp. 448–457; and Muḥammad ʿAlī Tarbīyat, 'Tārīkh-i maṭbaʿah va maṭbūʿāt-i Īrān' [History of the printing press and Iranian publications], *Taʿlīm va Tarbīyat* [Education and cultivation] 1.59 (1935), pp. 657–664, and 1.60 (1935), pp. 721–725.

[110] See Izadpanah, 'Persian and Arabic printing', pp. 91–125.

[111] For more information on the introduction of lithography to Iran, see O. P. Shcheglova, *Iranskaia Litografirovannaia Kniga (Iz Istorii Knizhnogo dela v Irane v XIX Pervom Desiatiletii XX v.)* [The Iranian lithographed book (from the history of the book trade in Iran in the nineteenth and early twentieth centuries)] (Moscow, 1979); O. P. Shcheglova, 'Lithography I. In Persia', *Encyclopædia Iranica*, last modified 2012, www.iranicaonline.org/articles/lithography-i-in-persia (accessed 14 January 2025); U. Marzolph, *Narrative Illustration in Persian Lithographed Books* (Leiden, 2001); and N. Green, 'Stones from Bavaria: Iranian lithography in its global context', *Journal of the International Society for Iranian Studies* 43.3 (2010), pp. 305–331.

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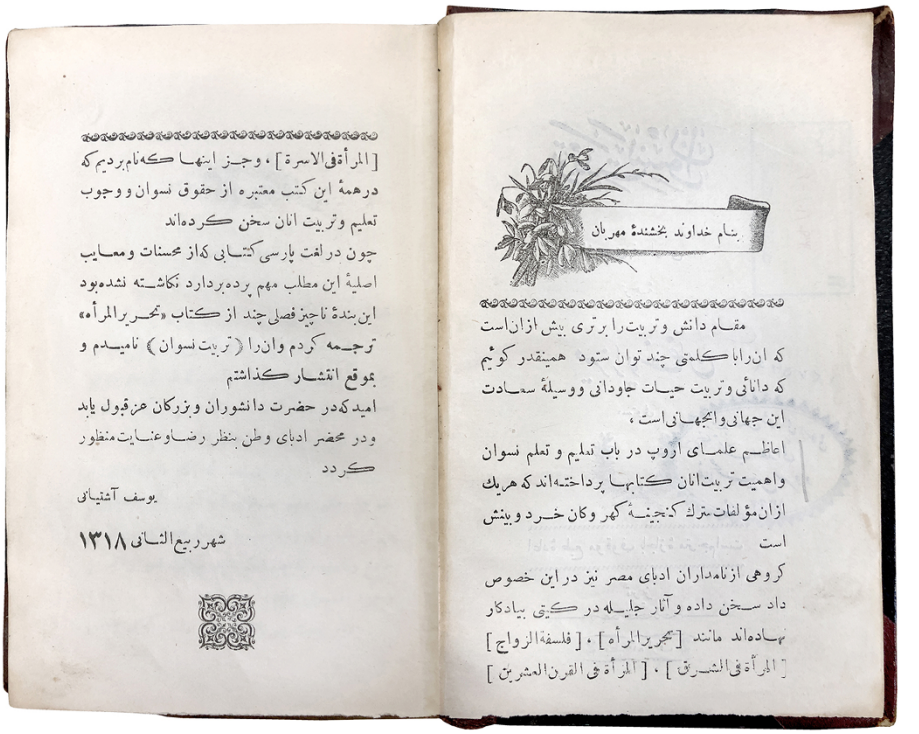

Figure 24. The opening pages of the Persian translation of Qasim Amin's *Taḥrīr al-Marʾah*, rendered into Persian by Mīrzā Yūsuf Khān Mustawfī (Iʿtiṣāmī) under the title *Tarbīyat-i Nisvān*. This volume was printed at the Maʿārif Press in Tabriz in 1900 using Mühendisyan's OM-16 type. Dimensions of each page 16.5 × 10.5 cm. *Source*: Majles Library in Tehran.

In contrast, Tehran experienced a more sustained engagement with movable type. From 1823 to 1859, over 50 publications were printed using this method, reflecting greater institutional and governmental investment in mechanised printing.[112] The early period of movable type printing in Iran was marked by the design and use of locally produced Persian *naskh* types, developed by skilled Iranian artisans and calligraphers. These early types adapted the flowing, interconnected nature of Persian manuscript traditions to the rigid constraints of movable metal type—a significant technical and aesthetic achievement.

A notable revival of movable type printing in Tabriz occurred at the turn of the twentieth century, with the founding of the Maṭbaʿah-'i Maʿārif in 1900. This press published two landmark works: *Risālah-i Bath al-Shakwā* (Treatise on the expression of complaint) and *Tarbīyat-i Nisvān* (Education of women).[113] These were the first known Iranian publications to utilise the Ottoman *naskh* types produced by Mühendisyan. The adoption of these Ottoman types in Iranian presses marked a turning point in the visual identity of Persian print (Figure 24).

Following this, Tehran's Imperial Printing Press (Maṭbaʿah-'i Mubārakah-'i Shāhanshāhī) adopted Mühendisyan's *naskh* types in 1901 for the publication of *Safarnāmah-'i Mubārakah-'i Shāhanshāhī* (The blessed Imperial travelogue), the first travelogue of Muẓaffar al-Dīn

[112] Izadpanah, 'Persian and Arabic printing', pp. 151–153.

[113] *Ibid*, pp. 144–145.

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Shāh Qājār to Europe.[114] This high-profile publication signalled the official endorsement of Mühendisyan's types in state printing, further facilitating their diffusion across Iran's expanding print landscape (Figure 25).

In the decades that followed, Mühendisyan's types became increasingly prominent in Iranian typographic practices. Their visual elegance, mechanical precision, and adaptability to both Persian and Arabic content made them highly desirable, particularly for government and educational publications. The introduction of these Ottoman types into Iran not only elevated the aesthetic quality of Persian printed materials but also linked Iranian typographic standards to broader transregional developments in Arabic-script printing across the Ottoman empire and beyond.

Mühendisyan's *naskh* types and Afghan print culture

The introduction of printing technology to Afghanistan occurred relatively late, emerging towards the end of the nineteenth century. The earliest printing efforts were carried out using lithographic presses, a method more compatible with the aesthetic demands of Arabic and Persian script. However, it was not until 1912 that movable type printing made its debut in the country.[115]

This pivotal transition took place at the Administration Office and Printing Press of the Royal Workshop (Idārah-khānah va Maṭbaʿah-ʾi Māshīn-khānah-ʾi Dār al-Salṭanah) in Kabul, which established the country's first typographic press. The occasion was the publication of the second volume of *Sirāj al-Akhbār*, one of Afghanistan's most influential early twentieth-century journals. The issue, released on 27 September 1912, marked a watershed moment in Afghan print history: it was the first known publication in the country to be produced using movable metal type, replacing the earlier lithographic editions.

Significantly, this inaugural venture into typographic printing made use of Mühendisyan's *naskh* types (MI-24 and OM-16) (Figure 26). The adoption of this refined Ottoman *naskh* type in Kabul not only elevated the visual and technical quality of Afghan print but also linked the country's print culture to broader transregional typographic developments in the Ottoman and Islamicate worlds.

This 1912 publication thus represents another remarkable moment in the history of Mühendisyan's *naskh* types, signalling the beginning of typographic modernity in another region. The introduction of movable type printing opened new possibilities for government publications, educational texts, and journalistic output, setting the stage for the expansion of Afghanistan's print and publishing infrastructure in the decades that followed.

Conclusion: tracing a typographic legacy beyond the imperial core

The MI-24 *naskh* type designed by Oḥannes Mühendisyan in collaboration with Ḳāżīʿasker Muṣṭafá ʿİzzet Efendi represents more than a technical refinement in the history of Arabic-script typography—it embodies a transregional moment in the visual standardisation of Arabic script across a shifting landscape of imperial decline, technological change, and linguistic reform. While Istanbul served as the crucible for its creation, the significance

[114] B. Izadpanah, 'Barrasī-yi daurah-ʾī duvvum-i chāp-i surbī-yi Fārsī dar Īrān-i ʿaṣr-i Qājār va naqsh-i ḥurūf-i chāpī-yi vāridātī' [An examination of the second period of Persian printing with movable type in Qajar Iran and the role of imported types], *Jahān-i Kitāb* [World of the book] 29.6 (2025), p. 73.

[115] For a more comprehensive account of the origins and early development of printing in Afghanistan, see ʿAlī Aḥmad Ṣābir, 'Tārīkh va Taḥavvul-i Nashr-i Kitāb va Chāp dar Afghānistān' [History and development of book publishing and printing in Afghanistan] (unpublished MA dissertation, Tehran University, 1975); and ʿAbd al-Rasūl Rahīn, *Tārīkh-i Maṭbūʿāt-i Afghānistān: az Shams al-Nahār tā Jumhūrīyat (1863–1973)* [History of publications in Afghanistan: from Shams al-Nahār to Jumhūrīyat] (Stockholm, 2007).

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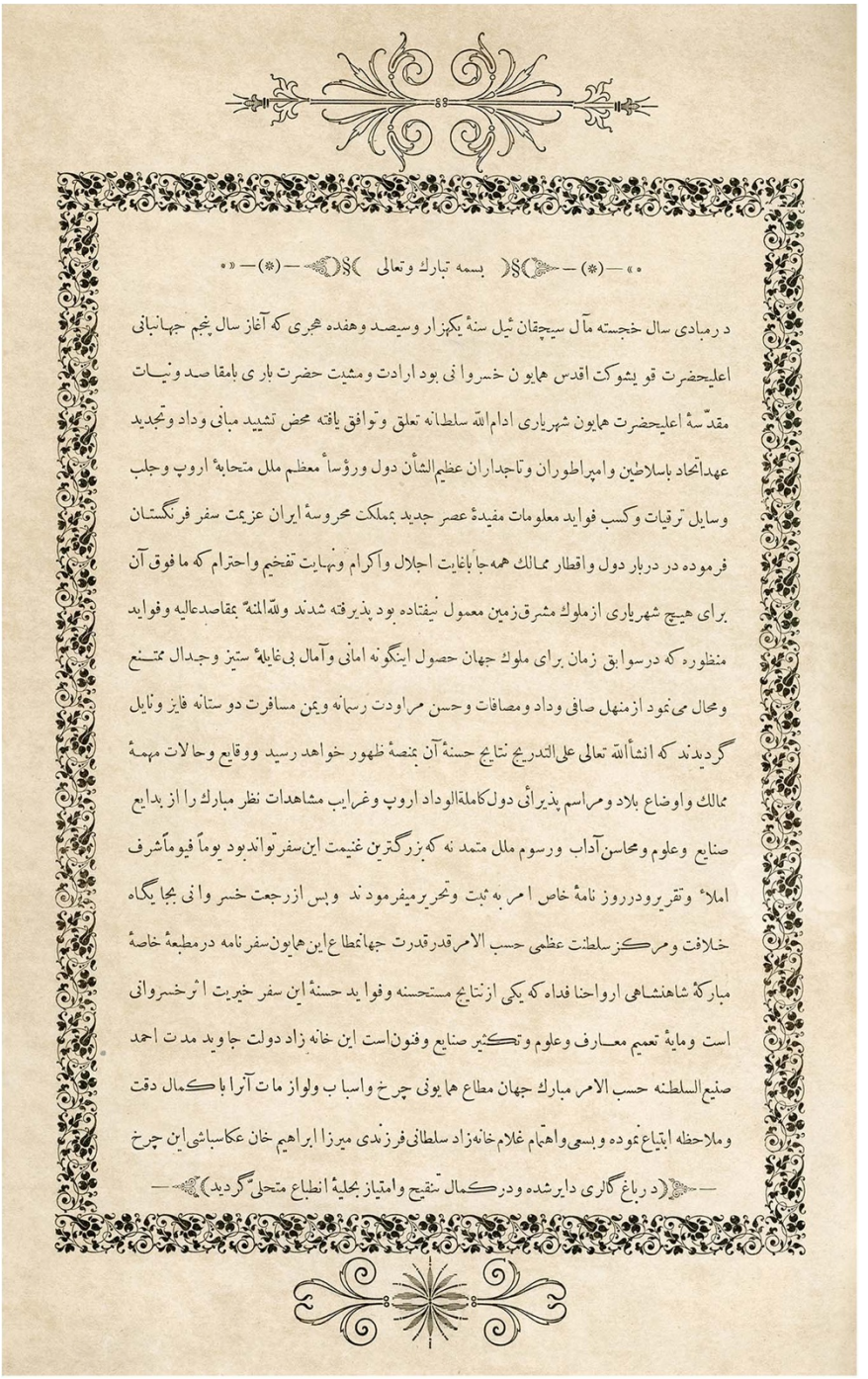

بسمه تبارك وتعالى

در مبادی سال خجسته مآل سیچقان ئیل سنهٔ یکهزار وسیصد وهفده هجری که آغاز سال پنجم جهانبانی اعلیحضرت قو یشوکت اقدس همایون خسروانی بود ارادت ومشیت حضرت باری بامقاصد ونیات مقدّسهٔ اعلیحضرت همایون شهریاری ادام‌الله سلطانه تعلق وتوافق یافته محض تشیید مبانی وداد وتجدید عهداتحاد باسلاطین وامپراطوران وتاجداران عظیم‌الشأن دول ورؤساء معظم ملل متحابهٔ اروپ وجلب وسایل ترقیات وکسب فواید معلومات مفیدهٔ عصر جدید بمملکت محروسهٔ ایران عزیمت سفر فرنگستان فرموده در دربار دول واقطار ممالك همه جا باغایت اجلال واکرام ونهایت تفخیم واحترام که مافوق آن برای هیچ شهریاری ازملوك مشرق‌زمین معمول نیفتاده بود پذیرفته شدند وللّه‌المنهٔ بمقاصدعالیه وفواید منظوره که درسوابق زمان برای ملوك جهان حصول اینگونه امانی وآمال بی‌غایهٔ ستیز وجدال ممتنع ومحال می‌نمود ازمنهل صافی وداد ومصافات وحسن مراودت رسانه ویمن مسافرت دوستانه فایز ونایل گردیدند که انشاءالله تعالی علی‌التدریج نتایج حسنهٔ آن بمنصهٔ ظهور خواهد رسید ووقایع وحالات مهمهٔ ممالك واوضاع بلاد ومراسم پذیرائی دول‌کاملةالوداد اروپ وغرایب مشاهدات نظر مبارك را از بدایع صنایع وعلوم ومحاسن‌آداب ورسوم ملل متمدنه که بزرگترین غنیمت این‌سفرتواندبود یوماً فیوماً شرف املاء وتقریرودرروز نامهٔ خاص امر به ثبت وتحریرمیفرمودند وبس ازرجعت خسروانی بجایگاه خلافت ومرکز سلطنت عظمی حسب الامرقدرقدرت جهانمطاع این‌همایون‌سفرنامه درمطبعهٔ خاصهٔ مبارکهٔ شاهنشاهی ارواحنا فداه که یکی ازنتایج مستحسنه وفواید حسنهٔ این سفر خیریت اثرخسروانی است ومایهٔ تعمیم معارف وعلوم وتکثیر صنایع وفنون‌است این خانه زاد دولت جاوید مدت احمد صنیع‌السلطنه حسب الامر مبارك جهان مطاع همایونی چرخ واسباب ولوازمات آنرا باکمال دقت وملاحظه ابتیاع نموده وبسعی‌واهتمام غلام‌خانه‌زاد سلطانی‌فرزندی میرزا ابراهیم خان عکاسباشی این چرخ

(درباغ گاری دایرشده ودرکمال تنقیح وامتیاز بحلیهٔ انطباع متحلی گردید)

Figure 25. Preface of the first travelogue of Muẓaffar al-Dīn Shāh Qājār to Europe (*Safarnāmah-ʾi Mubārakah-ʾi Shāhanshāhī*), printed using Mühendisyan's OM-16 type at the Imperial Printing Press in Tehran in 1901. Dimensions 30.5 × 19 cm. *Source*: Private collection.

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صحیفه ۲ شماره ۱

عرض

بسایهٔ معارف‌پیرایهٔ اعلیحضرت (سراج الملة والدین) بادشاه خود مختار دولت علیهٔ مستقلهٔ أفغانستان أمیر ابن الامیر ابن الامیر (أمیر حبیب الله خان) أبقاء الله دولته الی آخر الدوران مطبعه تیپوگرافیهٔ دار السلطنهٔ کابل باحسن وجوه اکمال یافته این است که نامهٔ گرامیهٔ (سراج الاخبار افغانیه (نسخهٔ شمارهٔ یکم سال دوم خودرا دران مطبعهٔ عالی به این رونق وجمال زیور طبعیه در بازار عرفان نشار عالم مطبوعات جلوه پیرا ساخت . ونیز نور علی نور گفته صحیفهٔ نخستین خودرا باتصویر زینگوگرافیهٔ ذات مراحم صفات اعلیحضرت بادشاه مقدس محبوب القلوب خویش تزئین عزت وشرافت بخشید اگر بعضی خورده گیران (سراج الاخبار افغانیه) رااخبار نخستین افغانیه ندانندچون این نسخهٔ اورا ببینند سخن خودرا باید واپس بگیرند زیرا اینچنین اخبار بیشك نخستین اخبار است که محصول عصرمعالی حصراعلیحضرت (سراج الملة والدین) است وبس !

زنده بادا بادشاه معرفت پرور که او حامیٔ علم است وعرفان عاقل است ونکته دان
بهر ملك وملت خود نشر عرفان میکند زنده بادا شاد بادا بادشاه مهربان

آمین

آغاز سال دوم سراج الاخبار افغانیه

ذات اقدس خالق یگانه بهمتای خودرا ثنا میگوئیم، وبرروان پاك رهبر وپیشوای برحق خود(محمدمصطفی علیه الصلوة والسلام) درود بیپایان میفرستیم ، وارواح مقدسهٔ آل واصحاب وپاکان دین خودرا تعظیم وتقدیس مینمائیم ، ودوعای طول عمر ودوام عافیت پادشاه معظم مقدس خودمارا وردزبان صداقت کرده بعرض مقصد میپردازیم :

ملیون ملیون شکر ، ملیار ملیار ثنا بذات اقدس بیهمتا که مارا بر دوام این گرامی نامهٔ وطنیهٔ (سراج الاخبار الافغانیه) توفیق کرامت فرمود که سال اول آنرا به انجام رسانیده با این نسخهٔ خود شماره اول سال دوم آنرا بااین ترقیات موجوده‌منظر مطالعهٔ قارئین کرام خود بمعرض عرض میرسانیم .

« کاسنی اگر تلخست از بوستان است » گفته اند . سراج الاخبار افغانیه نیز اگر خوبست اگربد اخبارو‌طنیهٔ افغانست. وچنانچه هرچیز وطن شیرین وگوارا میباشدبا وجود نواقصی که دارد (سراج الاخبار افغانیه) نیز بحمدالله تعالی‌در نظر ارباب نظر وهموطنان عزیز وطنپرور خود یك موقع عظیم رغبت وتوجه را حاصل کرده است روی سخن مابعضی باکسانیکه غیرت ملی وحب وطنی رابونبرده اند نیست . زیرآنچنان اشخاص چنانچه هیچ چیز وطن را نمی پسندندوتنها منافع شخصی خودرا می اندیشند البته که اخبار آنرا نیز نخواهند پسندیدوردخواهند کرد . حتی اخبار را یك چیز مضر ونابکاری نیز پنداشته محو آنرا آرزو میکنند . ولی ماهزار بار بخدای خود شکر میکنیم که بما ملت افغان‌چنان یك بادشاه عادل‌عاقل نکته دان ، وپدر شفیق خیراندیش مهربان مانند ذات شوکت سمات اعلیحضرت (سراج الملة والدین امیر حبیب الله خان) ایده الله دولته بالنصر والفوز وعلو الشان عطا فرموده که بفکر رسا وعقل بارجاهمه نکات باریك ترقی وتعالیٔ وطن وملت شاهانهٔ‌شانراموبمو درزیر نظر غور وتدقیق داشته اند. واز هرگونه اجراآت نافع ومفیدی که ادنا سود وخیری بدولت وملت شان برساند دریغ عاطفت نمیفرمایند . وازین است که اخبارراایك چیز نافع وسود مندی

Figure 26. Second page of issue no. 1, year 2 of *Sirāj al-Akhbār*—the first issue printed with movable type—published in Kabul and dated 27 September 1912. This issue was typeset using MI-24, along with Mühendisyan's smaller OM-16 type. Dimensions 31 × 20 cm. *Source*: Bonn University and State Library.

of MI-24 lies equally in its circulation, adoption, and adaptation in centres far beyond the Ottoman capital. From its deployment in Beirut's Imprimerie Catholique and Sarkīs presses to its imprint on Persian publications in Tabriz and Tehran, and its pivotal role in Afghanistan's first experiments with movable type printing, MI-24 became a typographic

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lingua franca for Arabic-script print across an expansive cultural and geographic sphere.

What makes this history especially compelling is how MI-24 was not merely reproduced but reinterpreted. Printers and type-founders in Beirut and Cairo introduced modifications to accommodate local aesthetic and linguistic needs, while Iranian printers adopted the type to serve Persian textual conventions. These regional transformations illuminate how printing types, though born of particular artistic and political contexts, remain fluid artefacts—reshaped by the demands of new publics, technologies, and ideologies. The typeset page, in this light, was never a static replication of Ottoman standards but a dynamic space of negotiation where visual form, legibility, and cultural authority converged.

This study has also aimed to reposition Arabic-script typography not as a peripheral or belated response to European typographic modernity but as a complex and internally generative process. The design logic behind MI-24 was not imposed from abroad but was crafted within an Ottoman intellectual and artistic milieu that understood the technological challenges of Arabic script and responded with aesthetic ingenuity and technical innovation. The collaboration between Mühendisyan and ʿİzzet Efendi demonstrates how typographic reform could emerge through dialogue between industrial craftsmanship and calligraphic mastery.

Equally important is the way MI-24 became embedded in the infrastructural and bureaucratic machinery of the late nineteenth- and early twentieth-century Islamicate world. It appeared in educational materials, state decrees, religious publications, and newspapers, visually shaping how knowledge, law, and belief were transmitted in print. This diffusion played a formative role in producing a typographic modernity that was recognisable, legible, and authoritative to readers across diverse linguistic and regional contexts.

The fall of the Ottoman empire and the Turkish script reform of 1928 signalled the end of MI-24's official use in its city of origin. Yet the type's visual language survived, not only in the presses of Beirut, Cairo, and Tehran but also in the genealogies of Arabic types developed throughout the twentieth century for various typesetting technologies. MI-24 thus stands as both a culmination of Ottoman typographic achievement and a foundational model for Arabic-script type design in the post-Ottoman world. Its enduring legacy invites us to think more expansively about the role of typography in shaping the aesthetics, infrastructures, and politics of the printed word across the Islamicate world.

Typographic timeline of key *naskh* types (*circa* 1797–1911)

BA-16—*circa* 1797 (Istanbul)

Produced by Boġos ʿArabyan in collaboration with or inspired by Sayyid ʿOs̱mān Efendi (commonly known as *Deli* Efendi). A 16-point *naskh* type.

MI-24—*circa* 1867 (Istanbul)

Produced by Oḥannes Mühendisyan in collaboration with Ḳāżīʿasker Muṣṭafá ʿİzzet Efendi. A 24-point *naskh* type.

TC-22—*circa* 1876 (Beirut)

Known as 'Type de Constantinople', this 22-point *naskh* type was developed at the Imprimerie Catholique by Elijah Marie Elias and Antoun ʿAbdallah. It is a modified version of the MI-24, adapted for local printing contexts.

TC-18—*circa* 1876 (Beirut)

Another 'Type de Constantinople' issued by the Imprimerie Catholique, this 18-point original design drew inspiration from the MI-24 but featured distinct formal adjustments.

TE-14—*circa* 1876 (Beirut)

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Marketed as 'Type Égyptien' on a 14-point body, this was another original *naskh* design by Elias and ʿAbdallāh at the Imprimerie Catholique, also inspired by the MI-24's visual characteristics.

OM-16—*circa* 1882 (Istanbul)

A refined 16-point *naskh* type produced by Mühendisyan, likely with continued reference to the calligraphic models of Ḳāżīʿasker Muṣṭafá ʿİzzet Efendi.

HK-12—*circa* 1892 (Istanbul)

A 12-point *naskh* type produced by Ḥaçik Kevorkian closely echoed both of Mühendisyan's *naskh* types, while evoking the calligraphic style of Ḳāżīʿasker Muṣṭafá ʿİzzet Efendi.

KR-20—*circa* 1894 (Istanbul)

A parametric, scaled-down 20-point adaptation of the MI-24 model. Possibly developed by Krikor Rafʾelyan as part of an effort to create a coordinated type family.

KR-24—*circa* 1894 (Istanbul)

A modified version of the MI-24 type featured in Rafʾelyan's type specimen catalogue.

HK-36—*circa* 1894 (Istanbul)

A 36-point *naskh* type recorded in Rafʾelyan's type specimen catalogue. Originally designed by Ḥaçik Kevorkian.

IY (al-Ḥarf al-Mukhtaṣar)—*circa* 1892 (Beirut?)

A simplified 11-point *naskh* type designed by Ibrāhīm al-Yāzijī.

IY-20—*circa* 1880s–1890s (Cairo?)

A 20-point *naskh* type produced by Ibrāhīm al-Yāzijī.

Supplementary material. The supplementary material for this article can be found at https://doi.org/10.1017/S1356186326101473.

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Conflicts of interest. None.

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